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Balancing the Quality of Public Good within the Dynamics of Urban Form. Experiences from the redevelopment of residential areas in Bulgaria

Abstract The escalating speed of economic and technological development since the beginning of the 21st century is evident in the transformations of urban form and tissue worldwide taking the forms of both land-take and densification. The drivers behind these processes in Bulgaria have been the dynamics of political and economic contexts and the rearrangements of the legal framework since the fall of the Iron curtain. Being one of the most significant changes in spatial planning, the reframed balance between public and private has dominated the redevelopment and restructuring of urban tissue in Bulgaria for the last three decades.

This paper relates the quality of public good in residential areas to their morphological characteristics through a diachronic comparative study of the development of two generic forms of residential areas in Bulgaria – the traditional housing neighbourhoods from the first half of the 20th century and the mass housing residential areas, called complexes, from the second half. It reflects on the morphological and structural changes from the perspective of quality of living and public good and evaluates the flexibility and adaptability of the typologies. It finally outlines the key relations between national context and city management that shape the streetscapes of the neighbourhoods.

Keywords: Public good, Dynamics of urban form, Transformation, Flexibility, Residential areas.

Introduction

The diversity of urban form and space today could be characterized as unprecedented in history. It resulted from the intensified parallel development of urban planning, urban design and architecture as theoretical and practical fields and was supported by the 20th century spirit of experimentation in urban spatial policies and development. Concerning housing the cities today include areas of different generic typologies that form their mosaic landscapes. This is rooted in two trends occurring since the industrial revolution: the introduction of sound and resilient materials in the mass construction of residential buildings and the development of urban planning and policies as new fields of knowledge. For the last decades the cities have grown in a pace unseen before, a large number of new typologies of residential areas have emerged within a few decades while the construction technologies allowed for them to last longer in time. European cities today display a picturesque compilation areas characterized by medieval, industrial, post-industrial and contemporary housing.

The diversity of urban housing typologies in Europe today face common principles and challenges of their transformation. Contemporary approaches to residential areas as objects of research, redevelopment, regeneration and transition are developed with a focus on energy efficiency, sustainability and circularity. Although research has demonstrated that densification is controversial and may consolidate some problems while solving others, it is still the most visible result of the transformations of urban form in Bulgaria today. It occurs within common social, economic, institutional and legal context but its objects span the diversity of areas and housing typologies originating from different historical periods and socioeconomic contexts.

From this perspective it is reasonable to study how different typologies are being transformed following common urban development principles driven by the same context forces. The focus on quality of public good within the dynamics of urban form during the last three decades is reflecting the major criticism on quality of living within both the professional field of planners and the everyday experience of citizens.

Background

The dynamics of cities and urban form in time is one of their key characteristics. Considering the historical development of residential areas in it usually was a deliberate incremental process that could take a long period of time in order to be visible in a compact urban area. The experiments of the 20th century planning implemented the opposite approach – of top-down approach and large-scale spatial interventions. With the development of the concept of the city as a complexity system and the evolvement of the systems theory, it was recognized that cities are not equilibrium structures especially when the escalating speed of their development in the last decades is considered (Batty 2009). Looking at urban form as both physical setting and a physical reflection of all processes shaping urban life today, it is possible to study its interrelations with current paradigm of spatial planning paradigm and in particular the balancing of public good.

Public good and urban commons

The general theory defines public good as collective consumption goods that all enjoy in common (Samuelson 1954) views them as non-rivalry and non-excludable (Reiss 2021) and outlines examples like clean air, streetlights, environmental goods etc. Although they are often provided by the public sector, some of them exist in nature, some are provided by individuals or private bodies or are a result of collective action. The latter has for a long been a topic of international research interest of urban planners and just recently have attracted global attention especially within the areas of participation, bottom-up initiatives and co-creation that are attempting to climb the political agenda, especially in EU (Buemi 2021).

The theory of public goods has been scaled according to the spatial range of their availability and therefore the spatial range of their users. The above theory first developed by Tiebout (1956) envisions public goods provided at the level of a neighborhood or a within the enclosed area of a single jurisdiction, like city authority and asserts that the mobility of citizens is the key factor that allows for optimal results in providing public goods because of the competition among the jurisdictions to attract citizens: ‘Spatial mobility provides the local public-goods counterpart to the private market’s shopping trip’ (Tiebout 1956). A later perspective on this theory concludes that it is not the individual mobility but the political choice that is more important when optimal results are targeted.

It outlines the three well-known fundamental problems of public goods: 1) the revelation problem – unlike private goods, the preferences of individuals could not be revealed in the process of purchase and if their payment in the form of taxes depend on their preferences, then they are likely to misrepresent their preferences; 2) the social choice problem – there is no social mechanism that satisfies the general need for freedom of choice and choosing optimally; 3) the management of public good – unlike private goods where producers are willing to provide in an efficient way goods of a quality that the clients are willing to buy, when public goods are concerned their quality depends on the incentives of citizens to select good public managers and on the incentive of the public managers to provide public goods – two elements that are far from perfect (Stiglitz 1982). In these studies the quality of public goods is considered as an optimal result obtained under specific conditions including complete information. This paper considers the elements of the urban context as such conditions and contemplates on the dynamics of the quality of the public good focusing on the qualities of public spaces, air and greenery including their provision, accessibility, physical condition and management.

In the fields of urban planning, management and policy, the common meaning of public good as ‘the benefit or wellbeing to the public’ (Public Good 2022) is often overlapping with common goods or urban commons, underlining its non-market essence and its importance to the community. The diversity of conditions and contexts in which public goods exist, emerge or are provided is reflected by the studies on their taxonomy.

A recent study expands the diversity of elements defined as new urban commons and mapped by sectors by Hess (2008) and proposes an analytical framework of the urban commons outlining the diversity of research fields working on the topic. It outlines the importance of property-rights regimes for the development of commons and names the primary tangible commons in cities, from which other commons directly derive: agriculture, parks, housing, education or infrastructure. It also defines urban parks and neighborhood greenery as new type of urban common arguing that their role in neighborhood life is of significant importance and, therefore, should be differentiated from traditional commons like forests (Feinberg et al. 2021:6).

While urban commons are predominantly studied from the perspective of agriculture, environment, urban planning and social sciences, and the public goods are generally in the domains of economics and law, recent publications cross these boundaries in the attempts for generalizing the city as commons in the study of innovative and participatory forms of city governance (Foster, Iaione 2015).

The up-to date assumptions include also the ideas of excluding the monopolistic public regulatory regimes over urban commons as a way of dealing with some of the fundamental problems of public goods but also as an opportunity for utilizing urban spaces (in their essence of urban commons) as a resource for community development (Buemi 2021).

Both concepts have been implemented in global agendas: from the Universal Declaration of Human Rights defining the right to a standard of living adequate for the health and well-being which demand action by public authorities towards providing public goods, to the UN-HABITAT guidelines for cities towards creating public goods through urban planning and design (Plata 2020:3). Following the fact that the characteristics of public goods are typical for open spaces (Maruani, Amit-Cohen 2007) and outside any attempt for providing clear definitions, the current study considers a more broad meaning of public good and urban commons and applies it to the open public spaces in urban areas and particularly scales it to the level of the neighborhood in residential areas.

The context of Transition period and its impact on urban form in residential areas

Dynamics of urban form in this paper is examined within the Transition period for CEE (Central and Eastern European) countries which followed the fall of the Iron curtain at the end of 1980s. The period is studied internationally in the fields of urban policies, government (Tsenkova 2006) and economics as well as social sciences with mentions on urban planning issues. These extensive studies from the 1990s and early 2000s were usually elaborated by the global institutions (WB 2002; UNECE 2003; EBRD 2004) and their main focus was the process of transition from state dominated to free market economy and the related transformations of institutional governance in the region that shaped its development during the period. Some of them outline the moderate and uneven progress of change in the eastern part of the region, including Bulgaria.

According to these reports the main characteristics of the period that shaped the dynamics of urban form are the development of property rights, the emergence of real-estate market and the radical transformation of the formerly centralized urban governance and planning systems. In terms of urban form and architectural language the factors shaping urban change are considered the introduction of property rights, diversity and competition (Nedović-Budić et al. 2006). The studies of post-socialist urban systems also outline the emerging conflicts and inequalities in post-soviet urban areas (Andrusz, Szelenyi 1996) and the role of property, construction and real estate markets in the transition process of land and housing (Strong, Thomas, Szyrmer 1996).

The effects of the 1990s transition period in CEE countries on urban planning have been widely studied in terms of market fluctuations, transition to Neo-liberal housing policies (Tsenkova 2005) and their impact on residential development patterns (Stanilov 2015), in terms of changing urban development policies (Stanilov 2007) in terms of changes in the built fabric and the expressions of postmodernism in post-socialist cities (Hirt 2008) and in terms of the impact of the changes in the post-socialist urban planning framework on the treatment of public open space and on the transformation of existing mass-housing areas (Vasilevska et al. 2014).

The nature of housing changes as a result of institutional reforms has been described in terms of ownership, standard/quality of housing units, social housing and housing market (Tsenkova 2017). A general study of post-socialist cities concludes that the abrupt changes in them represent the effects of globalization in an intensified form (Nedović-Budić et al. 2006).

Considering the particularities of the context in Bulgaria Stanilov (2007) outlines the introduction of partial area plans as undermining the implementation of existing unified plans (a term used by the author for the city comprehensive plans) as a main cause for creating tensions between existing and new buildings and uses in urban areas. This conclusion refrains the predominant view among urban and architectural practitioners in the country at the time and even today and reflects the conflict caused by the general rejection of all urban management instruments existing before the fall of the iron curtain including comprehensive planning during the first decade of the transition period.

Although it is argued whether and when has the transition period ended, a most recent publication presents the current state of the cities after transition through a selection of case studies that focus on the contemporary approaches of interventions in existing urban fabric across CEE countries and relates them to the specific context that inevitably impacts the results (Benko, Kissfazekas 2019). Other contemporary approaches of research and interventions in large scale 20th century housing areas in Bulgaria include the interchange of social and technical dimensions of energy-related policy (Dimitrova et al. 2022), the participatory activities in the analysis of mobility patterns as a tool for providing healthy and socially inclusive urban environment (Tasheva Petrova et al. 2020) and the application of morphological analysis in re-designing the pedestrian and green recreational areas within them (Zlatinova 2021). The raising attention to commons in residential areas as well as the application of participatory approaches is reflected in the comparative analysis of experts' and citizens' visions for urban regeneration of public space in these areas with a view on the challenges and limitations of participation in design (Tasheva-Petrova et al. 2021).

Transition period, public spaces and greenery

The public and green spaces in Bulgaria have been generously planned between 1945 and 1989 in a gesture demonstrating the might of the state and its vision of a social transformation. Despite the comprehensive planning approach applied to large scale residential neighborhoods in order to provide them with open and freely accessible green spaces between the buildings, public parks in each district and a hierarchical system of public spaces allocated for commercial and public services, the implementation of the plans in the part of public spaces was lagging behind and incomplete at the beginning of the transition. The vacant plots of unbuilt or unfinished public spaces were among the first scenes of urban transformations in the transition period. The three main elements outlined by Hirt (2008): function, scale and style, describe the changes in public space.

The rapid increase in commercial uses drives functional restructuring of public spaces, the lack of access to capitals and the undeveloped market in the first decade of the transition defined the small scale of the interventions and therefore the fragmentation of space, while the free market of construction and design along with the reaction to the former restrictions resulted in a diversification of architectural styles. The loss of public spaces during the transition period is one of its most visible results in urban space. It was rooted in the devalued role of urban planning and weakened position of urban authorities.

In the Bulgarian capital of Sofia, an estimated 30% of all public green spaces were 'lost in transition,' with a similar amount tied up in legal disputes between municipal authorities and the private owners who have submitted development applications' and as the state lost its near-monopoly on city-building and the private sector took the initiative, competition to convert open spaces to build structures and their accessories (e.g. parking) intensified sharply, especially in gentrifying central-city neighborhoods, the socialist-era mass-housing complexes, and the periphery of large cities (e.g. on agricultural fields and greenbelts) (Hirt 2014:4).

Densification, urban greenery and privatization of public spaces

Densification was promoted by The European Commission as a solution to saving land, reducing travel distances and promoting efficient use of public and social services (European Commission 1990). Despite the variety of positive effects, in a number of cases there are evidences for the negative impacts if urban intensification including breeding crime, vandalism and social irresponsibility as well as worsened local environmental conditions in areas of increased traffic load (Melia et al. 2011). Therefore it is advised to apply it more carefully considering possibilities for worsening the quality of urban environment.

A study on the variety of densification patterns depending on the specific context reveals that in the form of consolidation and infill development they could be a threat to urban green space (Haaland, van den Bosch 2015). Case studies from UK report 5% decrease in both public and private green space in an English town resulting from infill developments (Pauleit et al. 2005) while an investigation on the spatial distribution of green infrastructures in Sydney found that urban densification can lead to a general loss of public park-lands and private tree cover (Lin et al. 2015). Without a direct relation to densification, a comprehensive study on changes of urban green space in 202 European cities between 1999 and 2006, including two Bulgarian cities – Sofia and Bourgas, registers a decline of their area in Eastern Europe (Kabisch, Haase 2013).

Densification in Eastern Europe has different background. During the transition period it is a reaction to the public spaces and open green areas, perceived as lavishly planned or over-sized by many researchers (Hirt, 2014). Densification of urban areas in Bulgaria is driven by economic incentives backed by planning and construction legislation rather than environment, sustainability or urban management principles. While in the other parts of Europe large housing estates are perceived as degraded territories for the low-income groups where social and safety problems emerge, in Eastern Europe they are generally easily accessible and accommodate a large share of the population. Existing infrastructure and convenient access to public transport and services there motivate the infill developments which are driven by the housing market. Studies demonstrate that when these new developments follow the originally defined spatial planning principles of the estate they are well integrated and add value to the public space but only in the immediate surroundings of the building (Treija et al. 2018).

Methodology

The research problem of this study is the relation between the quality of public good and the dynamics of urban form. It is studied based on the analysis of two case studies, representing two different generic types of residential areas in Bulgaria which represent the two types of lifestyle – living in a house and living in an apartment building. The first represents the traditional neighborhood or the contemporary suburban living dependent on the local context. The second is the embodiment of the modernist idea of the city that was embraced and propagated by the social engineers in the former communist states as a vision of the socialist way of living. Both have their regional

particularities in the Bulgarian context. Therefore a specific term, predominantly used at national level, is used for the mass housing residential districts built according the comprehensive and usually large scale master plans – ‘complexes’. The term reflects the complex approach in providing physical space for all aspects of living considered necessary and important at the time. The study adopts the convenience of these terms and uses ‘neighborhood’ and ‘complex’ instead of their longer explanations.

The case studies are from Bourgas – one of the large and growing, in terms of population, Bulgarian cities in order to provide a basis for further studies in other cities of the same range in the spatial structure of the country. The residential districts of Vazrazhdane and the Lazur are selected as an object of the study, based on some similarities of their location within the city and their role in its spatial expansion while major differences are also outlined. They are also selected because they illustrate an almost complete process of spatial transformation.

The diachronic analysis is considering the dynamics of the context that shaped the process of changing urban form. It is presented through a brief historical study describing the context of emergence of the case study areas. The contexts of the two stages considered by the diachronic analysis (in 1990 and in 2022) are outlined in order to support the understanding of the driving forces and conditions which framed the processes of transformation and transition.

The comparative analysis is twofold – it presents two states (the initial state before the transition period and the current state) of urban form of both case studies and then compares the quality of public good for the same states. The evaluation of the qualitative characteristics is based on expert statements and common views and opinions shared by local residents informally as well as by personal observations and content analysis of satellite and Ortho-photo images. Quantitative characteristics are derived from open access cadastral plans and topographic maps created between 1970 and 1991 (both raster and vector formats were used). The initial wider selection of case studies was also narrowed with the exclusion of areas that emerged within this period.

The conceptual framework of the study follows the taxonomy visualized by Feinberg et al. (2021:6) and focuses on open and freely accessible public spaces in the neighborhoods. It includes neighborhood’s greenery (public gardens, open and public greenery in between the apartment buildings of the mass housing complexes, street greenery). It also includes the idea of air as a public good, interpreting it both as space in terms of free views, connected spaces, ease of orientation and spacious streets facilitating circulation, and as a health factor. The general meaning of public good is also reflected with the analysis of urban spaces for social interaction, that are also evaluated according to the property rights regimes – open access, state property, common property and private property (Feinberg et al. 2021:3).

The results of the analysis are discussed with a view of the possibilities for further development. The characteristics of the case studies supporting or hindering their adaptability and flexibility are outlined and related to the current trends of development including densification and greening. Finally recommendations related to policy and spatial development regulations are made with a view to the next stages in the life-cycle of plots and buildings.

Results

Bulgaria is an urbanized country with 73,1% of the population living in cities (NSI 2021). Urban living in the large cities is predominantly in apartment buildings and it is only recently when the suburban living in a family houses emerges on the housing market. The reasons behind this could be found in the past historical context and are described by Hirt (2014) as related to the pro-public ideology of the communist state which considered single-family houses as ‘inexcusably individualist’ and discouraged them in the large cities (Hirt 2014:3). About 73,2% of the existing housing stock in Bulgaria was built between 1945 and 1990, only 10,4% is from previous periods and 66% of all dwellings are in the cities. An appropriate estimation about the number of dwellings in residential complexes could be done by taking the data for the height of the housing stock – 43,4% of all housing units are in buildings of more than 6 storeys (WB 2017) – a height that is one of the major characteristics of these developments.

The housing context in the large Bulgarian cities at the end of 1980s was dominated by the prefabricated apartment buildings arranged in large complexes surrounding the compact historical center. This formed a specific skyline of residential towers and 8-storey high-rises surrounding the 3 to 5 storey urban core which is clearly distinguished from the gradient in heights and densities envisioned by the theory of urban to rural transect. These cities grew exponentially during the second half of the 20th century because of the intensified industrialization which forced the population towards them and the state solution to their housing needs was to provide prefabricated buildings that were fast and inexpensive to be built. In many areas the complexes replaced traditional housing while in other cases the large scale prefabricated buildings spatially embraced it waiting for the next steps for symbolically and physically replacing the old that did not fit the ideology with the new that did. Bourgas is a typical example of the

described type of large Bulgarian cities and between 1945 and 1990 its population grew 4.5 times followed by a subtle decline until 2005 and now with a little more than 199 thousands citizens it has almost reached the numbers before the transition period (NSI 2021).

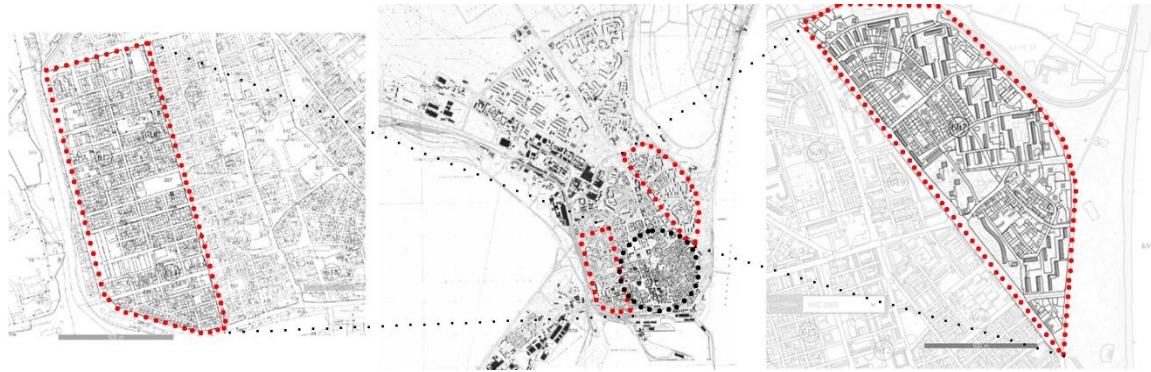


Figure 20. Location of the case study areas in the urban structure of Bourgas (left to right: the neighbourhood of Vazrazhdane, the city of Bourgas, the complex of Lazur)

Source: author's own work on the basis Geodesy, Cartography and Cadastre Agency, Cadastral maps of Bulgaria, online kais.cadastrе.bg access: 05.09.2022.

The two case studies illustrate these two typologies – the neighborhood of Vazrazhdane is the example of the traditional urban housing from the beginning of the 20th century that survived the urban restructuring strategies from the second half. The complex of Lazur is the implementation of the idea of housing for the socialist living through comprehensive master plans and large-scale construction programmes. At the initial stage of the study they have similar location related to the urban core of Bourgas and shape the periphery of the compact city (Figure 20). The neighborhood is located to the West of the city center and is bordered by the main railway line connecting the city and the railway yards serving the Western industrial area. The complex is located at the South-East fringe of the city center next to the large city garden aligning the sea shore at what could be now considered the first fringe belt.

The neighbourhood of Vazrazhdane was established at the end of the 19th century at the edge of the city. It sheltered Bulgarian refugees from Bulgarian areas left abroad after the National Liberation and the wars in the dawn of the 20th century. It follows the leading principles of town planning at the time – the orthogonal grid, comparatively small plots and houses with 1 or 2 storeys, located close to the back of the plot and surrounded by green yard – a reminiscent of the idea of Garden city. Many of these features have been visible until the 1990s though the construction of new houses followed different principles – they were located at the front of the plot facing the street and were larger in height and area. The densification in this neighbourhood was visible before 1990s and took the form of scattered buildings in the blocks, often lining the periphery of the plots. A comparatively small group of prefabricated buildings named ‘the complex of Vazrazhdane’ lining a major boulevard appeared in late 1980s at the North-West fringe of the neighborhood.

The complex of Lazur was built in 1970s and 1980s for the employees of the petrochemical plant – the biggest employer in the city. At the time it was located outside of the city which was assumed as inconvenient. It is one of the first and smallest in terms of area complexes in Bourgas including a group of six emblematic 19-storey residential towers located at its central and most prominent space, another group of 5 similar towers, a group of three 14-storey towers and seven groups of buildings with 4, 6 and 8 storeys.

The initial plan envisioned more towers, only one of which was built. The complex was equipped with schools and kindergartens, sports fields and children playgrounds but the network of supermarkets and other shopping facilities was only partially built. One of the low buildings – block 77 (informally named ‘the cucumber’ and characterized by its curved plan) has become one of the most recognizable symbols of the residential architecture in the country from the period. The master plan provided also vast open courtyards within the groups of buildings and parks between the groups that should have replaced a few blocks of houses that survived until 1990s.

The transition period in Bulgaria was marked by an outburst in mobility between the districts of the large cities that was impossible beforehand. Unlike the assumptions of Tiebout (1956) it was driven not by the quality of the services provided by local municipalities but rather by the qualities of location (proximity to the city center, convenient transport connections, air quality, attractive views, social environment), the goals of the construction

companies (the availability of underdeveloped plots, the better quality of the newly built housing stock provided by private developers) and the willingness of the citizens to adopt a new lifestyle. The changes of the legal framework of construction and spatial development were implemented in 2 stages – in the 1990s it was adapted to the new economic context and in 2001 a new law was adopted which allowed for greater heights and density in the cities while building on the former regulations for designing buildings.



Figure 21. Transformation of the neighbourhood of Vazrazhdane – the Northern part of the area (left to right: 1980s, 2022 and overlay of both plans)
 Source: Geodesy, Cartography and Cadastre Agency, Cadastral maps of Bulgaria, [online kais.cadastre.bg](http://online.kais.cadastre.bg) access: 05.09.2022.

Under this context the neighborhood proved to be more flexible in terms of adapting the urban form to the changed framework (Figure 21). The previously existing private ownership allowed for the easy implementation of new buildings and incremental transformation of the block plot by plot. Moreover the small size of the plots that corresponded to low investments for construction of new buildings were an appropriate environment for supporting the sprouting business in the construction sector. The process of transformation was framed by the building regulations that considered traditional blocks in the compact cities and their centers and by agreements resembling the *antiparochi* in neighboring Greece (Kalfa 2022) according to which the land owners allowed the developers to build a larger building on their property and received a proportion of the dwellings in it that usually amounted to an area larger than the former house.

In terms of morphological characteristics today the process is complete and the neighborhood street scape and skyline are completely different. Now the buildings frame the periphery of each block surrounding a comparatively narrow and fragmented spaces with compromised greenery – a form previously associated with the plot was scaled to the level of the block. The layout of the block is transformed from scattered buildings into regular rows framing the street network which remained intact. The paths of the vehicle and pedestrian flows did not change despite the increased load on them caused by the increased number of dwellings and citizens and the diversified functions located at the active ground floors.

The streetscape has changed from wider views allowed by the location of houses in the middle or at the back of the plot to a canyon framed by taller apartment buildings lining the streets. In terms of the balance between public and private land the neighborhood faced almost no change. In terms of quality of the public good it suffered the negative effects of the overload caused by the increased density without considering the capacity of the area in terms of space and infrastructure. The urban environment of the neighborhood eroded, the area became infamous for its over-densification which lowered the value of the properties. The local community was overwhelmed by the newcomers and as the opportunities for socialization in freely accessible public spaces almost disappeared it could not revive the previous sense of belonging and connection to the area.

The transformation of the complexes (Figure 22) was slowed by the process of establishing the legal framework for restoring private land ownership and the particular regulations for the land in the complexes as well as their negative image associated with the totalitarian regime. Therefore the first new developments had temporary character – like tiny pavilions that filled the vacancy of the supply chain and services. They often occupied bits of green areas and sidewalks and created bottlenecks for the pedestrian flow in the pursuit for visibility and clients. The gap of commercial uses (both in market supply and in provided empty space) was later occupied by larger stores and shops in the active ground floors of the new developments.



Figure 22. Transformation of the complex of Lazur – the Southern part of the area (left to right: 1980s, 2022 and overlay of both plans)
 Source: Geodesy, Cartography and Cadastre Agency, Cadastral maps of Bulgaria, online kais.cadastre.bg access: 05.09.2022.

The masterplan of the complex of Lazur was not completely implemented – the gardens and most of the services were never built. The creation of the gardens demanded relocation of the inhabitants of a few small houses on private plots that was not done before the changes in the planning system. Their development afterwards followed the pattern of the transformation of the neighborhood and the complex became a mixture of two typologies. Some circulation paths were broken and some areas for greenery and for public services were reduced but the neighborhood greenery was almost intact. The most intensive new developments were located at the periphery and at important junctions where new high density blocks were built and attention-seeking high rises appeared in the urban skyline and changed the circulation and functional foci of the masterplan.

Table 1. Comparative analysis of the morphology of the two case studies

Neighbourhood: Vazrazhdane			Complex: Lazur	
State 1: 1990	State 2: 2022	Characteristics	State 2: 2022	State 1: 1990
58,1 ha	58,1 ha	total area	81,9 ha	81,9 ha
55,2%	55,2%	housing	23,7%	19,2%
25,8%	25,8%	streets and squares	*23,6%	*21,9%
1,9%	1,9%	public park	2,0%	2,0%
13,2%	13,2%	open access neighbourhood greenery	36,6%	43,1%
0,6%	0,6%	sports and leisure	4,1%	4,1%
4,3%	4,3%	public and social services	10,0%	10,7%
regular gridiron	regular gridiron	street network	irregular grid*	irregular, cul-de-sac*
6,9,12,14, 16 m	6,9,12,14, 16 m	street width	4,6,9,15 m	4,6,9,15 m
scattered houses	traditional block buildings framing the street	block layout	mixed: modernistic and traditional block	modernistic, free-standing large-scale buildings
0,7 ha	0,7 ha	average block area	2 ha, 1,1 ha	2 ha
60x120 m	60x120 m	average block size	irregular	irregular
house in the back of the plot; buildings on the perimeter of the plot	detached buildings facing the streets	plot layout	mixed: open modernistic block and detached buildings	buildings framing the street; buildings on the periphery of the block
25	19	plots in a block	1; 22	1
360	360	average plot area	600	no plots
12x30 and 6x30	24x30 and 12x30	average plot size	20x30	no plots
house/single family	apartment building	buildings typology	towers, slabs, apartment buildings	high-rise towers prefabricated slabs
50-80 m ²	190-200 m ²	housing units – average area		towers – 420 m ² slabs – 700 m ²
1-3	5-6	housing units – levels	4, 6, 9, 14, 19 5-6, 18	4, 6, 9, 14, 19

*spaces for public parking in the neighbourhood are included.

Source: author's own work.

The comparison of the states of urban form in the case studies (Table 1) allows for asynchronous analysis of each state and of diachronic analysis of the dynamics of urban form described above. The characteristics of public good are summarized in Table 2 following the same structure. It includes also elements of the context – social and economic characteristics of the inhabitants as well as context of emergence that allow for understanding the driving forces of the transformation.

Table 2. Comparative analysis of the context of emergence and two stages of the quality of public good in the two case studies

Neighbourhood: Vazrazhdane		Complex: Lazur		
early 20 century		period	1970s and 1980s	
based on agriculture		economy	based on industry	
low		urbanization	rapid and extensive	
small and developing		city	large, industrialized	
Bulgarian migrants from lost territories		inhabitants	well payed employees, educated specialists	
garden city		concept	modernism	
State 1: 1990	State 2: 2022	element	State 2: 2022	State 1: 1990
diverse in terms of education, profession and income	lower middle class; people migrating from the periphery of the city to convenient	inhabitants	middle and upper-middle class; people migrating to higher quality of living	well payed employees, educated specialists
connected to the neighborhood	disconnected	community	disconnected	connected by employment
old fashioned and outdated -a lifestyle rejected by the vision of the communist regime	overloaded; over densified; convenient in terms of access to the city center	image of the area	attractive and convenient location	contemporary; lifestyle reflecting the vision of the communist regime
associated with poor quality of living (old or missing infrastructure); old and shabby looking houses	average and low quality of living associated with the density, overload of streets, lack of parking space, fresh air and greenery	perceived quality of living	good quality of living: convenient location between the city center and the sea, attractive views from the towers, the largest city park	good and high quality of living: associated with new buildings and diverse infrastructure, especially central heating
10 min walk: bus routes along the periphery;	10 min walk; bus lines only at the west periphery;	access to the city center	20 min walk; public transport lines along the periphery	20 min walk; public transport lines along the periphery
paved straight streets lined with trees; open and connected spaces – green yards visible from the street	streets lined with trees and 5 storey apartment buildings; garages and shops on ground floor level;	streetscape	new streets lined with 5-storey high apartment buildings; garages and shops on ground floor level	access streets through vast and green spaces between buildings; poor condition of pedestrian paths
monofunctional: school and kindergartens; public garden and sports playground; supermarket and food market	mixed: school and kindergartens; public garden and sports playground; supermarkets, food market, shops, cafes and restaurants	functional mix: education open spaces services	mixed: schools and kindergartens; neighborhood greenery; supermarkets, shops, cafes, restaurants, leisure, health etc.	monofunctional: schools and kindergartens; neighborhood greenery; supermarket, restaurant
good ventilation; spacious public spaces	hindered ventilation,	air	good ventilation	good ventilation; lavish green spaces
low	low to moderate	pedestrian flow	low to moderate	low to moderate
low	moderate to high	traffic flow	moderate to high	moderate
low/occasional	high/regular	parked cars	high/regular	low/occasional
streets – elderly sitting for a talk; children playing in the street	outside the area – public gardens in the vicinity	public space used for socialization	green spaces between buildings; children and sports playgrounds;	green spaces between buildings; children and sports playgrounds;
house yards	commercial spaces, restaurants, cafes etc.	private space for socialization	commercial spaces, restaurants, cafes etc.	–

Source: author's own work.

Discussion

The dynamics of urban form of the two areas was shaped by the same driving forces – the transition to market economy (establishing property market, sprouting construction industry in the private sector) and the changed regulatory framework of planning and construction. The main factors that defined the differences in their development were the patterns of property rights, the legal framework and the different characteristics of the existing structures in the beginning of the transition period.

The neighborhood structure proved to be the fastest to adapt and completely transform as the small scale of its elements defined by property rights – the plots, appeared to be suitable for the incremental transformation process and matched the resources and capacities of the stakeholders in this entirely privately driven process. The urban form changed from small scale houses forming an irregular pattern into the regular pattern of a traditional block through both densification and intensification and the total area of the housing stock in the neighborhood blocks was increased at least 10 times. The plot pattern within a block went through occasional changes where unification of plots was possible. The most sustainable structure of the neighborhood appeared to be its street grid while the built fabric changed radically from disorder to almost strict order achieving the maximal dimensions set by the regulations.

The complex on the other hand retained its structure mostly because of the delay in plot regulation which fragmented the land with the aim of providing legal basis for renewal and construction of streets and transport network. Unlike other complexes in Bulgaria where every building was provided with a respective plot, the new regulation plan of Lazur assigned plots for groups of buildings thus protecting most of the neighborhood greenery. The typology of property rights – private ownership of dwellings and state/municipal ownership of land along with the legal framework did not support a transformation of the built fabric – private owners of flats had no right to construct while the municipality had neither incentive nor resources. The scale of the buildings and their structure and the large financial and social costs also blocked any ideas for restructuring the area. The circulation paths, access streets and flows changed – the street network was complemented and better connected to the major transport network of the city.

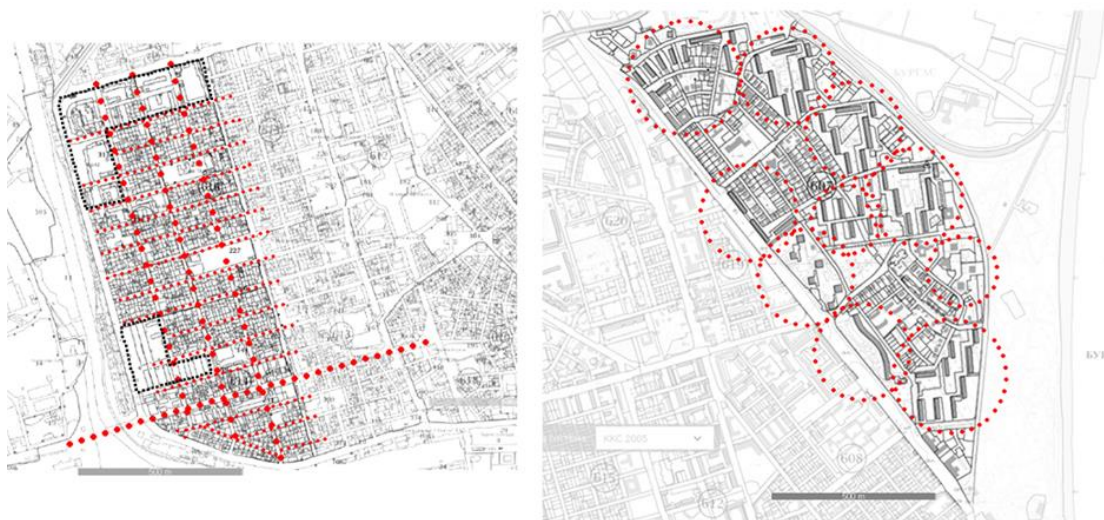


Figure 23. Figure 2: Resistant structures of the neighbourhood Vazrazhdane (left) and of the complex Lazur (right)

Source: author's own work.

The structure of the complex was never completed. This, backed by the legal framework, allowed for the implementation of infills that did not follow the principles set by the initial masterplan. They interrupted pedestrian flows and air circulation, cut bites of the neighborhood greenery but also supplied the need for commercial areas, leisure, lifestyle and entertainment services. Initially appearing as objects with temporary character, most of them were later replaced by buildings. The structure of the complex was functionally completed at the later stage though with different spatial elements at different locations in its spatial structure. The groups of buildings and their neighborhood greenery proved to be the resistant structures in the complex.

The most recognizable feature of the dynamics of urban form in the case studies is the densification. In the neighborhood it was in the form of spatial transformation of the whole built fabric while in the complex it took the shape of infill. Despite this difference both had hardly impacted the spatial structure of the area – the access points and axes as well as the public buildings and service centers remained although the appearance of new dispersedly located smaller scale competitors.

Both case studies represent different proportions of a mix from the two generic typologies – blocks with the design of a complex appeared at the fringe of the neighborhood in late 1980s and small plots with single family houses remained in the core of the complex. The similarity of form – large scale apartment buildings surrounding small houses reveals a common approach that is still visible in many other Bulgarian cases.

Common characteristics of the new buildings and developments in the two case studies is their impact on the quality of public spaces. The private developers reconstructed the immediate surrounding of the new buildings within the boundaries of their plots and sometimes renewed the street pavements in front of them. But they also strengthened the spatial boundaries creating fences – the flow of views and the visibility of private greenery, previously associated with the neighborhood and the free pedestrian flow in the complex were blocked or at least obstructed. Along with the spatial boundary, a social one emerged – between the ‘old’ inhabitants and the ‘newcomers’. In the neighborhood the unifying connection to the place was lost with the disappearance of the social role of the street. In the complex the protection of the neighborhood greenery where socializing still takes place allowed for the community to exist though less integrated reflecting the overall changes in the society.

In terms of quality of public good the changes are better visible at the smaller scale – the street scape. The densification and intensification of the neighborhood was not supported by development of the capacity of the streets and infrastructure which along with the rapidly increasing motorization level (number of cars) led to overloading. Another negative consequence was the diminishing of the street as a social space. In the neighborhood this resulted in lack of places of socialization and shortage of playgrounds and sports grounds for the children and young people. The emerging spaces for socialization were predominantly private revealing a process of privatization of socializing and limiting the accessibility and amounts of social interactions.

At the neighborhood scale the dynamics of urban form impacts mobility patterns and quality of air as well as pedestrian paths, connectivity and continuity of street and alley networks. The neighborhood of Vazrazhdane retained the continuity of its street network that was initially a continuation of the street network in the closest parts of the city center. The complex retained its spatial self-awareness – the groups of buildings with uniform architecture that embrace their courtyards of greenery and spaces for socialization and the quality of public good was improved in terms of accessibility, connectivity to the other parts of the city, amount of tree canopy, quality of street lighting and quality of materials but decreased in terms of continuity of pedestrian flows and public spaces.

The adaptability and flexibility of the morphological structures in the two case studies were observed and evaluated above in a ‘short’ term view within just one period of transformation that is just a part of the entire life-cycle of the plots and areas. The neighborhood proved to be more adaptable, but through this transformation it got to (or even behind) the acceptable limits for densification resulting in lowered quality of public good. The complete and regular current structure of the blocks could hardly bear further increases of the built areas without significantly compromising the quality of living. Therefore the future development could not follow the same growth principles that shaped the transformation described here. The complex on the other hand might still get under future transformations whether in the form of infills or thorough reconstruction.

Conclusions

The diversity of housing typologies in contemporary Bulgarian cities proves to be complex with no pure morphological regions defined by their spatial typology. It is even more complex when chronological dynamics of urban form is considered. This dynamics is dependent on policy, regulations and economic context. On the other hand the quality of public good is dependent on morphology in terms of its qualitative characteristics like area, space, distances, density etc. and in terms of quantitative characteristics like flows, networks, connectivity. But it also depends on planning and environmental policies and on urban management.

The cities in history have proved to be both adaptive and fragile structures dependent to their spatial features and the context. In terms of flexibility and adaptability the two generic types of housing areas – the neighborhood and the complex have been completely different. This was defined by the particularities of their plot pattern, building scale, ownership structure and the compliance of these characteristics with the development framework and built form envisioned by the regulations and enhanced by the context.

The case studies here demonstrate that quality of public good is not always the major reason for mobility of citizens between neighborhoods and is often overridden by the qualities of the location like accessibility and proximity. The diachronic analysis presents how under the same context and driving forces one area may get improved spatial order while the other may get disruptions of the initial spatial principles and a decreased spatial order and that the quality of public good and the spatial order are not directly correlated. Dynamics of urban form in the last decades was driven by the economic context rather than social demands while the driver during the preceding period was the political context. In both cases the quality of public good was compromised and this reflected negatively the perception of the new developments by the citizens.

The balance of public good is clearly related to the planning paradigm and political context. As previous studies underline, the public spaces and the commons dominated the urban space in Bulgarian cities before the transition period and their reduction characterized the morphological transformations of urban tissue since then. The case studies prove that the quality of public good is more related to the continuity and connectivity of streets and networks of public spaces, to the moderate load on transport and pedestrian flows than to the quality of materials and maintenance. As both quality of public good and urban form are resulting from policy making and urban management it is essential that these policies intersect at the point where a reasonable balance appears. Defining this balance should be the crucial point of adapting planning policies to the demand for quality in the future cities.

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