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ARTICLE

An uncertain future: prospects for Bucharest's large housing estates

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Abstract
This article aims to review some of the main features of the large housing estates (LHEs) in Bucharest and to reveal the main challenges to future planning for those areas. We show how the management of the buildings has evolved since the massive and almost complete privatization of the early 1990s. We also address the land use regulation for public and common spaces. While investigating how public facilities are managed within LHEs and reviewing the quality of the buildings in those areas today, we also highlight the fact that some of the problems that we have identified are innate. Moving from the larger picture to details, we weigh the problems that define the real scale of LHEs and might help us to draw a meaningful comparison with similar situations in other former communist countries. Finally, we aim to bring together extant policies and ones that are yet to be worked out by connecting the major determinants that constitute the legacy of the past with the uncertainties of the future.

Keywords LHE · Bucharest · Housing · Urban policy · Homeowners' associations · Quality of life

1 Introduction

1.1 The national context of LHEs

One striking feature of Romania's transition to capitalism is the very early and massive privatization of almost the entire public housing stock that led to 98% home ownership. The Romanian case is specific in that it is marked by the legacy of the drastic switch from a collective approach to most aspects of daily life within an LHE to the *fragmentation* induced by this massive privatization. For almost two decades after 1989, a lack of public involvement and the withdrawal of the public sector followed on a period characterized by heavy immersion of public authority in all aspects of everyday life, which had created a strong

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symbolic tie between LHEs and the Ceaușescu regime (Zahariade, 2011). The current context is that of an entire universe of owner-occupied units, mostly bought from the state for very little money in the early 1990s, with relatively low residential mobility, the gradual replacement of a social mix by a homogenous low-to-middle-income population and a complete lack of public policies that ought to address the major issues related to LHEs.

Our article aims to contribute with its findings to the general discussions about the right to the city, to reveal how common interest was replaced by individualism and how the glorification of private initiative leads to the radical transformation of communality in Bucharest`s large housing estates. Moreover, the lack of public policies appears to be a constant attitude and was replaced by uni-dimensional, ad-hoc projects that fail to address systemic problems. What are the basic tenets for the future policies that address the problems of LHE, namely: a lack of targeted public policies; a significant socio-demographic shift that challenges the initial cultural model of housing and introduces new demands; a large size and obsolete housing stock, most of it at the end of its lifecycle?

Although social housing has almost disappeared (Vîrdol et al., 2015), and the total number of new public housing units built in the last thirty years is around 17,000 for a population close to twenty million, the collective image of LHEs is still that of"social housing estates". For a long time, mostly in the 90's, they were associated with all the wrongdoings of the communist regime, and perceived as a legacy of an oppressive regime, which led to low self-esteem among the inhabitants. This constituted a major drive towards the early stage of suburbanization of Bucharest (Suditu, 2011), many of the architect's clients accusing the limitations of their apartments, and overlapping the image of LHEs with that of a totalitarian regime. This gradually transformed into a more positive view when confronted with the dull reality of the urban sprawl and even lower standard new real-estate developments. Despite a strong polarization of society, which produced nouveau riche neighbourhoods of suburban villas, the flight of the more prosperous inhabitants did not greatly affect the social mix in the LHEs, which was largely re-created through the in-migration of the qualified workforce that now populates the lower positions in multinational companies.

The current situation is built on a history of LHEs that were developed in a very centralised economy, in which the top-down political decisions were following a logic of forced industrialization. Therefore, the housing estates were usually gravitating around large size industrial platforms and were initially built on peri-urban land, in a microrayon logic. Later on, as a result of Ceaușescu's initiative to create"civic centers", the LHE started to replace parts of the historical tissue of the city, moreover, after 1974, the Systematization Act led to a densification of the existing LHE. Every major city had a public institute for dealing with urban design and architecture. According to Șoaită (2012, pp 7–8), around 72% of Romania's population lives in blocks of flats, while other reports show that the percentage of Bucharest's population that live in apartments (https://www.teoalida.ro/istoria-blocurilor/) could reach 85%. A fair estimate of the share of units that belong to LHEs could lead us to the conclusion that some two thirds of the approximately two million inhabitants of Bucharest live in communist era apartments.

Nowadays, this particular kind of housing stock plays an important role in all Romanian cities, but neither the local government, nor the central government has set up programs to improve living conditions in LHEs. The financialization of housing operates mostly in larger cities, and manifests predominantly in regards to the new housing developments. But as the original owners move out and are replaced by younger families, banks are acquiring a greater share of the real estate operations in LHEs. For the first fifteen years after 1989, the market value of the apartments was relatively low, but a significant variation in prices began in the early 2000s and gained traction in the aftermath of 2008 (Chelcea, 2016).

In the last decade, there have been an increasing number of municipality-driven projects mostly aimed at hastily improving the public spaces and some of the representative buildings, also answering the need to accommodate an ever-increasing car stock. Area-based solutions centred on solid planning and urban management procedures are still missing. The public resources that have been spent are directed towards visible interventions in just a few aspects: better insulation of the buildings, new urban furniture, expensive exotic plants, complex fencing of the green strips along the main boulevards, and parking lots.

1.2 Methodology and data: a historical and prospective approach

This article brings together data from previous studies in which some of us took part: REAL (Rehabilitation of Housing) a multidisciplinary project dedicated to the improvement of the quality of life in LHEs; Eco-Rehab—Together for the eco-rehabilitation of large housing estates; Methodology for the Improvement of public spaces in housing ensembles—Ministry of Regional Development; DegraCo (Degradation of Housing in Condominiums) a project aiming to reveal the mechanism that lead to degradation in privately owned LHE; Bucharest Masterplan—Housing Study; National Housing Strategy; Urban Diagnostic—Regeneration of Ferentari; etc.

We base our observations on this previous academic and policy consultancy work, on long term fieldwork related to NGO projects, and on the experience accumulated in the governing bodies of the professional organizations of architects and urban planners. In this respect, the method is, to a large extent, almost auto-ethnographic. From this, we collect ethnographic observations, policy analysis elements and some visual illustrations to support our claims. The mosaic approach was adopted given that the main aim of the article is to ask some valid questions about the future of LHEs and to highlight the challenges that the LHEs face today. Due to the chronic lack of specific data on this type of neighbourhood, caused by the particular administrative and geographical structure of Bucharest that we will further describe, we chose to base our investigation on a number of topics that have been more visible on the recent public agenda. Drawing a straight line from the past to the future may be methodologically ingenuous, but has a surprising quality: it helps get a clearer focus on present governance and its shortcomings, on current planning devices and their dynamic, and on the sometimes brutal changes brought in by the marketization of common space and the financialization of community services within LHEs.

Our approach aims to connect the way in which these areas were created with how they are supposed to be addressed by public policies and administrative bodies. Since LHEs were designed for collective management they should be managed accordingly (Hess, Tammaru, van Ham, 2018). Our paper aims to follow the same line of arguments in order to contribute to the policy debate over LHEs. Area-based urban management, tested in URBAN pilot programs and urban regeneration funded by the European Union, mostly addresses issues linked to severe social vulnerability and involves actors that are either involved in a collective form of management (i.e. social housing management companies) or can be supported to develop an associative form. In a context dominated by fragmented ownership, weak organizational structures and complex urban governance systems have little inclination to develop long-term solutions.

As shown by Tsenkova, Gruis and Niober, developments and challenges in former communist countries raise high expectations concerning major responsibilities for maintenance and renovation for the new owners after privatization. In Eastern Europe, the absence of efficient intermediaries (condominiums and homeowners associations) along

with the uncertain legal framework, makes it difficult to mobilise funds for routine investment in maintenance and renovation, leading to further deterioration of the housing stock. The transformation process in the post-privatization stage was particularly difficult in this region and, even though there are specific adaptation actions, a system that is efficient has yet to be defined. (Gruis, Tsenkova, Nieboer, 2009).

We show that there is a lot of uncertainty about the future, since the current approach is utterly fragmented, plagued by uncoordinated actions and, to an important extent, a waste of public and private resources. The contentious issues are present both at the scale of the building and of the ensemble. They range from micro-management to the legal framework and planning instruments and this raises the question of the way in which a specific, particular answer to the current problems of LHE has to be given and by whom. The research questions are formulated as follows: What are the issues that must be addressed by the urban actors and what features of the LHEs have to be taken into account for a better planning of those areas? Who bears the responsibility to develop public policies and why did those policies fail to emerge until now?

2 Main actors of LHEs in Bucharest

Private ownership stood at almost 60% before 1989, a time when you were not allowed to have more than one apartment. In the early 1990s the general view of LHE housing was "the boxes in which we were forced to live by the Communist Party". The angry LHE inhabitant turned into a more mobile urban dweller. There is little data on residential mobility but our fieldwork and other data suggests that many of the initial occupants are now moving to the countryside to make room for their adult children (Suditu, 2011).

The governance of LHEs and of the city in general, is barely influenced by the ideas of "the right to the city" movement. Inhabitants regard private ownership as being very important, and prevailing over common interest, so occasional protests against plans to build on green spaces fade away when private owners show up. But these few bottom-up movements have emerged in high-status areas and in connection with the historical districts in the centre. The few actions in the LHEs have been occasioned by the work of professional participatory activists who have managed to mobilize some actors from the emerging middle class who are preoccupied with issues relating to quality of life. Otherwise, the functional mix of small offices, dental care surgeries and small shops at ground level does a great job in keeping the neighbourhood alive and improving the mono-functional design of communist times. Today's functional balance was partially achieved through the intense development of the shopping centres that are popping up around LHEs. This is a shift from the situation before Romania's accession to the EU in 2007, when commerce was scattered throughout every available ground floor space; nowadays those spaces are more oriented towards services.

A shift towards a more secure environment is also visible: from one dominated by insecurity and fear in the early 1990s, where hip-hop gangs loved to film their video clips, and small shops mostly sold alcohol, to a place where a lot of churches and hairdresser's salons have appeared, where green spaces are groomed, but children don't play football anymore because their playgrounds have been turned into parking lots. There are new fears now: that antennae might be radiating harmful waves, that thermal rehabilitation might add some costs to the monthly expenses, and on account of the pollution that is measured by NGOs and presented by the media.

Whether the symbolic image of the LHE will improve or deteriorate is a question that has to do with the preservation of the relatively good social mix. Whether this will still be possible in the future depends on who comes to live in the LHEs and whether residential mobility rises. Spending your retirement years in an LHE, though frequent today, looks as if it will soon no longer be possible, Romania being one of the few countries where urban to rural migration is stronger than rural to urban.

2.1 Public administration

Administratively and politically Bucharest is divided in a way that makes it fall into a "two mayors per square meter" category. It is a result of a gradual process in which the mayors of the six sectors gained a very strong independent position with respect to the capital's City Hall, and now have significant political and financial power. Since 2000, following a political rift between the General Mayor and the sectors, the government has engineered a substantial shift in power and redirected resources towards the latter. The physical configuration of the sectors is radial, similar to the slices of a pizza, inasmuch as all sectors meet in the centre and their borders largely ignore the logic of the urban units they divide. This is one of the features that prevents any coherent administration of the city centre. It also means that all sectors have a part that is rich, representative and historical and a periphery that is rather poor, industrial, commercial etc. and melts away into the surrounding suburbs. There is also a strong polarization between the sectors, Sector 1 being twice as rich, in terms of annual budget per capita, as Sector 5, the home of the Bucharest slums, where some smaller LHEs in an advanced state of degradation can be found (Berescu, 2011).

The current quasi-autonomy of several contingent territories with incoherent shapes and functions places LHEs in a position where they dominate the territory in physical and demographic terms—some, like Titan, are the size of a first-range *municipium* in Romania, but are refused any articulated system of management and administration.

Another major feature of Bucharest is its lack of metropolitan governance. Bucharest is surrounded by Ilfov county, an administrative region that comprises a ring of eight small cities, most of them in perfect physical contiguity with Bucharest, but which have been *independent* in administrative terms since 1997. Ilfov is one of the few counties that has witnessed an increase in population, mainly due to out-migration from Bucharest. There are no studies to provide data, but there is a strong consensus in the architects' community that most of their clients who build new houses in Ilfov originate from "the communist blocks of flats". This has created a new type of client with no previous experience of living in a detached house, high expectations of their investment value and reduced skills in the maintenance of new individual buildings. The extreme weakness of urban regulations in the first twenty years led to bizarre agglomerations of dwellings in the outskirts that for a long time were underserved by, or not even connected to, public utilities and suffered from a major lack of urban equipment. Moving from an LHE to the suburbs is regarded as a rise in one's socio-economic status (Suditu, 2011), and the process of transformation is still ongoing.

The capital region holds a dominant position within the territorial and economic system of Romania; it completely overshadows its hinterland and produces 26.6% of the country's GDP of which 90% derives from Bucharest itself. This means there is still high pressure on the LHEs to accommodate people who come from around the country and to maintain a certain continuity in the cultural landscape of the neighbourhoods, which is characterized by a strong mix of ages, professions, and places of origin. In this respect, the socialist

neighbourhood is still very much alive and functions according to the triumphant principles of modernism (Wagenaar, Dings, 2004). According to Marin and Chelcea (2018), this kind of housing stock is even enjoying a relative revival mainly through the efforts of its residents.

Meanwhile, the suburban area, a magnet for LHE inhabitants, is also the place where some new residential areas of higher quality are under development, and this is creating a huge traffic problem for the city. Transit to the centre happens mostly along large arteries that pass through LHEs, and this puts even more pressure on the city during rush hours, highlighting one of the congenital problems of LHEs, namely their low functional mix. They are still predominantly residential areas,"dormitory districts" designed to work in conjunction with large industrial areas that have now disappeared or been replaced mostly by commercial areas. What is specific to Bucharest is that, despite its general relatively high density, there are still enough low-density areas that can be used for new developments (Fig. 1).

Local Public Authorities are also responsible for the management of open spaces within the close vicinity (gardens around the buildings, playgrounds, parking spaces), as well as public spaces within LHEs (streets, parks, public gardens), and also have a legal obligation to offer methodological support to homeowners' associations. The General Municipality ensures the management of the central heating system and also of the main public spaces (parks, boulevards, etc.). Land use regulations and privatization are also decided on at the General Municipal level.

At the national scale, methodological guidance and public funding to do with LHEs are in the remit of the Ministry of Regional Development and Public Administration. Besides norms and regulations for the built environment and involvement in the thermal rehabilitation program, an effort was made to offer methodological guidance to municipalities in order to initiate improvements in public spaces within LHEs. Unfortunately, the guidelines had no impact since they were not accompanied by funding opportunities or any other form of incentive.

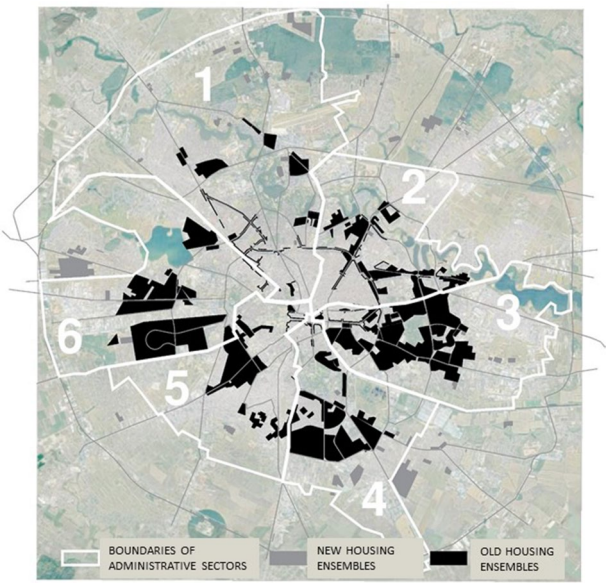

Fig. 1 Map of Bucharest with old and new housing ensembles and administrative divisions. *source*: the authors

2.2 Civil society

The list can be completed by stakeholders from the non-profit sector such as professional organizations, as well as specific associations established to improve the management performance of homeowners' associations. Applied research projects developed by research institutions and academia have mostly been siloed: urban morphology and building typologies on the one hand; anthropological perspectives on the other. In the very few consortiums that have brought together architects, planners, economists and sociologists, collaboration among different approaches and methods has proved to be very difficult. The professional organizations of architects, urban planners and engineers have done very little to address the specific needs of LHEs. There is one notable exception, the association of energy auditors established at the same time as the national thermal rehabilitation program started. Some cultural associations have occasionally organized exhibitions, publications and round tables, but cultural products are mostly consumed outside the neighbourhoods. In recent years, young professionals grouped in associations or consultancy companies have also been trying to point to the benefits of planning at the LHE scale.

As for the private sector, both service- and product-providing companies have shown interest in an important market that presents huge opportunities because of its scale. There are numerous companies that specialize in thermal rehabilitation.

Some stakeholders in LHEs are more prominent, having a *de jure* role defined by legislation: the Home Owners' Associations (HOAs), which usually manage an entire building, or just a part of it, following the logic of division into"staircases". In time, their role increased and was better defined. In the 90's, HOAs managed just the basic residential current needs, often reduced to the centralized payment of the utility costs. Many apartments on the ground floor were transformed into hairdressing salons, small shops, notary's offices, etc., increasing the functional mix of these areas and ensuring a revenue for their owners (Marin, 2007).

Before 1990, the occupants were part of a "residents association" that could have a maximum of 600 members. All residents were members by law, regardless of whether they were owners, renting from municipal companies, or renting from their employers. The association was registered with the local financial institutions and had an account at the State Bank, common charges were collected by an elected Administrator, usually a retired person who was not paid for this service. The surrounding spaces were under the control of the municipality but occupants were very active in planting and fencing the areas around the buildings, for instance creating fascinating artisanal fences from welded scrap metal. These interventions were and still are the result of tensions and negotiations that form the small-scale universe of relationships among neighbours.

Following the changes to the Romanian Constitution from 1991, the freedom to associate was interpreted in the sense that no one could be obliged to be part of an owners' association. HOAs were then "recommended" by the Housing Act 114/1996. The new legislation brought in definitions regarding those parts of collective housing buildings that are undivided common property and cannot be separated from the ownership of the apartment (the land beneath the building, the courtyard if any, the building structure, the terrace, etc.). The Act also recommends a repairing fund for the common parts. For the first five years, the associations were run with little management skills, and in numerous cases money was misused, leading to debts and penalties. Romania is not the only case, a general lack of regulatory frameworks can be observed in the CEE region (Nedučin, Škorić, and Krklješ, 2019).

The need to share experiences and advocate for public resources led to the establishment of two umbrella associations—The Habitat Homeowners Associations League and the Romanian Homeowners Association Federation. Political parties recognized them as being important channels to reach an impressive number of voters. And while the Habitat League showed openness towards international projects and tried to introduce professional standards in property management, the Federation was more inclined to work with decision makers.

Subsequent legal improvements created methodological norms for the HOAs. One important principle was to require specialized management, guaranteed through training programs and officially certified by the local administration. Public authorities have to organize a department that specializes in support, guidance and control of the associations. These departments are also meant to inform the associations about their obligations. The legal provisions do not foster the idea of collaboration between local public administration and HOAs for complex interventions but do at least impose concrete tasks on public servants with respect to providing information to the associations when interventions are planned.

The roles and actions of the stakeholders are shown in Fig. 2, where the ties between the main actors responsible for the management of LHE at each level appear in connection with the central public administration.

3 LHEs as places of fragmentation

3.1 Land use regulations and urban-scale interventions in LHEs

As Maxim (2019) shows: "From 1960 onward, the *microraion* became the urban planning device of choice in Romania'', an urban unit conceived for 4000–12,000 inhabitants. Zahariade (2011) clarifies the choice of terms: "Clarence Perry's 'neighbourhood theory' was turned into the 'scientific theory of the microraion' (literally micro-district)." In turn, several microraions grouped together formed a raion, which represented "the largest territorial unit under socialism". Balta Alba district from Bucharest is an example of such a complex

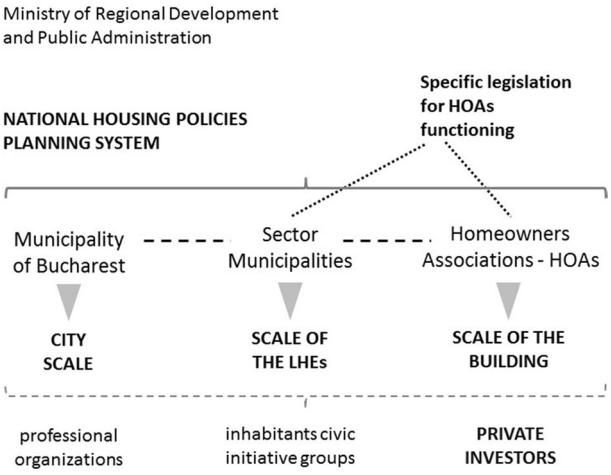

Fig. 2 Main actors for each scale and their connections. *source*: the authors

urban unit, "built between 1961 and 1968 to house about 100,000 inhabitants in 36,000 apartments" (Maxim, 2019).

In Bucharest, the LHE areas are variable in size and spread in a non-contiguous way, as illustrated in Fig. 1. Outside the first ring, the *large housing ensembles* ("mari ansambluri de locuit'' according to the official jargon of Romanian planners, since the times when the property regime was not essential for the definition, and was also mixed) were built mainly on former agricultural or industrial land. In the inner city, large areas were demolished in the wake of the 1977 earthquake that dramatically affected Bucharest. Many former owners of the demolished houses were given apartments in the new LHEs and sometimes a small financial compensation.

Most of the apartment buildings in an LHE have as common indivisible property a strip of land of just 90 cm wide around the building. There has to be a partnership between the inhabitants and the local public administration in order to have some management of the common space which can be either public domain or in the ownership of the local council. Unfortunately, there is no clear juridical status and public ownership has no cadastral registration. Furthermore, the management of the main boulevards and parks of the city falls under the responsibility of the General City Hall but the secondary spaces, at the neighbourhood scale, are managed by the Sector City Halls. This distribution of responsibility is an obstacle to the elaboration and approval of Integrated Urban Development Plans, especially when opposing political forces are in power at different levels.

Main boulevards have been subject to numerous small-scale public interventions that often display a severe lack of urban design skills. Ugly street furniture, parking places that literally destroy the pavements and the vegetation, cycle lanes that end in various obstacles, in a setting where bikers and pedestrians have to share the same space, and various sorts of metallic fences populate the most visible public spaces. Despite this, decision-makers are collecting votes, even though the processes are not at all participatory, unprofessional and often executed without a building permit.

For thirty years, the regulatory plans failed to consider the specific needs of LHEs. The General Master Plan has not been updated since 2000, and its recommendations for the protection against incoherent densifications and the privatisation of public spaces were never followed. The present situation reveals a significant increase of density in an already dense morphology. Ever since the 1990s, legislation has allowed the privatization or leasing of properties that were previously owned by local councils. There was never a proper analysis of the impact of this transfer and the lack of transparency led to suspicions of corruption (Chelcea, 2008). Several sector mayors and a general mayor were jailed under bribery accusations, and a major businessman fled Romania in order to avoid the legal processes that followed the retrocession of a park. Another general mayor of Bucharest and former president of Romania attributed himself a 370 sqm apartment and a 40sqm garage from the public housing stock, and then bought it for 19000E. The affair was considered perfectly legal by the prosecutors. In addition to that, a major fire incident in a nightclub that resulted in 64 deaths was connected to corruption in the administration and, after massive protests, ultimately led to the resignation of the government (Creţan & O'Brien, 2020).

Privatization was pursued as a goal in itself, with little connection between the function of the spaces and the needs of the LHE. Former playgrounds or parking lots are nowadays built on and become privately owned small businesses or, alternatively, individual or collective residential buildings. The huge increase in the number of cars creates a high pressure for parking spaces which has led to the shrinking of many pavements and green areas.

These insertions on privatized land were and still are done on the basis of derogatory documentations (i.e. lower-rank documentation that alters a higher-rank planning

regulation): either a Detail Urban Plan or a Zonal Urban Plan initiated by the owners that is approved through a Local Council Decision. These are not only a proof of the weaknesses of the regulatory planning system but also of the severe lack of professional arguments for public interest in the elaboration of urban planning documentation initiated by private owners. As shown in Fig. 3, they increase the density in ways that ignore LHEs' specific morphology: the same urban indicators (built percentage, floor area ratio or maximum height) that are calculated for a whole urban block in a collective housing area are applied to one single plot within the same area. The differences between the specific morphology and land use in an LHE and those in a traditional urban tissue are completely ignored in the processes of derogatory planning initiated by the new land owners. This led to the diminishing of common spaces that were already scarce as a result of the densification of the 1980s.

For the residents, it is usually too late to react when they notice that a new building site is starting up (Fig. 4). It was only after 2011 that the legal obligation to inform the public during the elaboration and approval of urban planning documentation was established. Before that, only Habitat League took a public position against densifications, based on the Aarhus Convention.

As there are no clear rules for negotiating the use of space that actually belongs to local public authorities, various strategies to enable communal or private spaces to be created have emerged. Often, the effort of the residents led to individual interventions similar to those done in a private garden. As a result, other residents of the building, who were not in the position to make similar arrangements, do not have a place to sit outside. These former common spaces, informally privatised should be an important asset in a collaboration between HOAs and the municipality, but there are no procedures in place nor any consolidated practice to define a framework for promoting the common interest (Fig. 5).

Fig. 3 New insertions in the Floreasca Housing Ensemble (2019 situation). *source*: the authors

Fig. 4 Recent insertions in LHEs—Balta Albă (2020 situation). *source*: GoogleEarth

Fig. 5 Collaboration for creating an informal common space versus a privatised individual access through a common garden. *source*: the authors

3.2 Public facilities and utilities

Public facilities within LHEs were born in the times of centralized planning: public libraries and clubs, food markets and schools were designed to cover a proximity area, with the idea of a "microrayon" in mind (Marin & Chelcea, 2018). Public utilities were centralized, the central heating system turning into a major issue today after many decades of very limited investment and major cost increases. However, as shown by other researchers (Leetmaa, Hess, 2019) many initial plans were never fully realised. There is a growing pressure for a public policy response after one third of the population of Bucharest had to endure lack of heating and hot water for extended periods during

recent winters. More individual heating devices are now being installed in an effort to cut dependency on the almost dysfunctional public heating system.

Land use regulations for the new buildings inserted into LHEs have been to some degree relaxed and on recently privatized pieces of land the investors have acknowledged the need for spaces that will ensure proximity services to the inhabitants: new commercial spaces, indoor sport clubs, health facilities, restaurants, etc. These new businesses have increased the functional mix, at the cost of increasing the density. The transformation of existing apartments into service spaces requires the HOA's approval, but it is very rarely refused, even if there is some tension regarding parking spaces or the management of access to the building.

As for cultural public institutions, except for the Metropolitan Library, which has rare and minuscule branches in the LHEs, there is no other public network of cultural institutions. All previous cinemas were transformed into wedding halls or demolished, while the cinemas moved to commercial malls. Open food markets have rarely been modernized to current standards as their current private management has no other goal than extracting profit from renting and consumer protection is reduced to the inspection of the goods and general hygiene standards, not of the spaces.

Playgrounds were furiously upgraded and are now filled with expensive Norwegian playground equipment and cheaper Turkish public sports equipment. This has been a success story for the mayors. Many of the playgrounds are fenced, and there is a constant tension with dog owners and other inhabitants, who have almost no share of the public space. Private kindergartens or after-school services organized in individual houses are thriving as an economic activity. But even though the specific legislation has stated the importance of early education, low-income groups have been left without an option for childcare before and after school.

Before 1990 school yards were used as sport facilities and they played a significant role in the everyday life of the area. There are few facilities for outdoor sports, mostly private. This is an issue that was only recently put on the public agenda by a member of parliament who is currently working on a legislative initiative to reopen the schoolyards for the public, as a possible answer to the lack of sporting facilities.

Nowadays, there is no specific urban planning for LHEs—they either fall within the regulatory frame of the Masterplan, which is too large to give an appropriate solution, or are subject to the derogatory plans operating at the scale of a single plot. The updating of the Masterplan started in 2013, but is still unfinished. Instead of targeting each LHE as a zone that deserves an area-based evaluation, specific planning and urban design, the public authority of each of the Sectors has now embarked in the elaboration of a Zonal Urban Plan, which is basically a master plan for each of the six sectors of Bucharest. There is a high level of uncertainty in what regards specific regulations from the Municipality or the sectoral municipalities, about the management of these areas.

4 The blocks of flats in an LHE

Mass-housing ensembles were built from the late 1950s to 1990 in socialist Romania (Stroe, 2015). Although very similar in appearance, their social status varies according to the time at which they were built (Szafranska, 2018). The housing stock that we have today comes in a reduced variety of standardized apartments, construction systems and building materials. The *collective multi-storey buildings* (as named in the thermal rehabilitation Act)

have reached a critical stage in their life-cycle—major infusion of capital will be needed to bring them back to standard: specially designed credit lines, incentives to facilitate the process or targeted subsidies (Gruis, Tsenkova, Nieboer, 2009). Some of the problems associated with this legacy might be regarded as age-related and only to be expected, but they are worsened by the low quality of the original fabric and the lack of systematic repairs. Still, they are easily addressable: deteriorated materials, equipment and installations, lack of utility metering for each apartment, etc.

It was because of these problems affecting the common parts that homeowners were not willing to act together until now. Communal action, relying on the homeowners' will to cover the costs and deal with the discomfort of the interventions, has up to now comprised utility metering and pipe replacement, fixing leaky terraces, lobby and staircase renovation, and securing the entrances with controlled access systems.

4.1 Public administration involvement in the rehabilitation of LHE apartment buildings

Not all communal issues affecting apartment buildings can be tackled by HOAs alone. There are bigger problems that require specialized expertise, larger financial and logistical efforts, and much better cooperation between different urban actors. For instance, compared with up-to-date regulations, the buildings *are* (as in "*were from the beginning*", or "*became in time*") hygro-thermally ineffective. Socialist apartment buildings need an energy efficiency upgrade.

Initial structural design relied on building codes that are no longer valid, so today the buildings need a structural evaluation for seismic response, and probably structural rehabilitation (Tosics, Hegedus & Remmert, 2002; Georgescu et al, 2018). According to UNECE (2001) "scarce resources have been sufficient for surveys alone and not for the needed consolidation and refurbishment".

Although in 2000 there was still no national programme to tackle such shortcomings in the housing stock (UNECE, 2001), energy issues were the first to appear on the public agenda. Government Ordinance 29/2000 addresses for the first time and defines, in general terms, the thermal upgrade of existing buildings.

Only in 2002 did Government Emergency Ordinance 174/2002 refer specifically to multi-level housing: standard series designed/built during 1950–1985, in urban areas, connected to central public heating. National programmes for thermal upgrade were established, as part of the national energy strategy and policies. A thorough inventory of the built environment was by law considered necessary to establish priorities, specific actions and related costs. Funding was to be provided by local/central administration, private owners, and third parties. Some incentives for the owners were also set up.

The National Programmes made a slow start as the homeowners were reluctant to enlist in such a difficult process. The paperwork had to be carried out by different public administration actors. The HOAs had to prove they had some private funding for the works, but the overall costs were not clear before an energy audit, which could be completed only once the association was listed. Despite all the inherent problems of such a programme, mass-housing thermal rehabilitation is here to stay on the agenda of the public administration.

As mentioned by Șoaită (2012) who used compiled data from MDRT (Ministry of Regional Development and Transport): "From a slow start in 2007 with 200 retrofitted flats, the Programme included 57,000 by 2010". By comparison, 2019 public data (Primăria Sectorului 3 București, 2020) states "work in progress" for 986 blocks of flats,

922 completed, 1921 "listed" in the Programme while the 1st Sector (Primăria Sectorului 1 București, 2020) announced that 6011 apartments are on the annual list for energy upgrade in 2019–2020.

Since the legal framework was consolidated, every HOA expects today to qualify for the National Annual Programmes. Local administrations fully promote thermal rehabilitation, which takes a front place on their internet pages. Even works such as elevator retrofitting (in some sectors of Bucharest) are also considered now to be part of the energy efficiency upgrade. The costs are shared between households, local and central government, in different ratios. Due to differences in managing and accessing funds by local administrations, today's costs may vary considerably—this is, for instance, the position with regard to HOAs' share in the energy retrofit in the different sectors of Bucharest—and costs may even be fully covered by local authorities or European funding (Georgescu et al., 2018).

The paperwork needed to be enlisted in the National Programmes includes technical specifications to be provided by the HOA. All the data thus collected by the local government could be used for completing the inventory of the buildings. However, for now there is no public record of this type of analysis.

4.2 Private owners' initiatives for individual upgrade

In-between interventions carried out as a communal effort, private owners have also undertaken individual initiatives, in their search for better living conditions (UNECE, 2001; Tosics, Hegedus & Remmert, 2002). The individual interventions, in an effort to have a better private home, include piecemeal thermal insulation of the façades, changing windows and doors, closing off balconies with glass additions—in a quest for energy efficiency, better soundproofing or interior space redesign. Works are usually done with no respect for the law, which requires a building permit for modifying a façade, for instance.

Standardized apartments were not always best suited to all their users. Their problems emerged also from innate characteristics that can be regarded as disadvantages, such as the limited variety of apartment types, with low functional flexibility on account of strong structural constraints relating to earthquake safety (Zahariade, 2011). The ubiquitous large prefabricated panel structure placed strong restrictions on the apartment layout, which is therefore quite difficult to reorganize in a more suitable manner.

Moreover, regarding apartment surface areas, until 1990 upper limits were enforced for living areas, but from 1996 the Housing Act established minimum areas, and the two sets of values are way apart. The rooms are sometimes so strictly dimensioned, and their arrangement within the home is so rigid, that the dwellings look strangely similar in their interior design.

To better adapt the apartments to their needs, some homeowners carried out illicit interventions to make interior partition upgrades without assistance from structural engineers. To obtain larger rooms, they chose to remove parts of the building that might carry structural loads—a situation that could go on indefinitely, if not addressed. A "damage" estimate is unlikely for now, as specific studies are still missing, and it is impossible to make generic evaluations of the structural safety of large-scale buildings of that type.

4.3 Inherited shortcomings in apartment buildings

There are issues related to mass housing estates that are unlikely to have a viable solution very soon. Today, in terms of number of rooms related to household structure, these dwellings frequently prove to be inadequate (UNECE, 2001; Tosics, Hegedus & Remmert, 2002), being predominantly built as two- and three-room apartments with the living room all too often designed as a passageway through to the sleeping area. Moreover, as Mandič (2010) shows in a wide comparative study: "A relatively high incidence of unfit housing and of economic hardship and deprivation were found among homeowners, indicating their very limited capacity to store and sustain the wealth contained in their housing."

Service spaces are minimal and often insufficient. Where present, the kitchen area, for example, was exploited in a way that was tight but certainly efficient at that time. Today though, with other sets of dimensions for furniture, with a strong orientation on consumption and cooking, and in the wake of a pandemic crisis, old kitchens look inadequate for current needs.

The apartment design did not take into consideration cardinal orientation, neighbourhood traffic or other environmental constraints. Cross-ventilation does not seem to have played a role in determining the original layout of the rooms; sometimes staircases are completely enclosed, which makes them difficult to ventilate and almost impossible to provide with natural light (Soceanu, 2007). The legal framework sets ambitious goals for new housing units in terms of minimum surface area and equipment, and imposes a minimum of two hours of direct sunlight per day for each "habitable" room as a health precaution, a requirement often impossible to attain for apartments in mass housing estates. It is true that, on reconsideration, these innate shortcomings of mass housing can only be fixed through structural alterations, but structural upgrades involve an auditing process that makes the project much more expensive and difficult to implement since "budget allocations for consolidation are relatively low. In Bucharest, only twelve consolidation projects were being prepared in July 2000" (UNECE, 2001).

Because each building must be dealt with individually, the costs associated with this type of intervention could be substantial, for they mainly involve the interior of the building and might necessitate the evacuation and relocation of the occupants while the work is being done (Georgescu et al, 2018). By comparison, energy efficiency upgrades are easier to assess and undertake. Once carried out, an energy upgrade project is of great use for all other buildings built on the same plan. It is worth mentioning that government ordinance GO 29/2000 also states that thermal rehabilitation will accompany any structural upgrade. Addressing both problems at the same time is not a current practice for the time being. For energy and structural retrofits, we have today a dense and consistent legal framework, while other issues have hardly reached the public agenda. But, besides the greater financial effort which would be needed, funding comes from separate sources and under separate legal frameworks, making it difficult to develop a full energy and structure upgrade approach. This doesn't mean that the living conditions offered by these apartments can be considered inappropriate for today's users. With proportionate interventions for repairs, renovation and regeneration, the constitutive features of the ensembles could be preserved and improved in order to offer a decent quality of life.

5 Conclusions

Since there are no long term oriented policies every aspect of the current interventions can be called into question. Even so, there are several questions specifically to do with the future social and economic value of this housing environment that need to be answered. LHEs are characterized by a good deal of social mix, but this is fading out as income gaps widen in our society. What is the future of social mixing is a question that is also related to increased residential mobility, the visible process of population ageing, and the symbolic image of "communist blocks of flats".

Because of the massive number of owner-occupied apartments in Bucharest's LHEs, public authorities should develop more complex and dedicated programmes based on partnerships that aim at reestablishing the common grounds of the living conditions in the LHEs. The interests and social values promoted by various categories of urban actors are not aligned in a common perspective towards *area-based interventions* and the use of systems of *area management* (Fig. 6).

A general picture of the problems associated with LHEs shows a general lack of collaboration among stakeholders: decision makers who largely ignore the benefits of planning and even of basic urban design; urban actors who are allowed to manifest very narrow interests; academic silos that remain disconnected from fieldwork and unable to contribute with expertise. There is not enough complexity and strength in public programmes: improvements in energy efficiency were not connected with the economic status of the owners (Crișan, Macri, Panait, 2011); major topics such as structural improvement have not been addressed at all. There is a serious lack of data about LHEs; from a statistical

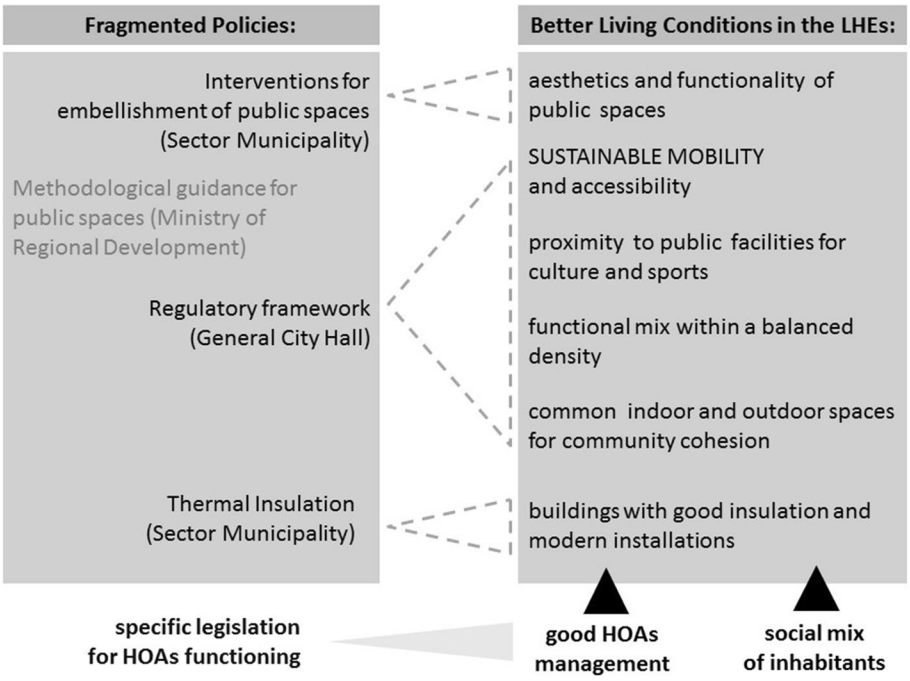

Fig. 6 Current policies limited to: management of the HOAs, aggressive interventions without proper planning and design processes in common and public spaces, and thermal insulation. *source*: the authors

point of view they are virtually non-existent, being currently aggregated with the general housing stock.

Hence, the prospective questions are related to the need to create more functional partnerships between the inhabitants, business owners and public authorities. The question is if the densification will continue to the point that it will change the nature of the entire LHE. How can the energy of random small private initiatives be turned into meaningful services for the LHEs? There is a need for procedures to improve the spaces around the buildings that are publicly owned but used at the scale of HOA management. The buildings have substandard features inherited from the time of socialist mass-production which are being addressed today through communal efforts led by HOAs. The public administration has gradually become involved in larger problems such as thermal rehabilitation, as these require expertise, political consensus and funds. There is still a need for consistent efforts to deal with critical issues like structural upgrading and the control of interior remodelling, but new rules and technical data have not yet been put together, in order to create a basis for integrated rehabilitation strategies.

Furthermore, how will it be possible to encourage retrofitting in order to improve the quality of life? Since occupants' initiatives often disregard legislative constraints, and as the rigid pre-1990 rules and regulations were followed by an anomic era, there is a strong need for an integrated planning approach. Upgrading individual apartments might affect the common property, especially its structural safety. Realigning the buildings to contemporary safety standards requires structural upgrades that are far more difficult to implement than hygro-thermal refurbishments, although the legal framework is already in place.

Those problems of mass housing that do not yet seem to have realistic solutions (obsolete equipment, functional misfit, overcrowding etc.) should at least be investigated. This mostly relates to the management of socially and economically challenged LHEs that have turned into disadvantaged areas, some of them becoming ethnic ghettos. The growing number of public resources should be targeted to areas that are less visible, in order to prevent them from turning into no-go areas.

As previously stated, Bucharest has severe structural administrative issues that do not favour the development of specific policies for LHEs. In addition, the early socialist age ethos of progress was replaced by the anger induced by the shortages of the 1980s and the frustrations of the population that couldn't afford to move during the transition period. This was replaced by a new assemblage of values brought in by the large number of young professionals who are slowly replacing the previous working-class "containment structures" that were characteristic of the socialist economy (Petrovici, 2017).

A more optimistic perspective is given by the rise of several civic initiative groups in which inhabitants react to programs and projects promoted by public authorities or private investors. Recent political developments show that we might be at the end of an administrative cycle characterized by a particular way of managing urbanistic issues in Bucharest that was constantly governed by blatant political corruption. It is not clear yet if the new administration has a better understanding of the issues that are particular to LHEs. There is a major need for the update of the planning documents and their realignment with European strategies and *modi operandi*. But, since public debates on what policies would be acceptable with regard to the private housing stock are not yet on the public agenda, and topics like *subsidies* for structural rehabilitation, *rent control* or the building of *new social housing* are more or less forbidden in a very neoliberal Romanian society, we have to acknowledge a lack of focus on the major issues related to LHEs, which renders future prospects quite uncertain.

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Conflicts of interest The authors declare that they have no conflict of interest.

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