

POLARISATION OF SOCIAL INEQUALITIES IN DISADVANTAGED NEIGHBOURHOODS OF BUCHAREST METROPOLIS

ROBERT C. STOICULESCU¹, ALINA E. HUZUI², ALINA T. CHICOȘ³

ABSTRACT - This paper gives an insight into the statistical interpretation of socio-spatial changes of Bucharest urban landscape in connection to the transformations of the urban planning visions across the last decades. Special emphasis is placed on the emergence of disadvantaged neighbourhoods which are defined by a clear homogenisation of certain social classes on a precarious housing infrastructure. This came as a result of a historical hierarchy of the urban social space. Moreover, Bucharest was shaped in relation to different socio-economic and socio-cultural policies that determined the creation of a polarisation between north and south or between centre and periphery which were subject to numerous socio-urban inversions during the communist and post-communist eras. Hence, life in a large metropolis is vulnerable to inequalities appearing within the urban pattern that intensifies, in some cases, towards residential segregation. The historical-geographical analysis of vectors behind clusters of sensitive areas in the 20th and 21st centuries strengthens the importance of social cohesion measures in the future urban policies and territorial planning.

Keywords: socio-spatial structures, Index of Urban Life Deprivation, urban segregation, urban renewal

INTRODUCTION

In Europe, addressing inequalities within large cities was approached starting with the Leipzig Charter in 2007 that emphasised the place of disadvantaged neighbourhoods in the urban renewal policy. This integrated approach was reiterated in the 2009 Lisbon Treaty, the 2010 Toledo Declaration and represents a key issue of the Europe 2020 Strategy. Deprived urban areas, either from a physical, social or economic point of view, have been subject to a number of projects within the URBACT European program of knowledge exchange on sustainable development practices. Our research falls within the European direction of measuring, monitoring and evaluating disadvantaged neighbourhoods in terms of housing comfort, tenure, employment and education.

Bucharest's neighbourhoods-50 years of spatial dynamics and identity construction

Throughout Bucharest's history the social processes generated disparities between different parts of the city. This situation derives from the city's capacity to distinguish itself and its internal neighbourhoods from similar spaces through historical evolution and through the community's capacity to create space which is consequently invested with meaning.

Hence, there is a historical well known discrepancy between the northern and southern neighbourhoods of Bucharest which became increasingly wealthy, whilst Ferentari and Rahova became poorer and more disadvantaged. Even from the 14th century an auto-isolation of the boyars was visible within the northern parts of Dâmbovița river, in opposition to its south, mainly occupied by the poorest inhabitants of the city. This last aspect was reflected by toponyms like *Flămânda* (the Flemish), *Podul*

¹ PhD, Faculty of Geography, University of Bucharest, 1 Nicolae Bălcescu Blvd., Bucharest, Romania.
E-mail: robertstoic@yahoo.com;

² PhD., Faculty of Geography, University of Bucharest, 1 Nicolae Bălcescu Blvd., Bucharest, Romania; INCD UrbanIncerc Research Centre, 266 Pantelimon Road, Bucharest, Romania.
E-mail: alinahzi@yahoo.com;

³ PhD, INCD UrbanIncerc Research Centre, 266 Pantelimon Road, Bucharest, Romania.
E-mail: chicos_alina@yahoo.fr.

Calicilor (the Greedy's Bridge), *Slobozia Domnească* (a village freed from the Domnitor's taxes and levies). This discrepancy oriented the urbanisation directions, while the local authority's attention was specifically drawn towards developing Bucharest's centre and its northern parts. Nowadays wealthy residential complexes isolate themselves from the rest of the city and its suburbs.

The statistics from 1948 offers a perspective on the emerging disparities in the new urban organisation in which the urban centre was receiving a superior quality of housing in comparison to the new periphery, an area of eminent rural character and was inoculated with an important industrial activity, in complement of the agricultural one. There is a higher density of buildings towards the periphery; nevertheless the constructions had more floors in the city centre, thus determining an occupation degree of 9.2 inhabitants/ building in the city centre as compared to only 2.4 inhabitants/ building at the periphery. As for the distribution per number of rooms, there were fewer inhabitants in the city centre and more at the periphery, thus reflecting the degree of comfort and the social disparity between centre and periphery. In conclusion, less than half of the buildings were branched in 1948 to the potable water distribution system, sewage (43.1%) and central heating (5.2%) and 54.7% benefited of electricity - the majority of these were located in the city centre.

After 1950, the urbanization policies were directed towards making the urban space uniform, especially in view of creating large urban habitats to replace the deprived rural suburbs. The central area didn't benefited of a major building restructuring, except for some punctual interventions. As a result, in 2002 there was evident a higher share of public equipment in the census tracts which correspond to the large urban habitats. The highest values follow the configuration of the main arteries of transiting the city and superpose on the areas of „elitist housing”, known through the better quality of the services. The differences of comfort were kept between centre and urban periphery. The sewage, potable water distribution and central heating were merely represented in Bucharest's periphery (with a rural character).

Paper objectives

Is to identify and evaluate the vulnerability determinants of Bucharest socio-spatial structures, especially those related to the housing dimension, in the general framework of urban planning as reflected by the 2002 Population Census and the people's perception in 2011. The second research objective associated with this study follows the correlative analysis between human behaviour and the space on which this is grafted in an attempt to delineate the housing identity of Bucharest neighbourhoods on the west-east axis.

METHODOLOGICAL VIEW OF DISADVANTAGED NEIGHBOURHOODS

We started our study from the assumption that there is a variety of living conditions on the west-east axis of Bucharest, in comparison to the well known dissociation between north and south. Moreover, our hypothesis is supported by the existence of a series of contemporary studies which highlight a series of perceived or statistical disparities within the metropolis (e.g. Voicu & Nițulescu, 2007 or the research conducted by the Sociological Department of the Faculty of Political Sciences in 2011, according to which Pantelimon neighbourhood was perceived as a disreputable living area, after Ferentari and Rahova).

The neighbourhoods were evaluated from the housing perspective, using the *quantitative-compared analysis* of indicators which are illustrating its features. The territorial reference is related to census tracts that were delimited according to the Population Census from 2002. Indicators linked to disadvantaged neighbourhoods cover must social, economic and housing variables and depend on the available statistical data.

The housing identity and neighbourhood attachment were emphasised through the place symbolism-*field survey based on questionnaires*, extended on four large urban habitats of Bucharest which were complemented with the central area. The structures were located through graphic representations of the attributes that resulted from the geographic database interrogations.

POLARISATION OF SOCIAL INEQUALITIES IN DISADVANTAGED NEIGHBOURHOODS OF BUCHAREST METROPOLIS

The territorial units we selected to integrate in the field survey are ones with medium position within the urban system, hence we avoided to analyse extreme neighbourhoods, both from a social and economic perspective.

Study area

In this perspective we selected the following neighbourhoods: (1) Balta Albă-Titan; (2) Pantelimon in the east; (3) Militari; (4) Drumul Taberei in the west; (5) several areas in the city centre: Cotroceni, Gramont-Șerban Vodă, Batiștei-Dacia and Armenească-Delea Veche (fig.1). The four neighbourhoods created after 1960 are specific to the vast urbanization process manifested through the implementation of social houses in the communist period.

These are examples that cover all the urban processes, spontaneous or planned, created through demolitions (Balta Albă-Titan) or by integrating the pre-existing urban tissue (Militari). These are neighbourhoods that are associated with the existence of nucleus of intense industrial activity that consequently generated large urban habitats (Suditu, 2006).

Of course, these peculiarities are related to the previous territorial structures and the moment when they were created. Therefore, Drumul Taberei and Balta Albă-Titan neighbourhoods were created on vacant spaces, in the first phase of the communist systematization; they appeared at the urban periphery by filling the interstitial spaces and through the partial demolition of some old suburban areas; the centre of these large urban habitats is defined by a vast green area (Stoiculescu, 2010). Militari and Pantelimon are more recent dated and are axial shaped, being constructed along large boulevards. They were considered successful projects of urban renewal of the '70s that replaced the former constructions during the demolitions that started with 1965 (Cătună, 2011).

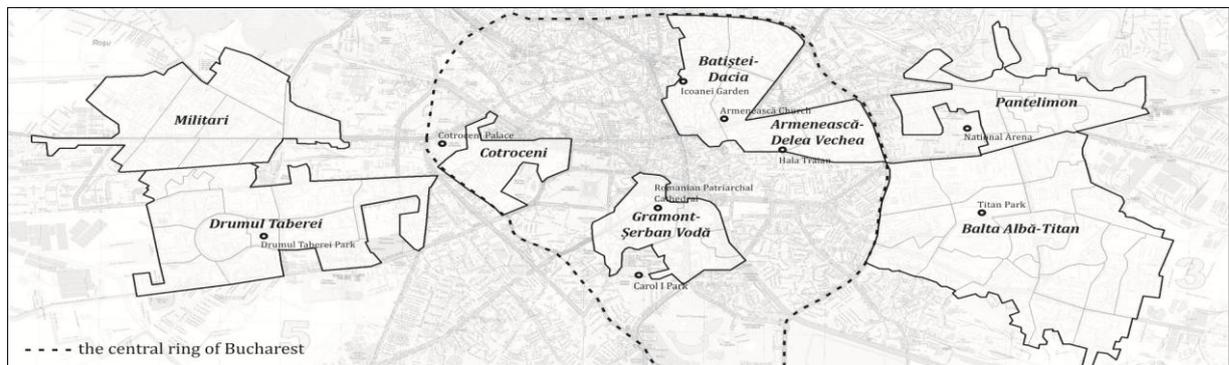


Figure 1. Neighbourhoods integrated in the west-east axis of Bucharest, shaping the paper's study area

The Central Area was selected in order to cover several housing typologies. Therefore, there are present areas of spontaneous urban configuration, as in the case of Delea Veche, emerged from former peripheral slums (or “mahalale”, the old Turk name to indicate the neighbourhoods; Majuru, 2003) which presents characteristics that are still embedded in the present structure. Once we penetrate towards the centre, these areas were spatially reconfigured through successive densifications, starting with the beginning of the 20th century (e.g. Armenească, Batiștei, Dacia). Another category of central areas is that of planned urban plotting which was realised at the end of the 19th, the beginning of the 20th, being located in the urban outskirts and which underwent a process of public infrastructure implementation (Gramont, Cotroceni) thus, they concentrated a high standard of urban living at that moment and became a model for the future urban construction of Bucharest's northern parts.

Socio-demographic features of the neighbourhoods that are included in the study area

The neighbourhoods which were always considered poorer have the youngest population and are located in the eastern and western extremity of the study area, meaning Pantelimon and Military, being recent urban habitats that are perceived as places of transit for the young adults, because of the

lower housing costs. The population which is demographically aged is located in the Central Area, especially in Cotroceni and Armenească-Delea Veche neighbourhoods (Figure 2). Military and Gramont-Șerban-Vodă present the highest share of children and under 19 year old inhabitants. Moreover, the economic structure reveals a correlation between the demographic aged neighbourhoods and the highest rates of inactivity (62% for Cotroceni and Armenească) and the highest rates of economically active population were recorded in Militari (47,8%) and Pantelimon (46.5%). Also, Balta Albă-Titan and Drumul Taberei neighbourhoods presented low rates of activity, of almost 43%. The educational attainment profile of the population indicates a certain concentration of inhabitants with higher education in the Central Area and in Drumul Taberei, while areas like Militari and Pantelimon concentrate a larger volume of population with vocational and apprenticeship formation (Figure 3).

Therefore we can conclude that the extreme areas on the west-east axis of Bucharest present similar demographic profiles, for those neighbourhoods located in the same northern or southern plan of the axis. Thus, Militari and Pantelimon neighbourhoods (north of the axis) have a younger population which is economically active with a professional and technical formation, while Drumul Taberei and Balta-Albă Titan neighbourhoods (south of the axis) regroup a population with a higher educational attainment level but more aged and with higher rates of economic inactivity.

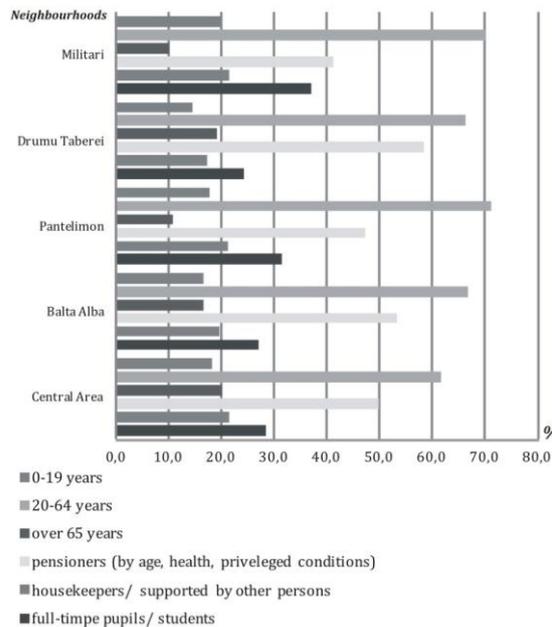


Figure 2. Share of population on large age groups and economically inactive population, according to the Population Census, 2002

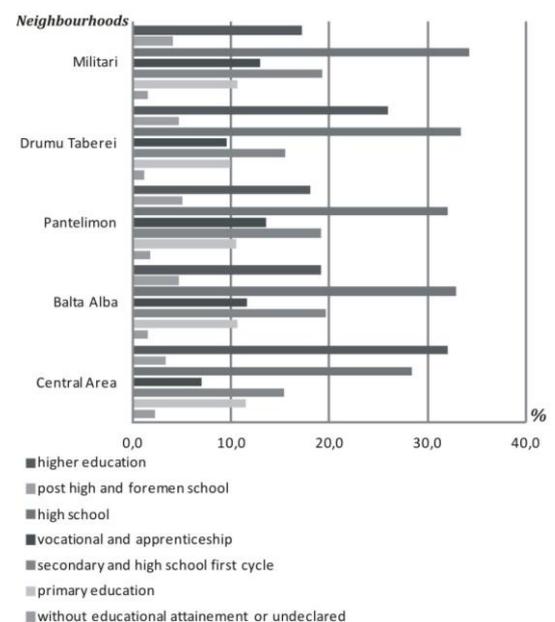


Figure 3. Share of population according to the educational attainment level; data from the Population Census, 2002

STATISTICAL INTERPRETATION OF DISADVANTAGED NEIGHBOURHOODS

Starting with the '90s, the European policy regarding disadvantaged neighbourhoods envisaged a broader approach, integrating housing, employment and social welfare interventions. In this regard, we correlated indicators processed from the census of 2002 in order to express the level of deprivation in accordance to the accessibility to high quality of life through basic demands like housing, social and economic equipments. There is a complex correlation between housing and education/ educational performance and employment/ access to mainstream job opportunities that can be interpreted based on statistical data.

In this context we constructed the *Index of Urban Living Deprivation* based on which we analysed the statistical reality of the disadvantaged neighbourhoods. It is composed of two dimensions: the existing housing quality and the perspective of improving the comfort. The first

POLARISATION OF SOCIAL INEQUALITIES IN DISADVANTAGED NEIGHBOURHOODS OF
BUCHAREST METROPOLIS

envisaged dimension was made operational through indicators expressing the minimum comfort of a household, in terms of inhabited surface (overcrowding has a negative impact on the development of social relations and must be corrected through affordable housing policies) and connection to the public sewage and gas alimentation networks. The second dimension was measured in this paper, in the absence of data regarding the income per household at the level of census tracts, through the qualification and educational attainment level of the household's members, complemented with the share of persons without income in the total number of persons per household. This operation considers the theory according to which a person will benefit from a much poorer housing comfort as his qualification and educational level is more reduced and also his capacity to produce a certain income are very reduced (Hawkes and Ugur, 2012). Thus, a determinant of housing comfort inequalities is education which is reflected by income distribution (de Grégorio and Lee, 2002). Moreover, inhabitants tend to be segregated by educational achievement; basically more educated are the workers, the lower is the unemployment rate (considering the rising wages for workers, like high education attainment) and the higher the income and capacity to afford comfortable housing (Strauss, 2011).

The analysis required the indicators' standardization (normalization) in order to become comparable and consequently they were brought to a unique range of value (Le Bras, 2008) using the dispersion, or the medium square deviation from the arithmetic medium (Novac, 1995). In characterising the urban living deprivation, the construction of the index starts with the following deprivation premises: a lack of housing quality and of perspective that this could be improved in a short horizon of time. The purpose of building this index is to facilitate the comparison between the situation recorded at the Population Census of year 2002 and the community's perspective on the present reality of the housing comfort. The second purpose is to create a hierarchy of analysed neighbourhoods on ranks of vulnerability towards the high probability of depreciating the given comfort.

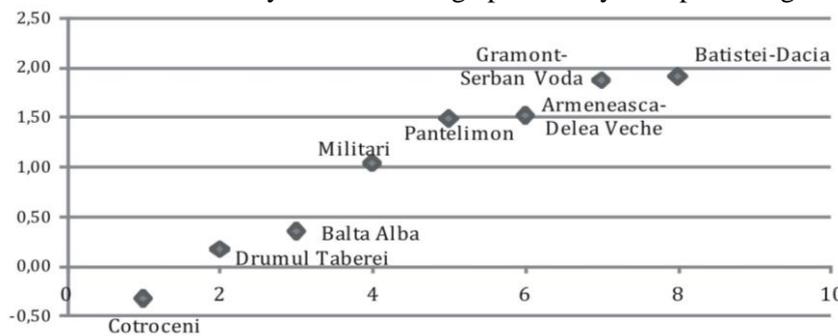


Figure 4. Clusters of neighbourhoods according to the Index of Urban Living Deprivation computed from data for the Population Census, 2002

The methodological approach was directed towards emphasising the second dimension, the one referring to the perspective of improving the housing comfort. Thus, we considered in this paper that if in the household exists the probability to increase the income then even though the existing situation highlights a deficit, the probability to improve the

comfort increases. Consequently, after the standardization of the series of data, the indicators regarding the income and educational attainment levels of the household's members have larger shares in the index's construction in comparison to the indicators regarding the current housing situation.

The hierarchy of neighbourhoods according to the Index of Urban Living Deprivation values indicate a distribution and cluster of these areas in six ranks (Figure 4): (1) Cotroceni, (2) Drumul Taberei, (3) Balta Albă-Titan, (5) Militari, (6) Pantelimon and Armenească-Delea Veche, (7) Gramont-Șerban Vodă and Batiștei-Dacia. The rank (4) wasn't attributed to any area of study because we established that distances between two consecutive values of the Index of Urban Living Deprivation must be lower than 0.5. The positioning on rank (5) showed an increased housing vulnerability of inhabitants from Militari as compared to those from Balta Albă-Titan than the rank (4) would have suggested if used. In addition, high ranks indicate increased deprivations of the existing urban living conditions.

As for the large urban habitats like Drumul Taberei and Balta Albă-Titan, they present similar values of the index because of the extended investment with public infrastructure, the existence of a comfortable housing offer (regarding the density of inhabitants per housing surface) and the higher

perspective of improving the living conditions which is determined by the presence of a population with good educational attainment level; moreover, the population was predominantly involved in the services sector than in the industrial activity during the communist period, thus reducing the present social vulnerability.

In comparison to this situation, Militari and Pantelimon include a high share of housing units with reduced comfort. On the other hand, Cotroceni is placed on the first rank, being part of the elitist neighbourhoods of the capital, a fact reflected even by the statistical analysis unlike the other central areas (Armenească-Delea Veche, Batiștei-Dacia and Gramont-Șerban Vodă), a fact that can be correlated with the nationalisation process that changed the social structure of the city centre through the absorption after the '50s of the first population migration wave in Bucharest. In conclusion, even though the living surface is bigger and destined for single families, in these central areas the perspective of improving the housing conditions are poor, due to scarce public infrastructure and low economical capacity to increase the urban life conditions.

The attribute of centrality in the city is theoretically associated with a superior living quality, as opposed to the peripheral neighbourhoods (Ramsden, 2011). But the comparative analysis of the target areas positioned on the west-east axis of Bucharest reveal an inversion of the housing comfort and perspective of improving it at the level of the situation existing in year 2002, from the statistical perspective. Therefore, in the absence of present statistical data at a micro-territorial level, appeared the necessity to investigate the reality of year 2011 by using methods which are specific to the analysis of perceptive-cognitive processes.

BEYOND STATISTICAL DATA, ANALYSING THE NEIGHBOURHOOD IDENTITY ON THE WEST- EAST AXIS OF BUCHAREST

In the present study we focused on *identifying the neighbourhood's symbols* and to correlate them with its constitutive elements and with the representation of the inhabited space in the general context of the city (as a superior level of representation). In order to represent the results from the inhabitants' answers we recomposed the neighbourhoods on the limits of the census tracts of 2002.

The identity analysis in the perspective of place attachment and sense of place

Attachment and sense of place are two dimensions which become operational through the concept of identity that relates in geography to the spatial representation of the collective perception as a key element. Urban identity is that uniform set of features that are capable of carrying the same meaning for each inhabitant of the city (Feldman, 1990). It is reflected by a symbol which was adopted and built in history by each generation, thus ensuring consistency and continuity to the urban community. There were two symbols identified, one with the neighbourhood and the other one with the city.

The place identity encompasses a set of expectations, preferences, behavioural trends through which the community's identity becomes compatible with a certain type of spatial organisation. In this optic, place attachment is the effective bond established by people with distinctive areas, where they prefer to settle or where they feel safe and comfortable (Altman and Low, 1992). The attachment is made operational through place symbolism. Place symbol is a certain semnification created by unfolded events associated with a certain place, through the reiteration of activities with personal meaning (e.g. walking to school on the same route; Sunday shopping in the neighbourhood market).

It resulted a series of physical and cognitive indicators of place representation that were clustered in 12 categories: (1) green spaces (including parks, elements that represent components of parks and gardens, in this category the respondent included trees, leaves, flowers); (2) sport fields; (3) malls; (4) public institutions (e.g. Parliament's Palace, Victoria Palace, diverse ministers, the police, post-offices, etc.); (5) sites of culture and personalities (e.g. churches, theatres, monuments); (6) the positive affect generated by the neighbourhood (or topophilia - indicated by attributes like: *peaceful, clean, pride, gentle people*); (7) negative affect generated by the neighbourhood (or topophobia - indicated by attributes like: *misery, disorder, corruption, dust, ordure*); (8) elements or features of the urban habitat (blocks, streets, subway, medical clinics); (9) degrading elements of the urban space (traffic jam, crowded, high building density, pollution); (10) commercial areas (shops, e.g.: Titan

POLARISATION OF SOCIAL INEQUALITIES IN DISADVANTAGED NEIGHBOURHOODS OF BUCHAREST METROPOLIS

Shop, Unirea shopping centre, markets, hypermarkets); (11) visible features of the natural landscape (Dâmbovița river); (12) urban myths (elements related to the urban ludic and mythology, e.g.: Little Paris, Bucur the shepherd) (see table 1 and 2).

Table 1. *Neighbourhood's identity reflected by place attachment in Pantelimon and Balta Albă-Titan*

Symbolic category		Neighbourhood's symbol (%)	City's symbol	Neighbourhood's symbol (%)	City's symbol
1 2 3 4 5 6 7 8 9 10 11 12 13	green spaces	3.7	0.0	19.0	1.3
	sport fields	25.9	0.0	0.7	0.0
	malls	0.0	5.6	0.7	0.0
	public institutions	3.7	20.4	2.0	24.8
	sites of culture/ personalities	3.7	18.5	5.2	17.6
	positive affect generated by the neighbourhood/topophilia	0.0	1.9	19.6	3.3
	negative affect generated by neighbourhood/ topophobia	13.0	18.5	2.6	9.8
	urban habitat features/ elements	16.7	1.9	3.3	10.5
	degrading urban elements	0.0	1.9	1.3	3.9
	commercial areas	7.4	0.0	5.9	0.0
	visible features of the natural landscape	0.0	3.7	0.0	0.0
	urban myths	1.9	11.1	7.8	3.9
	unknown	18.5	16.7	5.8	3.9

Table 2. *Neighbourhood's identity reflected by place attachment in Drumul Taberei and Militari*

Symbolic category		Neighbourhood's symbol (%)	City's symbol	Neighbourhood's symbol (%)	City's symbol
1 2 3 4 5 6 7 8 9 10 11 12 13	green spaces	25.6	5.6	3.3	2.2
	sport fields	6.7	0.0	0.0	0.0
	malls	2.2	0.0	0.0	0.0
	public institutions	4.4	16.7	13.3	24.4
	sites of culture/ personalities	8.9	15.6	4.4	12.2
	positive affect generated by the neighbourhood/ topophilia	15.6	4.4	11.1	2.2
	negative affect generated by the neighbourhood/ topophobia	2.2	7.8	10.0	12.2
	urban habitat features/ elements	5.6	10.0	10.0	5.6
	degrading urban elements	2.2	10.0	2.2	11.1
	commercial areas	4.4	0.0	13.3	1.1
	visible natural landscape feature	0.0	1.1	4.4	1.1
	urban myths	5.6	7.8	1.1	8.9
	unknown	16.6	21.1	8.8	7.7

The share of respondents who expressed the desire to leave the present residential neighbourhood (the case of Pantelimon and Militari) highlights two main arguments: the access to improved and diverse services; the need for a more pleasant aspect of the neighbourhood. This falls in the general European situation of declining number and quality of values that generate solidarity between different urban areas (Ramsden, 2011:51).

CONCLUSIONS

In this research we tried to measure the social inequalities and to evaluate disadvantaged neighbourhoods in terms of housing comfort, public infrastructure, employment and education. We started from the statistical reality reflected by the Population Census and we constructed an index called Index of Urban Life Deprivation through which we highlighted neighbourhoods that are more vulnerable to become disadvantaged. A concentration of investments during the communist period favoured the large urban habitats in this perspective, in the detriment of the old urban centre where some areas were included in the vast “systematisation” project but were left unfinished. This inversion of life quality between certain areas of the centre and periphery was then evaluated according to the present perceptive-cognitive processes, in the large urban habitats and in Cotroceni neighbourhood. Thus, in spite of problems concentrated in some areas of the city, the interior perception is a favourable one and reduces the housing comfort issues due to the cognitive dissonance, as people tend to be attached to places where they spend most of their time, even though they also recognize the deficit of their neighbourhood. In this research, inhabitants always identify the neighbourhood’s symbol to be a positive element, as a reflection of pride. To summarize, there is a strong correlation between the statistical interpretation of the life deprivation elements and the people’s perception of places they live in that can be used in planning the urban space.

REFERENCES

- ALTMAN, I., LOW, S. M. (1992), *Place attachment*, Plenum Press, New York.
- CĂTUNĂ, V. (2011), *Cartierul Pantelimon, raport de cercetare* [Pantelimon Neighbourhood, research report], In: *Make a Point, Mă numesc Cartier*, București.
- DE GRÉGORIO, J., LEE J. W. (2002), *Education and income inequality: new evidence from cross-country data*, In: *Review of Income and Wealth*, vol. 48, 3, pp. 395-416.
- FELDMAN, R.M. (1990), *Settlement identity: psychological bonds with home places in a mobile society*, In: *Environment and Behaviour*, vol. 22, pp. 183-229.
- HAWKES, D., UGUR, M. (2012), *Evidence on the relationship between education, skills and economic growth in low-income countries: a systematic review*, EPPI-Centre, Social Science Research Unit, Institute of Education, University of London, London.
- LE BRAS, H. (2008), *The Nature of Demography*, Princeton University Press, Princeton.
- MAJURU, A. (2003), *Bucureștiul mahalalelor, Sau Periferia ca mod de existență* [The Bucharest of Slums, Or the Suburbs as Way of Living], Edit. Compania, București.
- MIHĂILESCU, V., BULAI, A. (2011), *Cartografierea socială a Bucureștiului* [Social Cartography of Bucharest], Departamentul de Sociologie, SNSPA Facultatea de Științe Politice, București.
- NOVAC, A. (1995), *Statistică socială aplicată* [Applied Social Statistics], Editura Hyperion XXI, București.
- RAMSDEN, P. (2011), *Disadvantaged Neighbourhoods*, In: J.L. Drubigny, L. Caldironi (eds), *URBACT Project Results*, URBACT II, Paris.
- STOICULESCU, R. C. (2011), *Structuri socio-spațiale bucureștene. Studiu geografic* [Socio-spatial structures of Bucharest. Geographic Study], Teză de doctorat, Facultatea de Geografie, București.
- STOICULESCU, R. C. (2010), *Evoluția zonelor rezidențiale în cadrul cartierului Balta Albă-Titan, București* [The Evolution of Residential Areas in Balta Albă-Titan Neighbourhood, Bucharest], Universitas Geographica, Revista Școlii Doctorale Simion Mehedinți, vol. I, nr.1.
- STRAUSS, S. (2011), *The connection between education, income inequality and unemployment*, In: Huffington Post, 11/02/11.
- SUDITU, B. (2006), *Mobilitatea rezidențială a populației Municipiului București* [Population’s Residential Mobility in Bucharest City], Teză de doctorat, Facultatea de Geografie, București.
- VOICU, B., NITULESCU, D. C. (2003), *Rahova-Uranus: un „Cartier Dormitor”?* [Rahova-Uranus: a “dormitory-neighbourhood”?], In: *Calitatea Vieții*, XVIII, nr. 3-4, pp. 253-281.