

URBAN SPRAWL CHARACTERISTICS AND TYPOLOGIES IN ROMANIA

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Abstract: Urban sprawl limitation, moderate use of agricultural fields and ensuring the social mix are objectives of public policy of all European Community documents referring to urban and territorial planning, housing policies and territorial cohesion. In post-communist Romania the most obvious spatial effect of the liberalization of political and economical life is the multiplication of constructions from the periurban areas. The urban sprawl characteristics have an important role in the localities' sustainable development and consequently in ensuring territorial cohesion.

Key words: Urban sprawl, Romanian cities and towns, Mobilities, Residential areas, New factories and Commercial buildings areas, Urban development.

Introduction

The theme of urban sprawl is an urgent contemporary problem on the agenda of national and European institutions. In the specialised literature, the urban sprawl refers to the pavilion type of residential developments, outside the cities, together with other activities that lead to important environment, functional and landscape changes. The urban sprawl is presently regarded as one of the major common challenges facing urban Europe today. By multiplying the mobility forms, the quality of transport systems, the land price, the individual housing preferences, the demographic trends, the cultural traditions and constraints, the attractiveness of existing urban areas, all these play a key role in the way an urban area develops.

The present mobility trends towards new, low-density urban areas lead to an

increased consumption. The amount of space per person in the cities of Europe doubled over the past 50 years. In the last 20 years, the extent of the built-up areas in many western and eastern European countries increased by 20%, while the population increased by only 6% (EEA, 2006). The transportation and the other mobility forms remain crucial challenges for urban planning and management. But the strategies and instruments for controlling the urban sprawl strongly depend on today's realities of multiple and interacting levels of governance, from local to European ones. In post-communist Romania the most obvious spatial effect of the liberalization of political and economical life is the multiplication of the mobilities and the outburst of residential constructions from the periurban areas.

The issues of the new residential development were studied by Popescu C., Damian N., (2003), Nae M. (2007, 2009), Rufat S. (2008), Suditu B. (2009), Patroescu M., Ioja C., Vanau G. (2009). The first study exclusively

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dedicated to the habitat in the periurban areas, developed as a result of the urban sprawl, was made by the urbanist C. Sarbu (2005). A synthesis on the urban sprawl theme and awareness in Europe was made by the European Environment Agency (2006).

Methodology

The present study is based on the questionnaire „Urban Planning, Urban Land Management and Housing”, developed in 2008 by the Ministry of Regional Development and Tourism through the General Direction of Territorial Development, with the support of the Ministry of Administration and Interior. The subject of the questionnaire and the related study was the reflection of the issues and the field of urban development, urban land management and housing through the administrative structures of the local public authorities in the Romanian cities. The study was also intended to collect relevant information necessary for the substantiation of housing and urban planning public policies. The questionnaire on which this study is based was developed based on the proposals made within the Territorial Cohesion and Urban Matters - "Urban and development sprawl" working group, coordinated by the European Commission – DG Regio, and on the discussions with other EU Member States during the housing focal point meetings. The urban sprawl is a subject of great interest, included on the agendas of the Housing and Urban Development Ministers' Meetings, organised under the French and Spanish Presidencies in November 2008 in Marseille and June 2010 in Toledo.

The questionnaire was developed by the authors, experts within the General Direction of Territorial Development, and sent to all mayoralities of towns, cities and communes, directly or through the Prefect's Offices. The same team of technical experts within the General Direction of Territorial Development did the statistics and cartographical treatments, as well as the outcomes' analysis. The study's objectives were: assessing the way in which the elements of the programmes managed by the Ministry of Regional

Development and Tourism are reflected in the field; identifying the structures with responsibilities in the field of urban planning, urban land management and housing within the local public authorities in the view of assessing their training needs; getting specific information for the ante-mentioned fields, including information regarding the evolution of built-up areas of localities and of their urban sprawl phenomena. 2224 out of 2861 communes and 250 out of 319 towns and cities (78,1% from all cities and towns in Romania) answered the questionnaire.

At the origin of the urban sprawl – between ideological paradigms and post-communist legislative transformations

The urban sprawl is a phenomenon that can be precisely dated in Romania. In the context of restrictive regulations concerning the urban sprawl, the built-up limits of the localities during the communist period and their abrogation by the first law decree in 1989 built the framework for a new development type of the localities. The transformations of the last two decades witness this development process of residential, industrial or services buildings constructions, in the areas surrounding the cities, under their pressure and influence. The clear-cut and stable limits of the built areas of the localities from the communist period are replaced by fragmentations and perpetual transformations of these ones. There is an intense construction activity, the built perimeters are extending, being more and more fragmented and the former perimeters are also transformed by densifications and replacements of the ancient buildings. But the most obvious phenomenon remains the multiplication of the constructions and the expansion of the built-up perimeters and implicitly the diminishing of the agricultural area. The new residential developments are functionally linked to the urban presence, being the reflection of its socio-professional transformations and the result of the incoherence or even of the lack of public policies concerning urban housing.

During the post-communist period, the political changes allowed the modification of the construction and housing allocation mechanisms and principles, with immediate effects in the reconfiguration of the urban socio-spatial structures and of the residential relations between the cities and the neighbouring rural areas. The elimination of the mobility restrictions, of those linked to the access to property, to the liberty to build using the own means, the freedom of choosing the desired place of residence, are fundamental elements which transformed the city structure and the neighbouring cities.

In the study regarding the residential mobilities and the urban sprawl in Bucharest, B. Suditu (2009) identifies three distinctive periods which shaped the dynamics of the periurban territories: a) 1990-1992: regulations concerning the settling down at a legal address in “closed cities” and the law concerning the systematisation of rural and urban localities are abrogated. This involved the elimination of the former legal plans and and creation of new transition instruments concerning urban planning and land management for over a decade; the restriction which allowed the owning of only one property is eliminated, favouring the appearance of the real estate market; the law concerning the retrocession of agricultural fields is approved, leading to the creation of a land market and to the possibility of purchasing agricultural fields whose use will be subsequently changed into built-up land; b) 1992-2000: in this period, alongside or near the main traffic routes and the surrounding peripheral road of the city, in the limits of neighbouring communes, new factories and commercial buildings will settle down, transforming the perspective on the peripheral urban areas, as well as the economic structure of the localities situated in the proximity of large cities; c) 2001- present: the promoting of the urban and land planning law, which regulated the framework for the urban plans development and the general framework of the urban sprawl; the development of the construction sector and the increase in the number of real estate developers; the increase in the number of

mortgage and construction loans, implicitly the exponential increase of constructions in the areas situated in the proximity of cities etc

The urban sprawl is the result of the search for alternatives to the housing and urban environment. By constructive or mobility initiatives, those involved looked for a housing solution as closer to nature as possible. But through their actions, in the absence of public coordination (transport infrastructure, public transport, technical infrastructure, urban planning), they contributed to the rural zones transformation, to the destruction of some natural elements and to excessive densification of the qualified areas as rural through chaotic or high-density constructions or constructions which do not respect the specificity of the place and the regulated volumetry, situated inside and outside the villages. The mobility practices and the new residential developments modified the social-economic and organizational elements from the periurban areas, with consequences on the way of life of all those involved, either new ex-urban residents or former rural inhabitants. A simple visit to these territories makes it clear that the attempt of coming closer to nature has actually led to its destruction. The agricultural fields are fragmented and transformed into built plots.

Economic and geo-demographic differentiations in the dynamics of the Romanian cities

Out of 250 cities that answered the questionnaire, 215 (representing 86%) confirmed they are facing the urban sprawl phenomenon. The information analysis confirms the fact that the urban sprawl phenomenon appears in most of the cities, being strictly dependent on the population size and the economic importance of the cities. At the same time it can be noticed that all cities which, during the analysed period, didn't register any increase of the built-up area, are less representative, only 14%. Most of them are very small cities situated in

peripheral geographical areas (mountain areas: Brad, Baia de Arieș, Zlatna, Oțelul Roșu, Băile Tușnad, Borsec, Bălan, Baia de Aramă, Negrești-Oaș; areas with low levels of urban development from Moldavia: Bucecea, Târgu Frumos, Siret, Solca; in the centre of Transilvania: Agnita; in Bărăgan and Dobrogea: Făurei, Însurăței, Babadag, Măcin), but also mid-size cities affected by a strong economic downturn and consequently by a population loss (Anina, Dorohoi, Turnu Măgurele, Petroșani, Dumbrăveni, Isaccea, Buziaș and Drăgășani).

The urban sprawl phenomenon is often associated with the development of new residential areas outside the limits of the built-up areas created during the communist period. If the residential development and the real-estate pressure are the only sources generating an extension of the built-up areas for 46 cities, meaning 21% of all cities that answered the questionnaire, the same phenomenon is an integral part of the combined phenomena leading to urban sprawl in other 136 cities (64%). It's not always easy to identify the sources generating the urban sprawl, especially because the ante-mentioned phenomena are complementary. The economic activities (new areas or industrial sites, commercial centres etc.) lead to an increase in the built-up areas for 19 cities, meaning 9% of all cities.

As mentioned before, the biggest part of the new built-up areas is generated by combined phenomena, favoured by the localities' demographic and economic dynamics and their attractiveness. This category includes all county capital cities, but also many of the cities situated in the area of influence of the previous ones (phenomenon present in Brașov, Alba Iulia, Deva, Focșani, Suceava, Cluj Napoca, Oradea, Slobozia), as well as those cities situated alongside important traffic routes (the roads in the Olt Valley, the Mureș Valley, E85 or E70), the resort cities or those situated in areas well-known for the environment quality (sub-Carpathian areas around Râmnicu Vâlcea, Prahova Valley and the neighbouring sub-Carpathian area, Constanța and the other seaside cities).

The new satellite developments alongside the economically dynamic cities took advantage of their proximity, becoming favoured spaces for new residencies or vacation houses, the locations being chosen in the proximity of economic points (jobs, trade, sanitary and educational services), but outside the influence area of the real-estate pressure exerted by the ante-mentioned centres. In numerous cases, this logic of location led to the demographic and economic rejuvenation of some localities within the polarization area of medium and large cities.

Regarding the cities' expansion of the built-up areas, it can be noticed that it is predominantly discontinuous. The questionnaire outcome confirms that, in more than half of the cities, the urban sprawl took place in a dispersed way (92 cities, meaning 44% of the cities) or alongside some interest areas (20 cities, meaning 9%). As mentioned before, in most of the cases this situation is due to local characteristics making some sites more interesting and recently urbanised, being attractive through their inherent features of accessibility or environment. In many situations, the dispersion was shaped by the new function that induced an increase of the built-up area. In this respect, the locations of the big commercial or services surfaces outside the cities were significant.

The most obvious sprawl type of the cities' limits was the one alongside the traffic routes in their penetration area. This is the case for 47 cities (22% from total cities). In many of these cases, the initial function that determined the sprawl was the housing function, but shortly after, starting with the 1990s, the economic functions (wholesales and services) became dominant, in many cases leading to functional changes of recently built residential areas. The speed of this phenomenon and the complexity of the resulted forms make it difficult to determine very strictly the typology of the urban sprawl. Therefore we consider relevant the fact that a quarter of the cities identified a mixed type of sprawl.

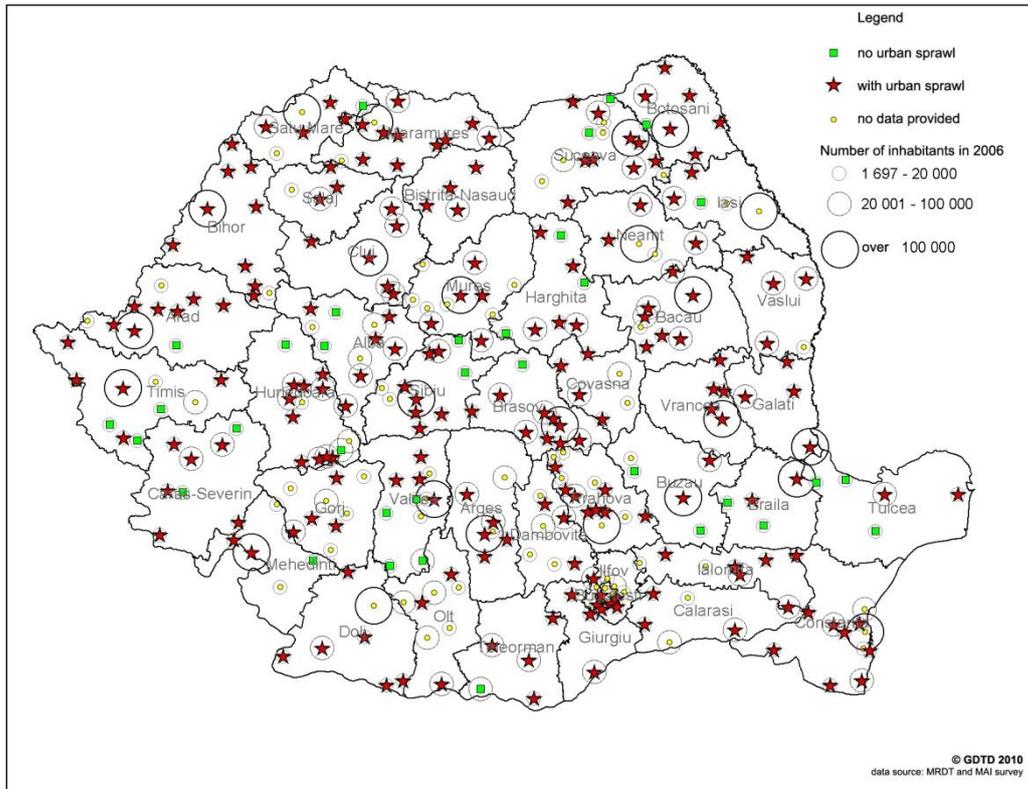


Figure 1. Cities and towns confronted with urban sprawl phenomenon

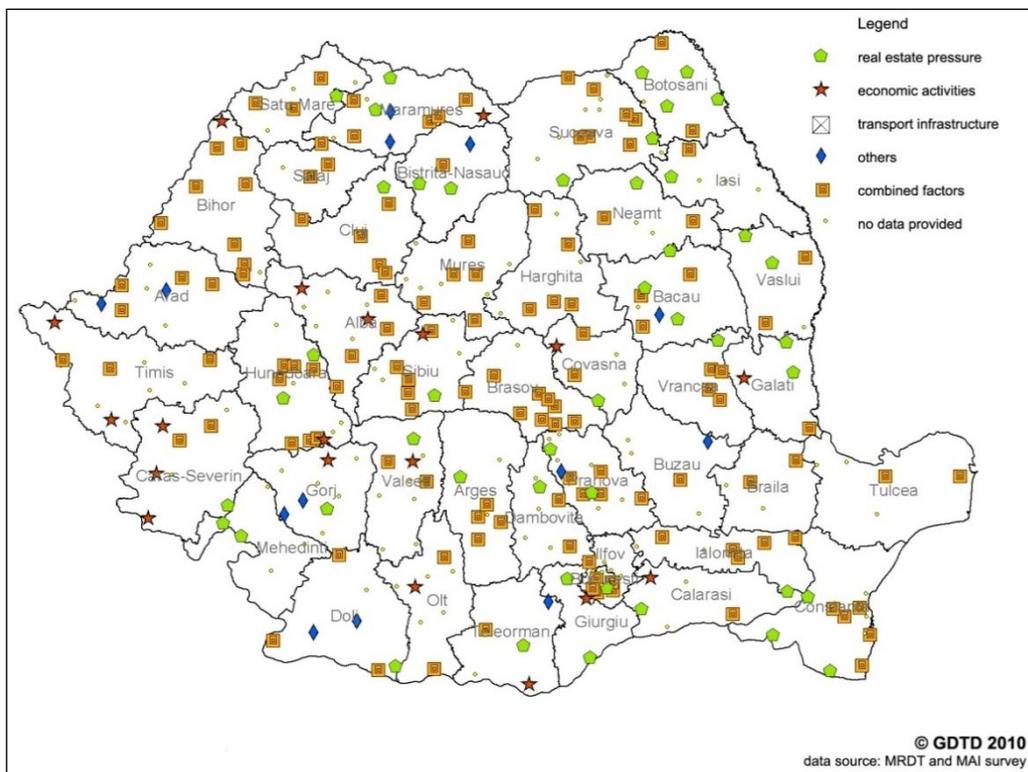


Figure 2. Factors that generated urban sprawl in the Romanian cities and towns

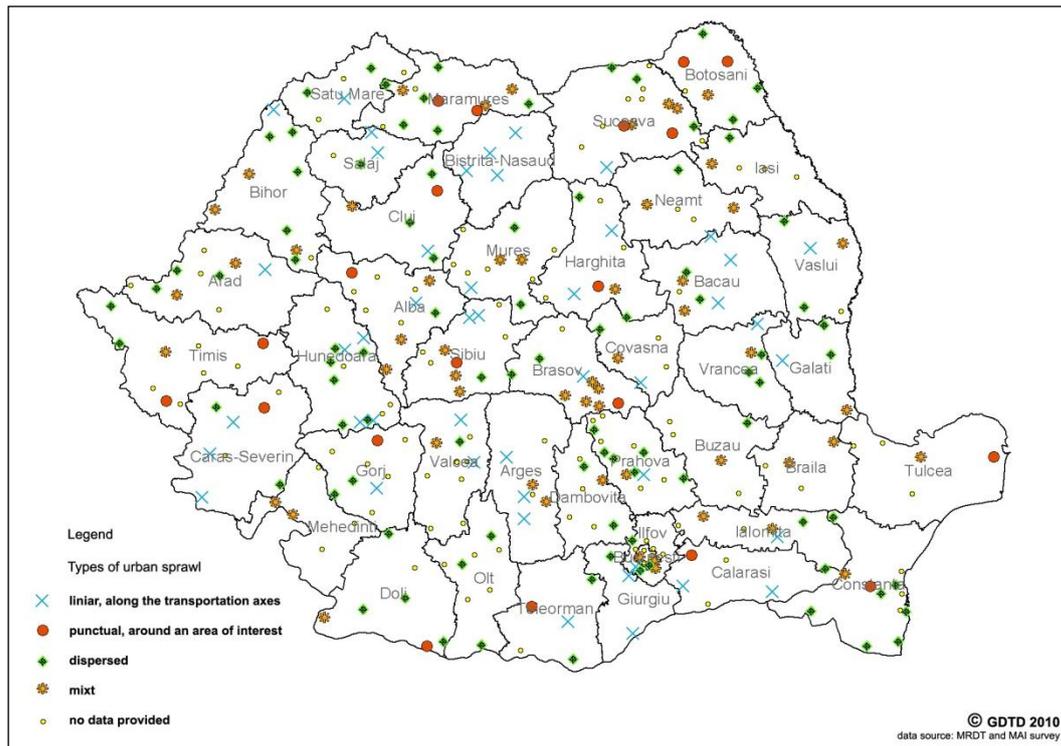


Figure 3. Urban sprawl types in the Romanian cities and towns

Increase of the urban built-up surfaces – between economic and sustainable development reasons

The analysis of the increase in the built-up surfaces of the cities during 1990-2008, as well as their increase rate implies a methodological and contextual clarification. For most of the cities and towns, the expansion of the limits of the built-up areas is an indicator that has to be correlated with the increase of the built-up areas in the neighbouring rural localities. The cities' surfaces increased, but the highest intensity of the urban sprawl phenomenon was done on the neighbouring rural lands. The urban sprawl phenomenon in periurban perimeters is directly proportional to the demographic size and the economic importance of the nucleus city.

Another technical element that has to be clarified refers to the meaning of the „built-up limits”. Following a number of initiatives of some inhabitants or societies owning agricultural land or initiative of the mayor's office, the limits set in the General Urban Plan were modified in gradual phases in order to introduce different lands into the „built-up area”. The agreement request for the inclusion

in the built-up area automatically leads to the change of the land function and its urban and fiscal regimen. In fact, not all the lands included in the cities' built-up perimeter were occupied by constructions. Many public initiatives encouraged this initiative to enlarge the limits of the built-up areas exactly for facilitating the local development in order to attract new residents in the locality. For others, it was a purely economic measure meant to change the level and the category of the respective land tax.

The statistics information regarding the built-up area of the localities during 1990-2008 confirms the remarkable dynamics of the built-up surfaces. It is surprising the reduction of the built-up surfaces. It is surprising the reduction of the built-up area of some cities (Anina, Făgăraş and Solca), situation due to the modification of the territorial-administrative limits of the localities leading to the administrative transfer of the old brown fields to the neighbouring communes. For the other cities, significant increases can be noticed, 209 cities (83,6% of the cities) having an increase of up to 60% of their initial surface. Amongst these, restricted dynamics characterise small cities: Pâncota 6,64%, Făurei 14,6%, Ianca 42%, Însurăței 4,61%,

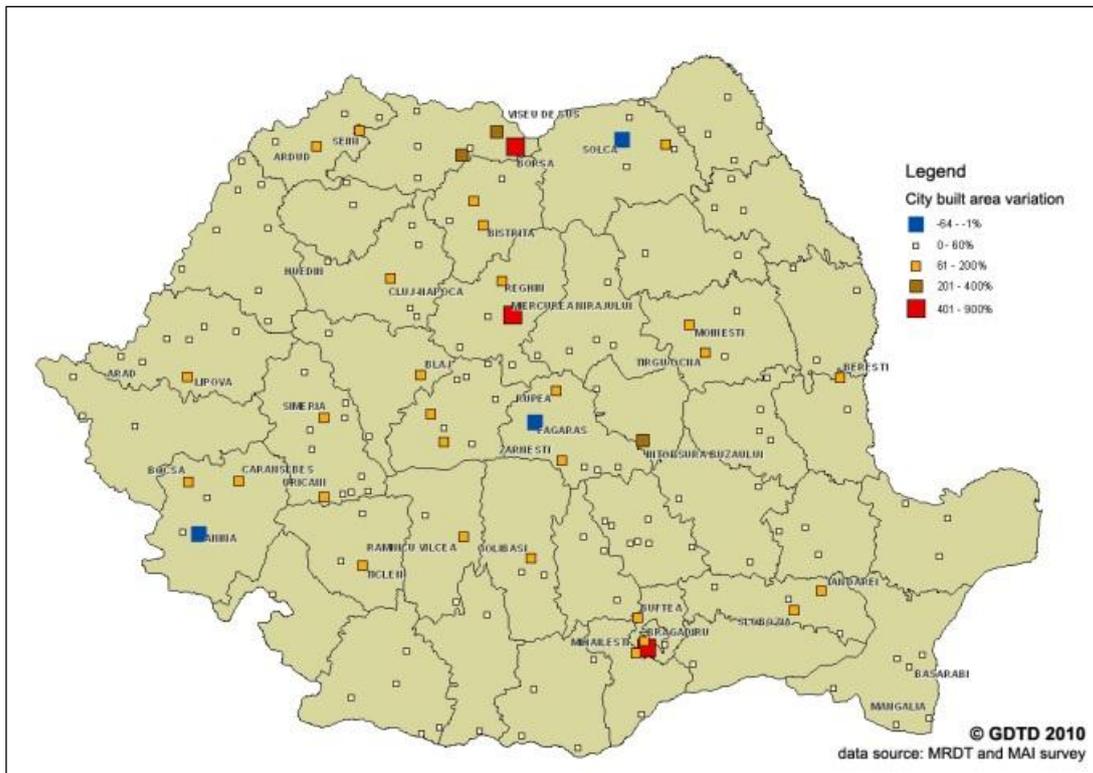


Figure 4. The growth percentage of the city built area between 1990-2008

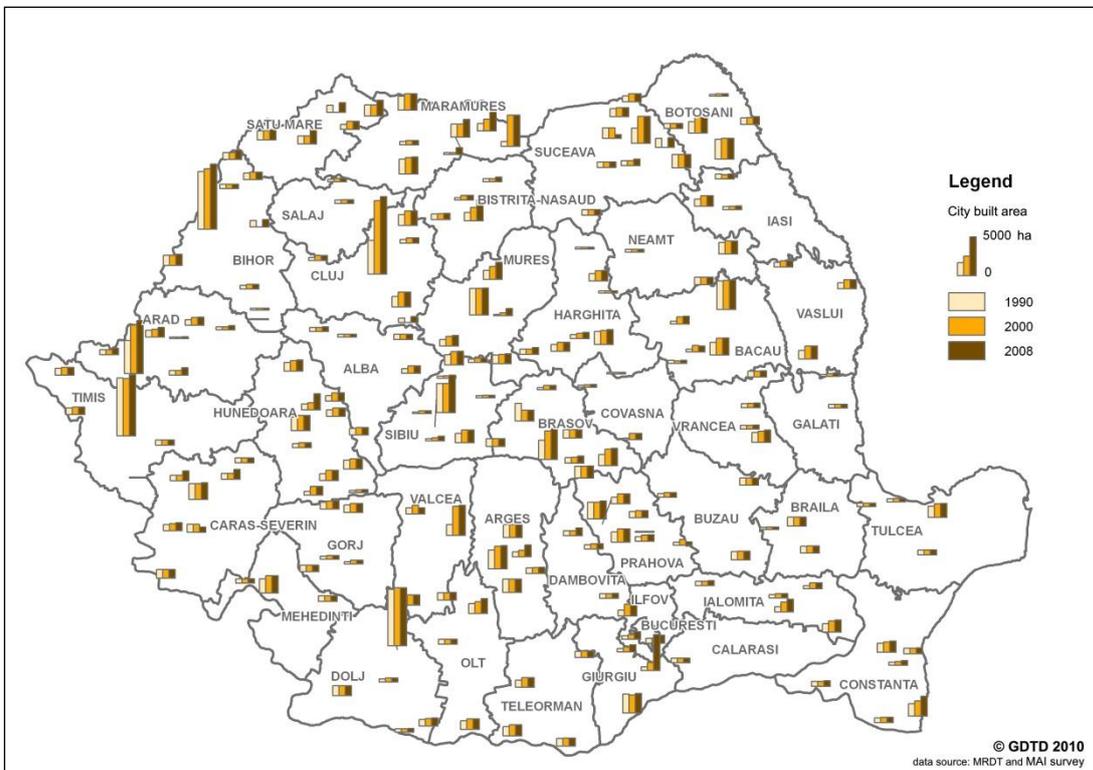


Figure 5. City built area (ha)

Table 1. The growth percentage of the city built area between 1990-2008

No.	CITY AND TOWNS	CITY BUILT AREA 1990	CITY BUILT AREA 2008	GROWTH PERCENTAGE 2008 - 1990 (%)
1	Alba Iulia	N.D.	N.D.	N.D.
2	Alexandria	N.D.	1080,50	N.D.
3	Arad	3983,27	6373,06	60,00
4	Bacău	3414	3516	2,99
5	Baia Mare	N.D.	N.D.	N.D.
6	Bistrița	981	2560,9	161,05
7	Botoșani	1352,5	1937,8	43,28
8	Brăila	3996	3997	0,03
9	Brașov	N.D.	10410,7	N.D.
10	Buftea	707	1457	106,08
11	Buzău	N.D.	4446,71	N.D.
12	Călărași	2808	N.D.	N.D.
13	Cluj-Napoca	4069	9300	128,56
14	Constanța	4257	7664	80,03
15	Craiova	6765	6982	3,21
16	Deva	N.D.	1737,83	N.D.
17	Drobeta-TurnuSeverin	1716	2104	22,61
18	Focșani	1192,65	1483,19	24,36
19	Galați	N.D.	5848	N.D.
20	Giurgiu	2271	2352	3,57
21	Iași	3880	6741	73,74
22	MiercureaCiuc	1538	1784	15,99
23	Oradea	6897	7796,7	13,04
24	Piatra Neamț	N.D.	N.D.	N.D.
25	Pitești	2270	2805	23,57
26	Ploiești	N.D.	N.D.	N.D.
27	RâmnicuVâlcea	1287	3589,18	178,88
28	Reșița	1904	1982,86	4,14
29	Satu Mare	2565	4192	63,43
30	Sfântu Gheorghe	960	1425	48,44
31	Sibiu	3478,6	4482,87	28,87
32	Slatina	N.D.	N.D.	N.D.
33	Slobozia	632,08	1519,53	140,40
34	Suceava	1850	3256	76,00
35	Târgoviște	1890	2116	11,96
36	TârguJiu	N.D.	N.D.	N.D.
37	TârguMures	3210,03	3245,88	1,12
38	Timișoara	6944,16	7306,87	5,22
39	Tulcea	1350	1695,75	25,61
40	Vaslui	N.D.	1965,84	N.D.
41	Zalău	1319,38	N.D.	N.D.

Băilești 2%, Săcele 56,2%, Zărnești 60%, Râșnov 22,36% etc., but also medium or large cities that didn't preserve their attractiveness during the post-communist period (Rm.Sărat 1%, Giurgiu 3,57%, Petroșani 11%, Cîmpulung 17,5%, Tulcea 25,6%, Botoșani 45%, Oltenița 45%, Sf.Gheorghe 48%) or cities which, due to their location in contact areas (hilly or mountain ones), entered in competition for residency with the smaller near-by cities: Reșița 4%, Oradea 13,4%, Târgoviște 11,6%, Pitești 23,5%, Sibiu 28,87% etc.

In Romania, 33 cities registered significant dynamics, meaning 13,2% of the cities that answered the questionnaire; for these cities the expansion of the built-up surfaces varies between 60% and 200%. Amongst these ones, there are some cities with administrative functions, Arad 60%, Satu Mare 63,4%, Iași 73,7%, Suceava 76%, Slobozia 140,4%, Rm. Vâlcea 178%, but also small and medium ones situated within the polarization area of some important cities: Mioveni 136%, Moinești 181%, Rupea 113,6%, Mihailești 106,3%, Bragadiru 114,6%, Buftea 106%, Arduș 99%, Cisnădie 102%, Ocna Sibiului 72,5%, Băile Olănești 125,5% etc.

The following 8 cities registered excessive urban sprawl values: Întorsura Buzăului 297,4%, Vișeu de Sus 288,8%, Dragomirești 315,7%, Tăuții-Măghereuș 316,9%, Șomcuța Mare 492,13%, Borșa 527,3%, Miercurea Nirajului 478,8% and Măgurele 872,4%. As previously mentioned, these values are due to their proximity to important urban centres (cities near-by Bucharest) or they are the result of some excessive public practices meant to facilitate the local development and to attract new residents within the locality (cities from Maramureș county: Vișeu de Sus, Dragomirești, Tăuții-Măghereuș, Șomcuța Mare, Borșa).

Conclusions

The high values of the city built area's boundaries that have expanded over the past two decades are confirming the importance of this phenomenon and the present need to

revise the legislation and the operational tools for urban planning and housing. Ensuring the coherent development of the settlements is a key element to ensure a high level of quality of life and thus territorial cohesion. The study's results contribute to substantiate the public policies in the field of urban planning and housing. The issue of a better management of the urban-rural relationship and the urban sprawl limitation can be found within the Strategic Concept of the Spatial Development in Romania, document approved in 2008 by the Government of Romania, which substantiate the project of the Territorial Development National Strategy, included in the legislative priorities' list of the Romanian Government for the period 2009-2012.

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