

The Residential Function of the Countryside and the Development of the Peri-Urban Area of Cluj Napoca City

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Abstract. The residential function of the rural area is analyzed on a sample of 17 localities within a range of 30 km around the city of Cluj Napoca and included in the development plan of the residential area of Cluj. The purpose of the research is to identify the effects of exerting the residential function in the area mentioned as well as its influence on other specific functions of the countryside (agricultural, touristic, environmental). The analysis is based on secondary data provided by the Regional Statistics Department of Cluj. Based on this data, the structure of the land fund is analyzed, the evolution of the total population, its density, the evolution of the number of dwellings, access to utilities and the number of enterprises. The results of the study demonstrate beneficial socio-economic effects of exerting the residential function for the population of the area studied, but also less favorable effects, due to landscape degradation.

Keywords: rural, urban, residential, function, development

INTRODUCTION

The analysis of the rural urban relationship follows from the fact that the two residence environments are very different in terms of the characteristics and the functions that they exert (Interact, 2007). The residential function of the countryside originates as a result of the migration of the population from the crowded urban areas towards the rural areas located in their proximity that are more economically accessible (Panel de citoyens européen, 2007). According to Irwin *et al*, the migration of the population from large urban centres towards rural areas leads to exerting, in the countryside, economic functions specific to the urban areas: development of the industry, of the services (Irwin *et al*, 2009). Dutch researchers show that the interaction between the specific functions of the rural areas (e.g. agricultural, touristic, cultural and residential function) is influenced by the characteristics of the landscape (Willemen *et al*, 2010).

The transformation of rural areas into peri-urban areas is also analyzed in Poland, on a sample of 15 representative rural localities, exerting residential, touristic and agricultural functions (Bański *et al*, 2010). The study shows that, in the case of Poland, the intensity of building new dwellings during the period post-1989 depended on the size of the urban locality adjacent to the rural one, on the distance toward it and the transport infrastructure, the consequences of this process being in some cases the degradation of the environment, of the agriculture and the deterioration of the rural traditional image. Studies conducted in Denmark (Van Rij and Koomen, 2010) show a clear connection between the construction of houses in rural areas that have become residential and certain “indicators of rural vitality”, such as employment of the labor force and access to utilities.

In Romania, the researchers Guran-Nica and Sofer analyze the inward migratory fluxes in the last two decades and their impact upon the metropolitan area of Bucharest. According to the same authors, there is a transformation of these areas dependent on agriculture into areas with diverse economic activities, in which production and consumption

are combined. The rural areas in close proximity to the Romanian capital are sought by the high and middle classes, which leads to the use of the land for residential purposes, to a change in the demand for goods and services and to the development of new functions in the rural areas (Guran-Nica and Sofer, 2012).

Starting from the fact that Cluj Napoca city represents one of the main growth poles of Transylvania, the authors of the present study considered necessary to analyse how exerting the residential function of the countryside contributed to the transformation of some rural settlements near Cluj into suburbs of the municipality, and, in other cases, into peri-urban areas.

MATERIALS AND METHODS

The scientific method used was the descriptive and analytical research. The research involved the following stages: documentation, identification of the research area, establishing the indicators to be used, data series elaboration and performing a socio-economic analysis based on the results obtained.

The research was conducted on a sample composed of the localities: Aiton, Apahida, Baci, Bonțida, Borșa, Căianu, Chinteni, Ciurila, Cojocna, Feleacu, Florești, Gârbău, Gilău, Jucu, Petreștii de Jos, Tureni, Vultureni, localities that are situated within 30 km radius around the city of Cluj Napoca. These are already included in the integrated development plan of the Cluj metropolitan area (CMA), according to the Decision of the Local City Council of Cluj Napoca no. 437 of 6 October 2009 (Cluj Napoca Town Hall, 2013). The research area covers a surface of 1510 km², which represents a share of 22.63% of the total area of Cluj County (Regional Statistics Department, Cluj, 2013).

In order to analyze how the residential function, along with other specific functions of the countryside, manifests in the area described above, the following aspects were analyzed: land resources (total and according to specific categories of use - agricultural areas, areas occupied by buildings), demographic resources (total population, its density), number of dwellings, access to utilities, the number of SMEs and their distribution by sectors. The analysis was based on secondary data provided by the Cluj County Statistics Department, between 1990-2012.

RESULTS AND DISCUSSIONS

The analysis of the land fund according to categories of use shows, on average, a significant share of agricultural land in its total surface (approximately 63.86%). There are localities where the agricultural area is narrower - Gilău, with 34.54% - or others where it amounts up to 80-90% - Aiton, Borșa, Cojocna, Petreștii de Jos, Bonțida, Căianu, Jucu, Tureni (Tab. 1). Obviously, the economic function of the localities that encompasses significant agricultural resources should be primarily based on agriculture.

A recent case study, conducted by the Eco Ruralis Association shows that in the case the localities Aiton and Tureni, the availability of fertile land and the vulnerability of the aging population have attracted a few investors (e.g. Transavia poultry producer), which decided to develop a vertical strategy, through cultivation of cereals in an intensive system (Bouniol *et al.*, 2013). The socio-economic effects of this strategy for the local communities are still far too early to be quantified.

The area occupied by buildings registers a low percentage as compared to the total area of the land fund, the first being Florești, with a percentage of 4.97% of the total (Tab. 1). Unfortunately, there is no data available to show, as in the case of other researches (Ioja *et al.*, 2011), the degree of conversion of the agricultural land into land occupied by buildings.

Tab. 1

The situation of the land fund in Cluj Metropolitan Area, in 2011

| Locality | Total land fund area (ha) | Agricultural area (ha) | Share of the agricultural area of the total land fund (%) | The area occupied by buildings (ha) | The share of the area occupied by buildings of the total land fund (%) |
|------------------|---------------------------|------------------------|---|-------------------------------------|--|
| AITON | 4527 | 3777 | 83.43 | 96 | 2.12 |
| APAHIDA | 10602 | 7819 | 73.75 | 214 | 2.02 |
| BACIU | 8751 | 5558 | 63.51 | 183 | 2.09 |
| BONTIDA | 8038 | 6229 | 77.49 | 224 | 2.79 |
| BORSA | 6162 | 5575 | 90.47 | 68 | 1.10 |
| CAIANU | 5511 | 4136 | 75.05 | 168 | 3.05 |
| CHINTENI* | ... | ... | ... | ... | ... |
| CIURILA | 7222 | 5390 | 74.63 | 193 | 2.67 |
| COJOCNA | 13863 | 12326 | 88.91 | 321 | 2.32 |
| FELEACU | 6196 | 3607 | 58.21 | 100 | 1.61 |
| FLORESTI | 6092 | 3902 | 64.05 | 303 | 4.97 |
| GARBAU | 7215 | 4869 | 67.48 | 170 | 2.36 |
| GILAU | 11682 | 4035 | 34.54 | 276 | 2.36 |
| JUCU | 8513 | 6491 | 76.25 | 247 | 2.90 |
| PETRESTII DE JOS | 7261 | 5826 | 80.24 | 103 | 1.42 |
| TURENI | 7404 | 5592 | 75.53 | 151 | 2.04 |
| VULTURENI | 7112 | 4960 | 69.74 | 117 | 1.65 |
| TOTAL | 667440 | 426205 | 63.86 | 19321 | 2.89 |

Source: own processing after data from the Regional Statistics Department, Cluj, 2013

* no data available

Many localities record a decline in population after the years '90, due to the rural exodus and the decline in birth rates (Fig. 1).

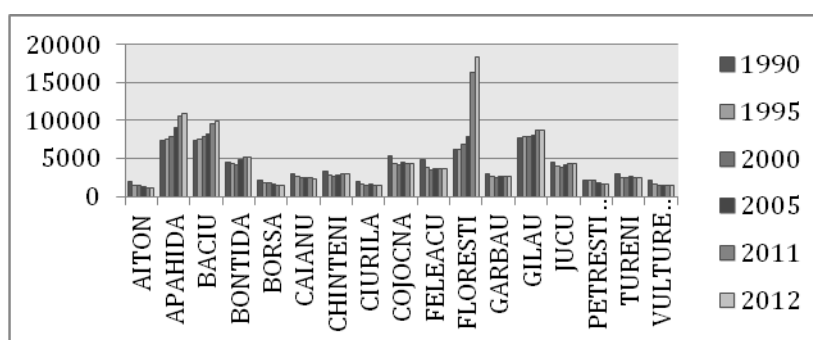


Fig. 1. Evolution of the total population during the period 1990-2012, in CMA (no. of people)

Source: own processing after data from the Regional Statistics Department, Cluj, 2013

The analysis of the population density in CMA demonstrates in the best way the exerting of the residential function by some localities that record spectacular developments of the density during the period 1990-2012 (Fig. 2). The population density increases for the localities Apahida - with 45.93%, Baciu - with 32.92% and Florești - with 196.5%, transforming them into suburbs of the City of Cluj Napoca. In the case of Florești, the density

reaches 301.66 inhab/km² in 2012, a figure that represents twice the density of a specific territory belonging to rural areas (under 150 inhab/km²), according to the criterion of the Organization for Economic Cooperation and Development.

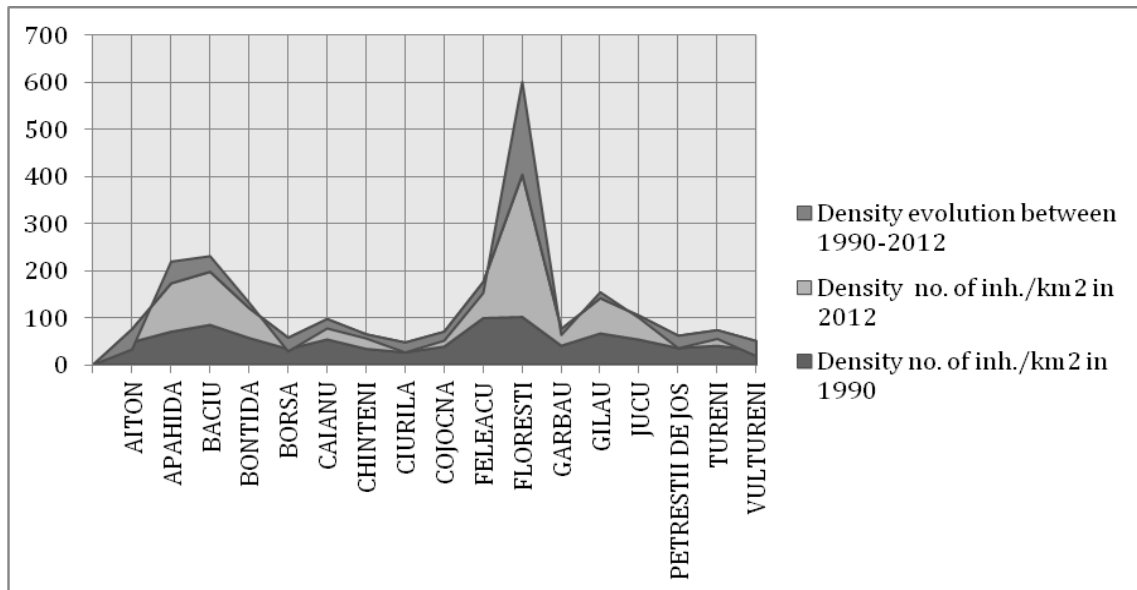


Fig. 2. Evolution of population density during the period 1990-2012, in the CMA (no. of people)
Source: own processing after data from the Regional Statistics Department, Cluj, 2013

In strong correlation with the population density, there is the indicator of the number of dwellings (Fig. 3). The latter increased during 1990-2011 from 2746 to 5047 dwellings in Apahida, from 2590 to 4345 dwellings in Baciu, from 2271 to 3324 dwellings in Gilău and from 2997 to 13681 dwellings in Florești.

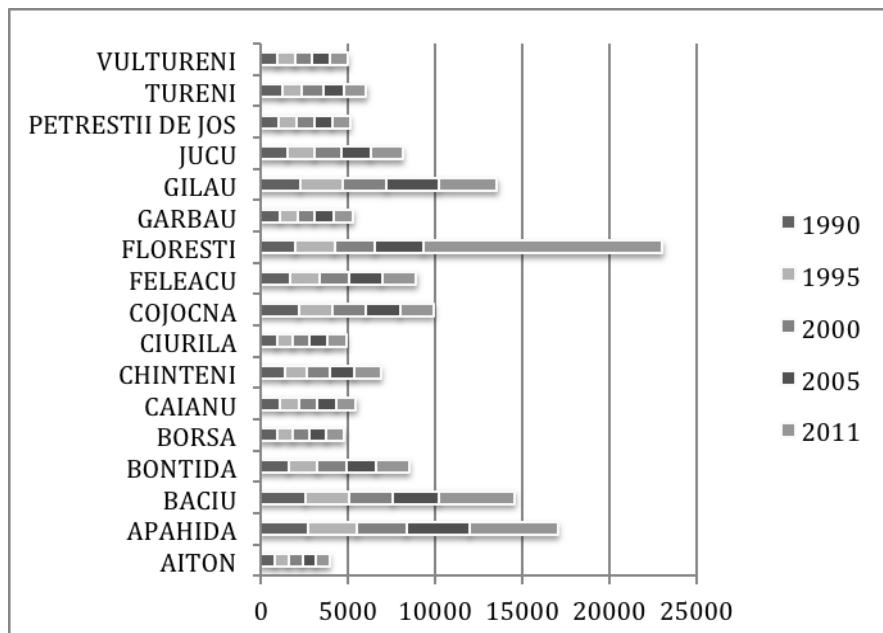


Fig. 3. Evolution of the number of dwellings during the period 1990-2011, in CMA
Source: own processing after data from the Regional Statistics Department, Cluj, 2013

The sharp increase in the number of dwellings in some cases (e.g. Florești) had not only positive consequences (providing a more peaceful life for the people who had migrated

to the area, the economic development of the locality, social development by increasing the employment rate). The negative consequences are represented mainly by landscape degradation, the real estate developers' lack of experience resulting in chaotic buildings, whose purpose was to obtain a profit as high as possible at the expense of comfort and quality. The strong anthropization of the commune Florești created, according to studies conducted in this area (Gligor *et al*, 2012), certain "slope" imbalances and an intensive use of land.

Exerting the residential function and the transformation of rural localities in peri-urban areas is greatly influenced by the degree of infrastructure development. The access to utilities is an essential condition in the decision to build new dwellings. During 1990-2011, the total length of the drinking water distribution simple network increased in localities Apahida (from 32 km to 62.5 km) Baciú (from 28.4 km to 58.3 km), Cojocna (from 19.2 km to 35.7 km), Feleacu (from 6.9 km to 17.4 km), Florești (from 8.1 km to 59.1 km), Gilău (from 20.4 km to 30.2 km). Localities such as Chinteni or Tureni do not register any progress in this regard, the figures remaining modest (12 km for Chinteni and 8.3 km for Tureni). Regarding the total simple length of sewer pipes, there are statistical data for only 7 of the 17 localities studied. In this way, the length of sewer pipes increased during the analyzed period as follows: in Apahida from 3.2 km to 16.7 km, in Baciú from 5.6 km to 9 km, in Florești from 9.7 km to 39.4 km and in Gilău from 9.6 km to 38 km. The total length of the gas distribution pipelines is extremely modest, significant increases being recorded in localities Apahida (from 27.6 km in 1995 to 76.6 km in 2011) and Florești (from 19.1 km in 1995 to 63.3 km in 2011) (Regional Statistics Department of Cluj, 2013).

The effects of transforming the rural localities studied into residential areas are expressed also in the increase of the number of SMEs. This indicator shows the degree of development of the entrepreneurial spirit, the availability of capital and the way in which the creation of new businesses is encouraged by public policies. The largest number of SMEs is registered in Florești, Gilău, Baciú and Apahida, the priority sectors in which they have developed being the industry, construction industry and services. According to data provided by Florești Town Hall, on its radius, a total of 639 companies are registered, out of which 400 are active (Florești Commune, Economics and Trade, 2013). In the tourism sector, the largest increases in the number of accommodation units are recorded in the commune of Gilău, due to the attractiveness of the area and its strategic position on the road linking the cities of Cluj Napoca and Oradea. The modernization of Băile Cojocna through PHARE funds increased the tourist attraction in the area, the future modernization projects including also the refurbishment of the existing accommodation rooms that are currently in disrepair.

CONCLUSION

The analysis of the rural area residential function has been the subject of limited research so far in Romania. Except for the capital Bucharest, the other metropolitan areas around large cities have not been studied in terms of the economic and social effects of exerting the residential function. From this point of view, the analysis undertaken in Cluj Metropolitan Area represents an element of novelty.

The results of the research show a positive dynamic of the population in certain localities (Apahida, Baciú, Florești), also characterized by an increase in the number of dwellings and the development of SMEs, especially in the services and construction sectors. The rest of the localities included in the sample register a decrease in the population, the migration phenomenon from the city to the village being not so pronounced as compared to the rural exodus, or the low birth rate and the population aging. Exerting the residential

function in the rural area does not prevent certain localities such as Tureni to further exert their economic function, based mainly on agriculture. Localities such as Gilău and Cojocna develop by capitalizing the touristic potential (Tarnița lake, salted waters). Similar to other studies conducted in Europe regarding the rural-urban relationship (Interact, 2007), the results of the present research demonstrate that the influence of Cluj county on the rural areas located in close proximity is generally positive, being materialized in a diversification of economic activities and implicitly in a better labor force employment. The negative effects are related to landscape degradation due to the lack of a coherent strategy in the construction field.

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