

URBAN, ENVIRONMENTAL AND TOURISM STATE OF THE ROMANIAN CARPATHIAN SMALL TOWNS*

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***Abstract:** In Romania, after 1990, tourism is seen as a universal solution for the economic development of any region. In fact, some areas are appropriate to this. One of them is the Carpathian area, where a quarter of the Romanian small towns exist. These settlements are still trying to adapt to the market economy hence many of them, as former mono-industrial centers, have shrank their activities and try to subscribe in the new economic landscape. In the context of a great tourism potential given by the Carpathians resources and benefiting by urban development, few environmental changes analyzed through tourism potential indicator (Tp), urban development indicator (UDI), environmental change indicator (EChI), many of the mountainous small towns can successfully revive through tourism development. Their good economic, urban and environmental state influences the surroundings, rural area and their communities' wellbeing; hence their revival through tourism may increase the mountain economy.*

***Keywords:** small towns, Romanian Carpathians, tourism potential, urban development indicator, environmental change indicator.*

Introduction

Worldwide, problems facing small towns make subjects for research or administration. Small towns' issues are quite similar, because many of them declined their development due to aging population, economical changes, youth migration; others face problems of losing their architectural character because of ad-hoc modernization or abroad inputs, while globalization through the hypermarkets penetration suffocated local small commercial business. Thus, the USA Govern, through urban planning, tries to alleviate all these problems starting with preserving the quality of small urban characters or encouraging the businesses' revival. Many of small towns try to take examples from lesson learnt and recognize that local context matters a lot in economic development and what has worked in one place cannot be replicated with the same success in another (Morgan and Lambe, 2009). In Australia, Governmental attention is paid toward towns with less than 10,000 inhabitants, to enhance the appeals of

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communities and economic development through tourism as much as possible (<http://www.rdv.vic.gov.au>). A successful example is Israel, where the small towns' experience is different, due to the government's direct investments into their economy and the policy of their development in sparsely area in order to sustain them (Portnov, 2004).

In Europe, small towns have an important role in the territorial cohesion' matter as well as for sustainable development of their own and rural areas. In Eastern Europe, issues regarding small towns constitute a core for research and policy makers. Many similarities were found between Poland, the Czech Republic, Hungary and Romania. Thus, small towns fall under the attractiveness of large sized settlements which are seen as the best places to work and live (Ježek, 2011), hence the need of making or taking decisions of their development. In Hungary, a large part of small towns have turned into tourism businesses being either mono-functional "spa towns" or with complex functions, in which tourism plays a synergic role (Csapó *et al.*, 2011). Tourism is also an important core for Slovenia, Austria's territorial development. In this European background, Romania's small towns have found in tourism a support for their development.

In fact, the urban system in Romania contains 214 settlements which are classified in tier 3 and rarely in tier 2 cities; almost ¼ of them are located in the Carpathians and make the subject of the present paper. The reasons for choosing them as a study subject are numerous, such as: problems facing their growth because of being mono-functional settlements communist effect; the new style of polarizing the economic power in large cities, and consequently some of them seem to be marginalized or fallen into decline; their role in the settlements network as a link between the urban and rural systems – quite essential elements in accomplishing a well-balanced territorial economy and social development; the necessity to match their development with the targets expressed by the European Charter of Planning (1983 – Torremolinos, Spain), Community Area Development Scheme, (1999), Guiding Principles for Sustainable Spatial Development of the European Continent (2000), Territorial Agenda, Leipzig (2007), etc. Moreover, the regulations for environment, tourism, and territorial development (The National Planning Assessment), The Mountain's Law 347/2004 (completed by EO no. 21/2008), and the European Charter for Mountains (CLRAE), 1994, Chamonix stipulate the direction of enhancing mountain space, through the public design of preserving natural qualities.

References upon Romanian Carpathian small towns and tourism function can be found in several theses about Romania as whole. Thus, Zamfir (2007) analyses the geo-demographic issues and the role of small towns in the Romanian urban landscape, while Dumitrescu (2008) insists upon their mono-industrial specialization. Other works focus on the regional patterns analysis either in the Western Plain (Voiculescu, 2004), Vallachian Plain (Tudose, 2007), or alongside the Danube Valley (Várdol, 2009). After 1990, the international literature referred to Romanian Carpathians tourism started research in rural tourism (Turnock, 1999),

or the development strategies (Borsa, Chifelea, Egerer *et al.* 2008). Many debates were carried in papers regarding small towns' classification, their position in the urban hierarchy, what is their future and what steps should lead to their development on long term. While Zamfir *et al.* (2009) find their place being as a link between rural and urban settlements, wearing “characteristics of demographic behaviours, economic functions, settlement patterns, living quality” as a “hybrid” form, Brabazon (2012) views this as an advantage which can help resistance of the small towns in front of globalization and that “non-globalized differences are the basis for tourism”. Urban areas, which look for raising the communities' living standards and all the items subsequently derived from, have the same landscape and difficulties of managing. Smaller towns are apparently easier to administrate, but they are subject to the competition with large cities that attract people, businesses and resources, so they are continuously changing, trying to create equilibrium inside the system. They are “in imbalance all the time, a phenomenon observed in the velocity of changes and cities volatility” (Nemeş *et al.*, 2012).

For the Carpathian small towns, realities on the ground identified in the last 20 years show a specific economic decadence of the mountain areas as a result of industrial restructuring and brutal penetration of the market economy system to the most vulnerable beneficiaries, services keepers of the mountains, an upward trend of two controversial economic activities with a large character of externalities: forest exploitation and mass tourism. The Romanian small towns in the Carpathian area enjoy the benefits brought by local resources, so most of them have kept or have turned to tourism development, seen through the tourists' arrivals, 23% from all country.

Otherwise, the Carpathian small towns include three categories: resorts, former mono-industrial towns which have suffered a shrinking process of their economic activity, and recent small towns with a legacy of rural statute. Almost all of them knew an explosion of tourists' accommodation infrastructure, leisure facilities or vacation houses spreading, hence the question of whether the tourism could be perceived as a panacea for their economic development persists.

Starting from the overview above and the input given by the Super Ski Program – the recent brand “Explore the Carpathian Garden” launched by the Romanian Ministry of Regional Development, the study tries to identify what is the urban development stage of the Romanian Carpathians small towns, the state of their ecological transformation and the inputs provided by the tourism orientation.

Data and Methods

Data processed came from National Institute of Statistics (NIS) (2006-2008), Ministry of Regional Development and Tourism (MDRT) and field observations.

The study is based on: numerical models using GIS techniques for tourism issues – Analysis Tools and Spatial Analyst Tools of ArcGIS (Magablih & Al-Shorman, 2004), and the statistical computing of the urban development index (UDI) using Hull score (Ianoş, 1997) for 61 case points and the environmental change indicator (EChI – Manea, 2003).

UDI (1) shows the level of urban development and has been determined by the Hull score, which includes 12 primary indicators related to the urban components: intra-urban population's density (I1), inhabited surface (I2), employment (I3), medical services (doctors and pharmacies) (I4, I5), water supply (I6), sewage system (I7), green space per inhabitants (I8), educational institutions (I9), cultural opportunities (libraries) (I10), information (personal computers) (I11), length of modern streets (I12), (Ianoş, 1997). All indicators were weighted using the Sdv. function in Microsoft Excel.

$$UDI = 50 + 14 \left(\frac{\sum I_+ - \sum I_-}{n} \right) \quad (1),$$

where: UDI is the urban development indicator; $\sum I_+$ represents sum of the primary indicators with direct action; $\sum I_-$ is the sum of the primary indicators having inverse action and “n” is the number of primary indicators.

The environmental change index (EChI) – (2) was obtained by adapting Malgorzata Pietrzak's formula (1998) by Manea (2003), then Licurici (2010).

$$EChI = \left(\frac{\sum n}{\sum a} \right) \quad (2),$$

where: EChI is the environmental transformation indicator; “n” includes areas (ha) with no human transformation: forest; pasture; water surface, meadows; “a” represents human transformed areas: orchards, vineyards, arable land, inhabited surface, roads.

The tourism potential of Carpathian small towns was extracted from PATN (Ministry of Regional Development and Tourism) and digitized in ArcGIS, 10.1© either non-resorts or resorts.

EChI and UDI maps were created using ArcGIS 10.1© (ESRI, Redlands, CA, USA) and Global Mapper v9.01 applications; we also used SRTM data for creating the DEM of the Carpathians (USGS, Maryland, USA).

Results and Discussions

The intra-urban population's density in small towns expresses the resemblance with rural area as almost 50% of them have less than 100 inhabitants for 1 km². Only 30% of towns exceed 200 inhabitants per square kilometre and 3% over 1000. But, concerning the average houses' surface, small towns have similarities with big urban centers, with a value of 16m²/inhabitant. The quality of house standards varies between over 20 m² per inhabitant in Prahova Valley towns (Predeal 33, Busteni 26) and 12 m² in the former industrial towns: Cavnic, Ștei, Comănești etc.

The urban endowment represented by water infrastructure (fresh water and sewage) are developed in all towns due to the former pipes network, and the input gave by massive funds invested in after 2000. Even so, there is a difference between the length of fresh water pipes and those for sewage. This signifies possible environmental problems of domestic pollution for recent new small towns (Săliște de Sus, Vicovul de Sus, Tăuții Măgheruș) and also for almost all towns, except those with the longest water network: Băile Tușnad, Ștei, Bălan, Băile Govora, Sinaia, Gura Humorului. In fact, the best equilibrium between the two services is to be found in tourism resorts and industrial towns, where the concentration of the population in blocks of flats was accompanied by urban facilities setting up.

The water consumption is far from the advanced countries' standards because 65% of small towns' population used less than 100 l/day. Many recent towns take the water from private springs, which could explain the low values of water consumption. The highest quantities are specific for resorts and spas (Băile Tușnad, Sinaia, Predeal, Băile Herculane, Predeal, Azuga).

The quality of urban development is also related to the modernization of roads, heating systems and green spaces extent. The Romanian administration politics divide the streets into those which enter under the Government or counties' regulation and those belonging to the mayoralty. Several small towns have modern streets on the secondary roads while the main roads which cross the settlements are poorer as quality. The share of modern streets varies. Almost 40% of the Carpathian small towns have modernized less than 50% from total their road network, and 60% have almost or 100%. Heating system is a problem, because 40% of the small mountain towns, including several resorts (Băile Herculane), have not a natural gas pipes network, thus they use oil, coal, firewood or electricity. The green urban areas are under the European standard (25m²/inhabitant) in 2/3 towns. Despite this lack of green space many towns benefit by natural vegetation of the surroundings, thus they do not face with air pollution. But, taking into account their role in increasing the relaxing or aesthetics value, people feel the lack of green spaces.

The socio-cultural offers show that the drugstores and pharmacists are insufficient for urban demands. Before 2011, the healthcare services were well represented. One third from all the towns has 500 inhabitants per doctor and no town registered high values as the rural areas had. Ten percent of the small towns have a maximum value, almost 3000 inhabitants/doctor. After the Government decided to close the local hospitals, the number of doctors has drastically decreased; many of them migrated to big cities or abroad. Under these circumstances, small towns face scarcity of healthcare service, despite the fact that doctors from large cities have opened local offices, where they serve the local communities one day a week. As for the cultural services, Carpathian small towns have a good libraries density. The access to information, expressed by the number of computers per capita, is continuously improving, due to large distribution of internet providers. Our field observations revealed a global desire for improving the cultural offers seen in theatres, events and other activities.

Economic state included in UDI's calculation refers to the employed population, seen to be the engine of support local communities. In this respect, the small mountain towns suffer due to closing enterprises, searching of entering in the market economy games, thus 75% from them have an employment rate below 30%. An optimistic situation is registered only in Ghimbav, where the industry is still maintained, followed by Predeal, Sinaia, Borsec as notorious resorts, and Câmpeni and Ștei as former industrial centers. The unemployment rate manifests higher values in all the towns, which signifies that the economic power is decreasing or even collapsing in some towns. So, there is a strong need for businesses development, including tourism.

The urban development indicator, measured by Hull score, of the small towns in the mountain region subscribes to the Romania's small towns patterns (Matei et al., 2011): a poor development (18 %) specific for the recent urban centers with agricultural profile and former industrial centers; an average development for 13%; a fair development in 51% of cases and a good urban development for only 18% (Sinaia and Predeal tourist resorts; Brezoi, Zărnești, Râșnov, and Ghimbav economically active towns). The dynamic of UDI since 2006, 2008, 2010 shows a convergence process and hence the power of polarization for the last group and a divergence in all the others, which can be correlated with the departure of doctors, the decreasing of population, the high unemployment rates despite the efforts of local authorities to increase the urban facilities (*Fig.1*).

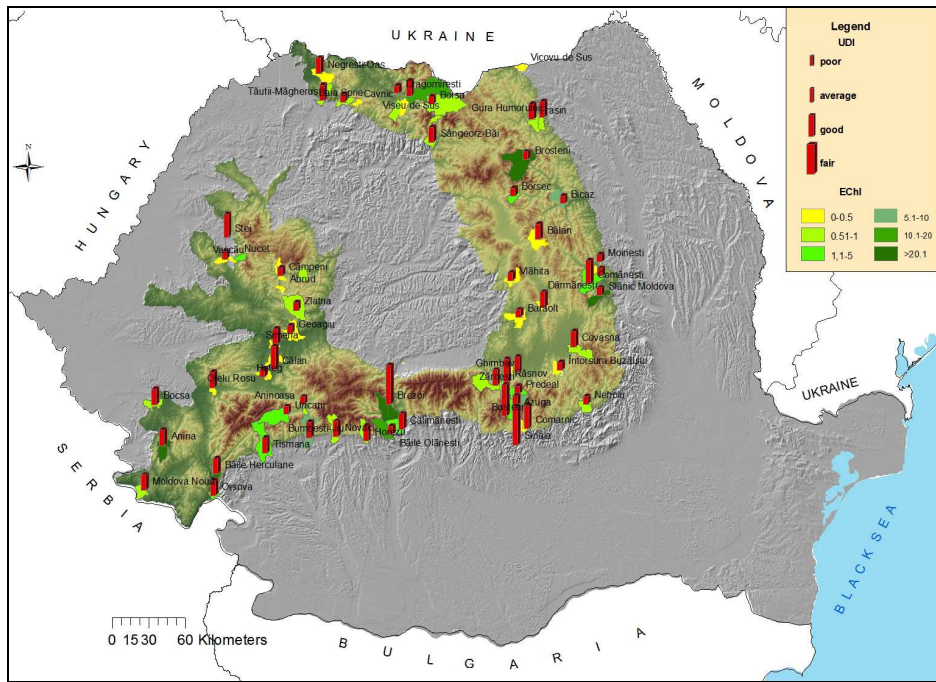


Fig. 1. Carpathian Romanian small towns. The urban development and environmental changes indicators

This dynamic also correlates with the increasing of human pressure, expressed by EChI (Environmental change indicator), which, in the same period, registered significant loss due to the demand for build up area, deforestation for different purposes – ski slopes, business etc. (Fig. 1).

The environmental change indicator has a pattern with massive human interventions in almost 60% of cases while 5% have excellent natural offers (Brezoi, Băile Herculane, Anina). In this sense, there is a stringent need to enlarge the forest and green space in almost all towns.

The development's potential for tourism (Tp) extracted from the PATN evaluation systems reveal medium and high values for all small towns, except several former mining towns (Fig. 2). On top of the development tourism potential are tourism resorts and some peripheral towns nearby the national parks, their position playing a pivotal role (Vaishar, 2004).

The configuration of the towns' responses for tourism indicates that while 11 from a total of 17 tourist resorts have a wide diversity of accommodation types, a big density of tourist units and consistent tourists' flows, 30% of non-resorts towns have the same trend for tourism (Ghimbav, Râșnov, Zărnești, Bumbești-Jiu,

Simeria, Hațeg, Aninoasa, Frasin, Stei, Comănești, Bocșa, Oțelul Roșu, Orșova, Bicăz, Anina, Tăuții Măgherauș, Negrești-Oaș, Nucet) and 6 resorts have decreased or stagnated in tourism infrastructures. Through the interrogation of the tourism businesses' database (2009-2011), it was observed that the towns with tourism function attract many entrepreneurs followed by several emergent non-resorts towns which have increased the accommodation business as a response to market's demand (Râșnov, Zărnești). Thus, it can be concluded that tourism is still a main force for all the small towns – resorts of national or local interest, and half of the towns trend to orientate their economy on tourism, based on the local policy makers or tourist stakeholders' options. The correlation among the three above indicators (UDI, EChI and Tp) demonstrates that tourism potential has the power in urban development for resorts, spas and towns situated inside or nearby the national parks or as satellites of the tourism axes.

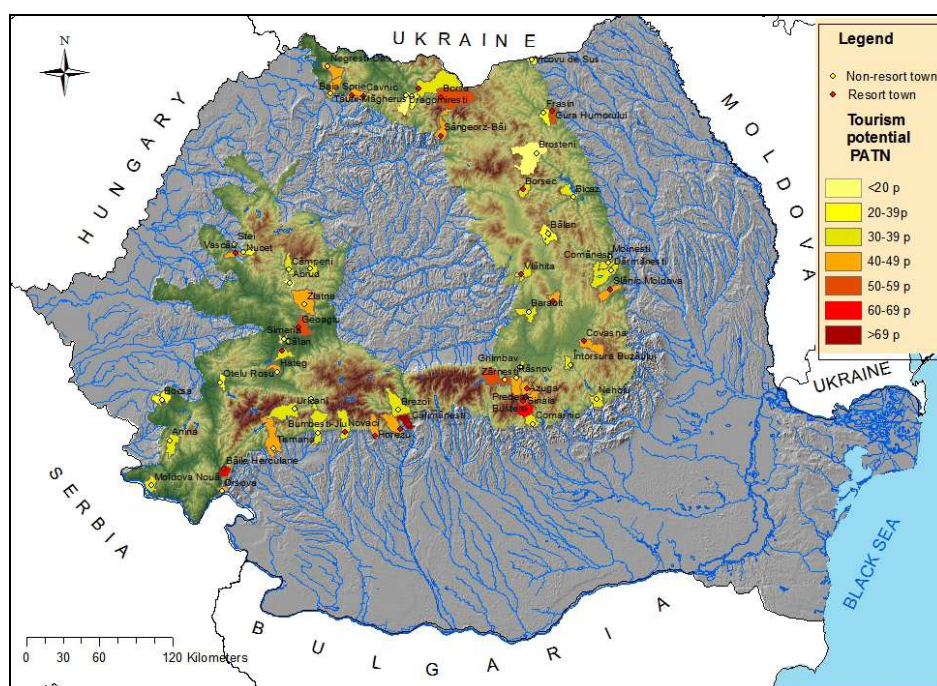


Fig. 2. The tourism potential of the Carpathian small towns. Modelled after PATN's data

Conclusions

Carpathian small towns have registered unequal urban development. Much attention is paid for the environment and urban development in the small

towns with tourist function. Several towns with economic activities such as Ghimbav, Ștei, Zărnești, and Brezoi have enough power to develop urban facilities that attract good social, cultural services and tourism. The tourism faces with four controversial situations: some resorts stagnated tourism infrastructure development; others attract business and develop at maximum their functions (Sinaia, Predeal, Bușteni), some non-resorts towns have developed tourism business using their local advantages, neighboring protected areas, building ski slopes etc. Another part has an ad-hock development towards tourism, which cannot ensure their development on long term. In this sense, local authorities must inverse the route of development from planning to action not vice versa.

* Acknowledgement

The paper is based on data obtained by the CNCSIS project, no. 292/2007-PNII Ideas.

REFERENCES

- Borsa, M., C. Chifelea, H. Egerer, Z. Gal, W. Glovacki, M. Halas, Veronica Hopfgarted, Iván Illés, Z. Niewiadomski, P. Ptacek, D. Wiederwald, 2008, *Visions and Strategies in the Carpathian Area*, Drukerei Janetschek GmbH, Austria, pp. 137-148.
- Brabazon, T., 2012, "Wasted? Managing Decline and Marketing Difference in Third Tier Cities", *Journal of Urban and Regional Analysis*, vol. 4, 1, pp. 5-33.
- Csapó, János, Antal Aubert, Gergely Marton, 2011, "The Role of Health Tourism in the Hungarian Small and Medium Sized Towns", pp. 29, in Ježek, Jiří, Lukáš Kaňka (eds.), 2011, *Competitiveness and Sustainable Development of the Small Towns and Rural Region in Europe*, Pilsen, University of West Bohemia Publishing House.
- Dumitrescu, B., 2008, *Orașele monoindustriale din România. Între industrializare forțată și declin economic*, Editura Universitară, Bucharest.
- Ianoș, I., 1997, "Individualizarea și analiza disparităților intraregionale. Aplicație la județul Alba", *Comunicări de Geografie*, vol. I., Bucharest University Publishing House, pp. 105.
- Ježek, Jiří, 2011, "Small Towns Attractiveness for Living, Working and Doing Business. Case Study the Czech Republic", in Ježek, Jiří, Lukáš Kaňka (eds.), 2011, *Competitiveness and Sustainable Development of the Small Towns and Rural Region in Europe*, Pilsen, University of West Bohemia Publishing House, pp. 7-31.
- Licurici, M., 2010, "Assessment of The Human Impact on The Landscape of The Danube Floodplain, in Drobeta-Turnu Severin – Bechet Sector", *Forum Geographic*, vol. 15, p 329.
- Magablih, Al.-S., 2004, "Management and Development of Tourist Sites in Jordan Using Geographic Information System", *Information Technology & Tourism*, vol. 6, pp. 287-295.
- Manea, Gabriela, 2003, *Naturalitate și antropizare în Parcul Natural "Porțile de Fier"*, Bucharest University Publishing House, pp.153-154.

- Matei, E., L. Dumitrache, Mariana Nae, Iuliana Vijulie, Anda Onețiu, 2011, "Evaluation of Urban Sustainable Development of The Small Towns in Romania", *SGEM*, ISI-Web of Knowledge, vol. III, pp. 1067.
- Morgan, J. Q., W. Lambe, 2009, "Find a Way or Make One. Lessons Learned from Case Studies of Small Town Development", *Economic Development Journal*, vol. 8, no 3, pp. 5-13.
- Nemeș, V., R. Petrea, M. Filimon, 2012, "Spatial Entropy. A Small Town Perspective. Case Study: The Town of Marghita", *Journal of Urban and Regional Analysis*, vol. 4, issue 3, pp. 189-198.
- Pietrzak, M., 1998, "Development of Settlement and Farming from the Neolithic Period to Date in the Marginal Zone of the Carpathian Foothills between the Raba and Uszwica Rivers", abstract of the presentation held on the *Carpathian-Balkan Conference on Geomorphology*, Băile Herculane.
- Portnov, A. B., 2004, "Long-Term Growth of Small Towns in Israel. Does Location Matter?", *The Annals of Regional Studies*, vol. 38, issue 4, pp. 627-653.
- Tudose, Iuliana, 2007, "Orașele mici din Câmpia Română. Structuri și funcționalități urbane", *Scholar Book*, Faculty of Geography Library, Bucharest.
- Turnock, D., 1999, "Sustainable Rural Tourism in the Romanian Carpathians", *The Geographical Journal*, vol. 164, issue 2, pp. 192-199.
- Vaishar, A., 2004, "Small Towns: an Important Part of the Moravian Settlement System", *Dela 21*, pp. 309-317.
- Vârdol, C. D., 2009, *Dinamica social-economică a orașelor mici din Valea Dunării românești*, at [http://www.unibuc.ro/studies/Doctorate2009Noiembrie/Virdol Daniel](http://www.unibuc.ro/studies/Doctorate2009Noiembrie/Virdol%20Daniel).
- Voiculescu, S., 2004, *Orașele din Câmpia de Vest. Structuri și funcționalități urbane*, Editura Universității de Vest din Timișoara, pp.100-103.
- Zamfir, D., C. Tălângă, I. V. Stoica, 2009, "Romanian Small Towns Searching for Their Identity", *Journal of Urban and Regional Analysis*, vol. I, issue 1, pp. 41-53.
- Zamfir, D., 2007, *Geodemografia orașelor mici din România*, Editura Universitară, Bucharest, pp. 68-71.
- <http://www.mdrt.ro/studii-de-fundamentare-privind-patn-sectiunea-a-vi-a-zone-cu-resurse-turistice> accessed on March 20th, 2012.