

ELEMENTS OF THE NATURAL FRAMEWORK AND THE SMALL TOWN REVITALIZATION PROCESS. VAȘCĂU (BIHOR COUNTY)

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Abstract : A locality whose development was closely linked to iron resources and the activities related to their exploitation, the town of Vașcău falls into the category of mono-industrial small towns, economically fragile, whose evolution was marked by a progressive decline, started with the cessation of exploitation of the main resources. Although it was already on a downward spiral in 1956, under the terms of forced urbanization and industrialization during the communist period, this locality was stated town, but without having a sufficiently diversified economical profile to support the development, a context which led to an increased economic decline of the town in the post-communist period, the same thing happening with several other small towns with similar typology. Currently the town of Vașcău has a socio-economic situation without clear prospects for recovery, facing increasingly poor quality of urban life and youth emigration. Its general condition requires a reassessment of the role that the natural potential may have in the development process, so that, by identifying the elements favourable to the natural framework, there should be set out local development policies and a development strategy, to ensure a better capitalization of the existing potential - vital steps in launching a process of socio-economic revitalization and recomposition of the town's role in the adjacent territory.

Key words: small towns, natural framework, urban revitalization, local development

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INTRODUCTION

The town of Vașcău is part of the monoindustrial small towns' category, appeared in the communist period, as a result of forced industrialization. Up to the 60s - 70s, the town thanks to its functions and services (bread factory, marble factory, oil depot, food and nonfood products storehouse, the courthouse, the highschool) had represented a secondary nucleus of Beiuș Land, whereas after the 90s, it was unable to adapt to the market economy, at present being on the verge of losing its urban status. Under these circumstances, the present paper seeks to identify the main elements of the natural framework that could support the revitalisation process of the town, the aim being to find an expression for the optimal and sustainable usage of the local potential (Filimon et al., 2010), so that, based on the theoretical concepts of endogenous development, the urban revitalization process should be generated. This approach is justified by the fact that the studied town has a varied natural framework potential, due to its large administrative area,

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overlapping a complex area (mountain, hill, corridor), all this because in the Administrative Territorial Unit (ATU) Vașcău structure also enter the villages: Câmp, Colești, Câmp - Moți, Vărzari de Sus and Vărzari de Jos, located at relative far distances from the the town itself.

RESEARCH METHODOLOGY

The aim of the present study is to identify the favorability of the natural framework, as basic foundation in the launch of the process of urban revitalization and to highlight the role that the natural framework has in the evolution of Vașcău town, mainly after 1989, given that small towns are in a process of recomposition of their place and role in the territorial construction.

The study is based primarily on the assessment of the position potential and the analysis of the natural framework, in order to answer the question: *What prospects of development has the town of Vașcău in the current context?*, regarding the need to identify the natural framework elements that could support an effective strategy to revitalize the town.

In order to complete this material, there were used the principles and working methods specific to geography, as science, different types of maps were also used (topographic, hydrological, orthophotoplans, geomorphological processes and land use outline), bibliographic material and field observations, the main purpose being to highlight the importance that the natural framework elements have in the evolution of Vașcău. As background maps there were used the topographic maps section at 1:25 000 scale, orthophoto, the Land Use Plan of Vașcău (PUG, 2001), map sketches were also made, using GIS technology, which includes only those phenomena relevant in local development processes.

THE LOCATION POTENTIAL OF THE VAȘCĂU

The town of Vașcău is located in the upper valley of Crișul Negru river, South of Bihor County and Beius Land, along the european road E79, at a distance of about 86 km from Oradea, ATU is bordered to the West and Est by Codru Moma Mountains respectively Bihor Mountains.

The geographical location of Vașcău is decisive for the location potential and has an impact on the town development through three components: location within the relief units, access to existing resources and distance from major communication routes (Filimon et al., 2011).

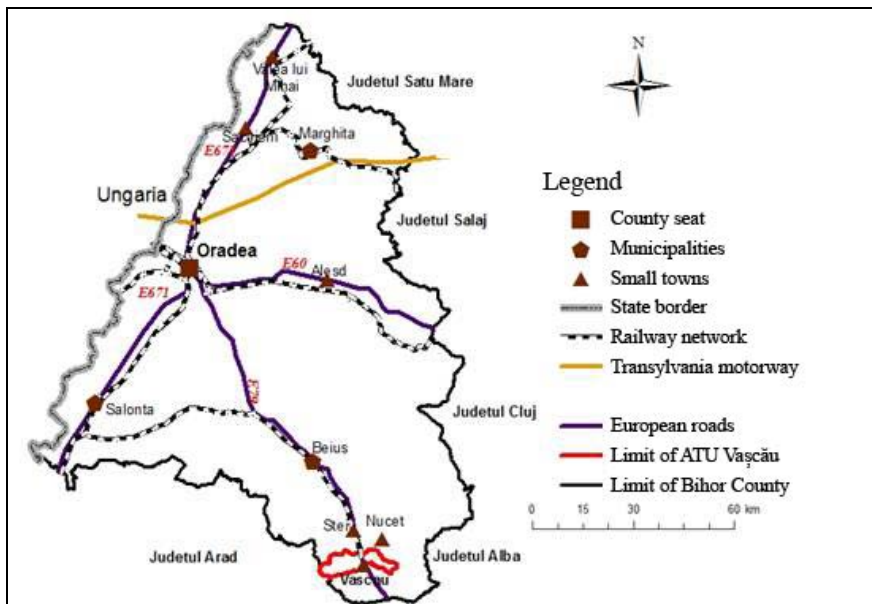


Figure 1. Location of Vașcău in Bihor County

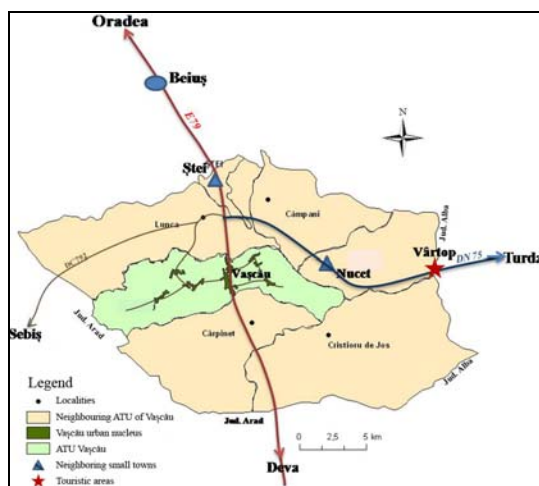


Figure 2. Framing the town in the southern part Bihor County

The location of the town in the Crișul Negru Corridor, at the contact zone between Western Hills and Apuseni Mountains, triggers the presence of a *diversified relief*, a favorable basis for various activities, the existence of the *local resources* (subsoil resources, forest resources, water resources, touristic resources) also *a high degree of accessibility to raw materials*, which are the main advantages of ATU Vașcău.

The main road (E79) depends on the morphological component, the transport infrastructure within the analyzed area has a convergent character, as well as the entire territory of Beiuș Land, where natural features have conditioned the development of a system of communication paths whose main axis is the E79, which is off to the left and right of the county and communal roads (figure 2). Under these circumstances, the town itself is well served in terms of road access, but the situation is different for localities belonging to Vașcău ATU, in their case the contact with the town is made through communal and county roads. Noteworthy is the lack of direct routes between localities Vârzarii de Sus and Vârzarii de Jos, also between Vașcău and Nucet, or between Vașcău and the localities in Arad County, which leads to a reduction of the accessibility.

Rail access is provided through rail no. 316 on the route Oradea - Salonta - Holod - Vașcău.

Under these circumstances one can say that the town of Vașcău has a modest position potential, in terms of its location in the southern extremity of Bihor county, at long distance from Oradea, with one major way of access by road (E79) and a terminus for rail transport (figure 1).

The proximity to the neighboring towns, Ștei, Nucet and Beiuș, places the town of Vașcău in their shadow. By analyzing the position potential in terms of the three elements mentioned above, one can notice that the town position within the relief units is a beneficial one for development through the variety of *local resources*, determined precisely by *the variety of relief*, at the same time *the access to raw materials* that can be exploited in the area is an easy one, the main disadvantage of the location is given by the poor service of the major transport routes in the area.

ELEMENTS OF THE NATURAL FRAMEWORK SIGNIFICANT IN THE REVITALISATION PROCESS OF THE TOWN OF VAȘCĂU

The natural environment has been a favorable element to the growth of human communities, in Vașcău area, over time, the first archaeological evidence of habitation is certified since paleolithic, but the locality has developed only since the Middle Ages, based on iron resources, the oldest documentary reference was in 1552 (Ilea, 1987).

The Vașcău ATU territory overlaps the following *relief units*: mountain in the western extremity, the morphological contact between mountain and corridor is noticeable, in a hilly strip

of karstic relief, known as „*Vaşcău Karst*”, it has a width of 1 - 2 km and an altitude of 500 - 550 m and it represents approximately 40% of the ATU's total, corresponding to the Codru-Moma Mountains and Momei Hills. A large part of the administrative territory (approximately 30%) overlaps the Crișul Negru Corridor, the rest of the territory belonging in approximately equal proportions to the mountain and hilly relief (Berindei et al., 1977). This situation favours the natural resource complementarity, and the contact between the relief units gives the town (regarded as a territorial system) two essential features: coherence and synergy (Ianoș, 2000).

For a potential extension of the town, a special importance is given by the landforms located in the proximity of the villages' (urban areas') hearths. Like the other small towns, Vașcău is defined by a direct extrapolation relationship related to the geomorphological elements, the relief that the town developed upon shows little anthropic change, so that its process of evolution is to adapt to the circumstances imposed by the relief, than its transformation, the last one being the characteristic of large cities (Petrea, 1998).

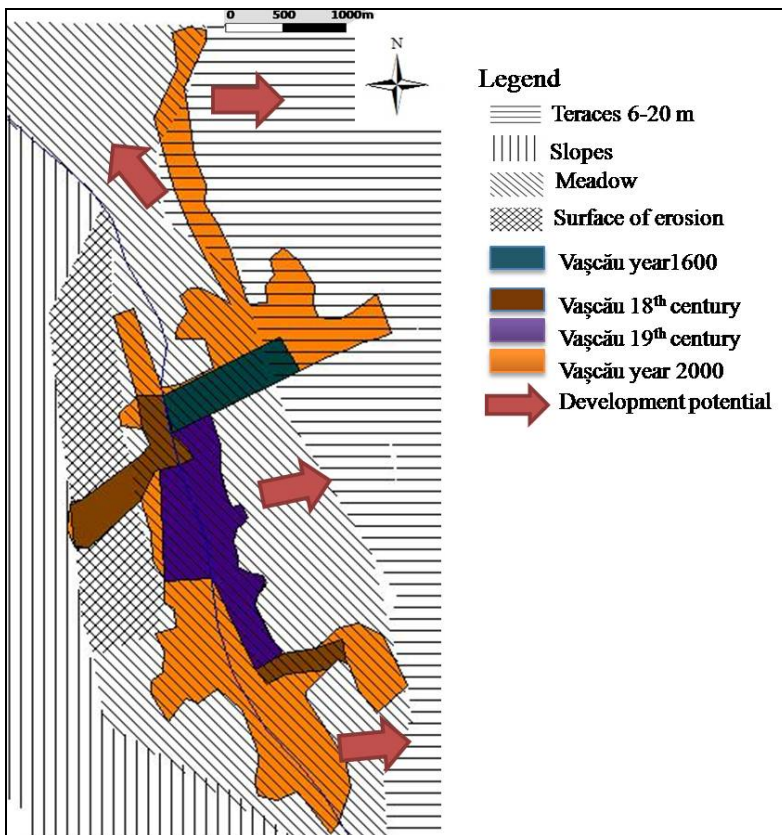


Figure 3. Vașcău. Stages of the territorial extension of the town's hearth itself (Source: processed after Petrea, 1998)

As seen in figure 3, the relief morphology had triggered the location where the settlement appeared and it had also influenced the way that the hearth of the town itself later developed. The original settlement (Krayova), around 1600 was linearly stretched, perpendicular to Crișul Negru river, partly on the lower terrace, to be protected from flooding (Petrea, 1998). Later it expanded over the Crișul Repede River, firstly to the west over the Boiu Valley (Boiu village, now part of the town's hearth itself), the maximum extension was reached in the 19th century with the development of dams and banks consolidation.

In the case of the actual hearth of the town, the relief's geodeclivity is favourable to the territorial expansion in the eastern part of Crişul Negru corridor, at the contact between the terraces and the Bihor piedmont hills. In this area the slope has values between 0° - 6° , an average relief energy of 40 m and a horizontal fragmentation average of 1.5 km / sqkm. While, in the western part of the analyzed area prevailing slope values higher than 6° - 20° , an average energy of the relief of 225 m and horizontal fragmentation values up to 3.5 km / sqkm, which imposes some restrictions for a subsequent territorial expansion (Petrea et al., 2012).

Very important are the correlations that can be done between altitude, slope and slope exposure and the placement of the village hearths, which can help to delimit the geomorphological potential risks from the built perimeters. The studied area does not present significant restriction in terms of geomorphologic risks, they are present mainly in karst area, without being a threat to the built surfaces. The economical development of the communist period was also characterized by territorial expansion manifested southward mainly (because of the limitation imposed to the west by the karstic relief) leading to an excessive elongation of the town's hearth, although the eastern part had the potential to expand without requiring special works.

By analyzing the current situation of Vaşcău town, one can notice that it has limited geomorphological potential to develop, but at the same time enough for its current and immediate needs, considering that a substantial prospective growth is unlikely, being a locality which had acquired the urban status more or less justified, during the communist regime.

The complexity of the landforms that are found in the studied area triggers a wide variety of *local resources*. Therefore the karst area in western ATU has mainly subsoil resources, forest resources and a high touristic potential, while the eastern part of the ATU has agricultural lands, subsoil and forest resources (corresponding to the Bihor Mountains extremity).

Viewed in terms of geology, Vaşcău area is located at the petrography contact between Neogene sedimentary and Triassic massive limestone with Mesozoic magmatic (Petrea, 1998, p. 51), the area has rich *subsoil resources*, represented by metallic minerals, iron ore and manganese, aluminum ore, coal, black limestone, red colored limestone, limestone, kaolin clay, quartz schists. In the western part with the corresponding triassic sublayer, prevail limestones of different types, while in the eastern part with the corresponding quaternary, prevalent are the reserves of clay and sand, in both cases the amount of resources is significant and is suitable for long term exploitation. According to the Marble Factory, the resource quality (for both limestone and clay) is a superior one.

The overall *climate conditions*, correlated with other natural factors have imposed settlement arrangement in depression, bypassing the mountain area, this being the main climate conditioning. Otherwise, the climate component does not act restrictively, it only causes a shading of human activities, especially of agriculture.

The climate represents an element of favorability of the area, contributing to the increasing attractiveness of Beiuş Land (Filimon, 2007). Vaşcău ATU fits in the hill and plateau floor, with an average annual temperature of 9.8° C (weather station Stei) and with average values of annual rainfall of 700 - 800 mm, the climate being favorable to the development of deciduous forests.

The climate values corresponding to Vaşcău area, certify both summer and winter months as favorable to tourist activities practice, the climate conditions are also favorable to the production of green energy, especially by using photovoltaic panels, but their efficiency and effectiveness is profitable only during the warm seasons.

The various morphology of the area is reflected in the density of *hydrographic network* and the number of springs, there are differences between the eastern and western part of the studied area, as follows: in the eastern part of the ATU, the specific average flow is between 5 and 40 l/s/sqkm, due to the poorly developed erosion depressions small basins are formed, also there are large karstified areas (Vaşcău Plateau), whereas in the western side of the area the aquifers fall under pressure, because of the neogene sedimentary inclination to this declivity. The karstic hydrostructure (in the Vaşcău Karst) drained mostly by the Crişul Negru's tributaries and resurgence from Vaşcău are the basic elements of the hydrological network. Other types of

hydrostructures found in the analysed area are the deep karst hydrostructure (with the aquifer under pressure, with artesian manifestation), the alluvial hydrostructures supplied from the surface network (high flow rates) and the alluvial hydrostructures of terraces (supplied predominantly from precipitation). At the contact between the terraces spring lines may appear, lower levels sometimes contain water under pressure (Pascu, 1983).

The main watercourse is Crișul Negru, with its tributaries Boiu and Crișul Nou, alongside to which the hearth of the town developed. Lakes are well represented in the town's administrative territory, being found at: Câmp (Barna Tarn, Iezer Tarn), Câmp-Moți (Ponor Lake), tarn from the center of Colești village and Țapului Tarn from Vașcău, they represent an important potential for the development of fisheries and tourism (figure 4) (Țucra, 2000, p. 38).

Springs are also a source of drinking water, that could be valued. So water resources can be valued from the triple perspective: the drinking water, fishery potential and tourist potential, this may represent one of the axes for the economical revitalization of the area.

The bio-geographical component is varied and is represented by: meadows and wooded areas that provide a rich game hunting stock area. Across all the existing floors of vegetation in the area is found a variety of medicinal plants as well as various types of forest fruits, that could represent the raw material for the development of small production companies corresponding to food and pharmaceutical industry. Forested areas, predominantly with deciduous, own 33% of the ATU total area and are found mainly in the western part of the territory, they have multiple capitalisation options such as: wood, different species of plants and fruits, as well as by exploiting their landscape potential.

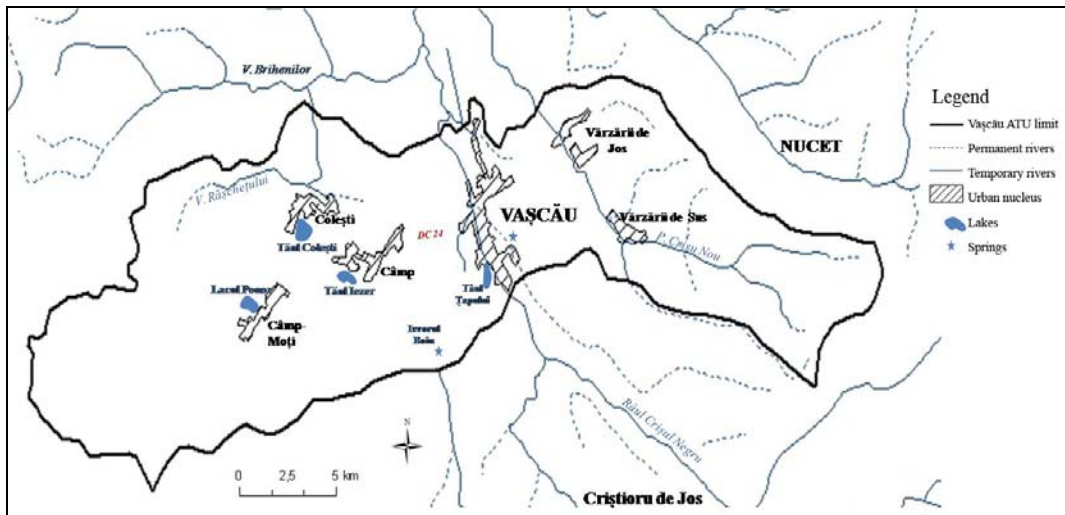


Figure 4. Vașcău. Hydrographic network

The prevalent *soils* are the luvisols and aluvisols corresponding to the Crișul Negru Corridor, while the cambisols correspond to the Vașcău Karst Plateau (Petrea, 2001), they have a low to medium fertility level, representing a limiting factor for the development of intensive agriculture, but instead organic farming can be developed, especially in the Crișul Negru Corridor.

In the case of Vașcău, just like other small towns, the concept of town has been incorrectly applied, adding to the town itself some rural areas situated at large distances from it (for example: Colești - 8 km), this leading to a distortion of the reality (Ianoș, 2004). Thus, the hearth of the town itself has 99 ha of a total of 6504 ha of Vașcău ATU, the ratio between the hearth area and the administrative territory is significant, and thereby the predominant rural character of Vașcău town (PUG, 1997).

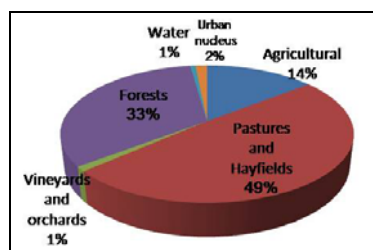


Figure 5. Vașcău. Land use structure

The high degree of ruralization is also highlighted by the structure of *land use* (figure 5), thus natural pastures and hayfields are dominant, occupying about 50% of the total administrative area, they extend in approximately equal proportions both to the east and west in the ATU, followed by forests (33%) and agricultural fields holding only 14% and are located mostly in the eastern area, while the built surfaces have only 2% of the total area of the ATU.

The tourist potential of the natural environment is also important and very diverse on both sides of Crișul Negru River, the relief units' diversity gives the variety of landscapes. According to the National Environmental Protection Agency in the studied area and its neighborhood are several protected areas, belonging to several types of classes: *community interest protected areas*, corresponding to areals *Natura 2000* (Vașcău Plateau Site, representing 14% of the ATU's total), overlapping and simultaneously corresponding the *protected areas of national interest*, existing in the same area: *Câmpeneasa Sinkhole and Boiu Spring* (ANPM, 2012).

The karstic relief in the western part of the administrative territory favored the presence of many landscape elements of touristic interest (Sforas Spring and Câmpeneasca Sinkhole), as well as some springs, the most representative is Boiu Spring (speo-karstic reservation) with a strong flow of water which never freezes (water temperature is constant all year round). Using this spring waters, in 1937 is founded the town of Vașcău trout hatchery (Țucra, 2000).

Particular items of local hydrography could be capitalized by creating a tourist circuit (such as bicycle and pedestrian lanes), which includes them. The low fertility of the land led to the development of specialized crafts in localities, depending on resources: Vașcău is famous especially for iron and marble processing, and also for the manufacture and capitalization of the chalk (chalk processing in Câmp-Moți, in the Vașcău Karst Plateau), pottery, skin coat manufacturing, shoemaking, wood carving, masonry and carpentry, milling (Țucra, 2000).

Even if many of these activities have now disappeared, they can be still a resource, a support for practicing rural tourism. Besides those listed above, to the increased tourist attraction one might add: the mild climate and the variety of bio-geographical components, as a support for practicing spa and recreational tourism.

CONCLUSIONS

The location in Bihor County, gives the town of Vașcău a modest position potential, situation being even worse for its component localities, situated at significant distances from the hearth of the town itself. The geomorphological potential of the town's expansion is limited in the western side by the presence of the limestone formation of „*Vașcău Karst*”, but the possibility of extending to the east (without human intervention on the relief) is enough in the current context. With the industrial base function stopped, the influential area of Vașcău is limited to the localities and neighboring villages. The town is in the shadow of Ștei and subordinate to Beiuș, the polarizing core of Beiuș Land. In the absence of fertile soils, with a modest demographic potential (under 3000 inhabitants), the possibility of economical recovery consists in the capitalisation of the favorable elements of the natural environment. The superior capitalization of the existing natural resources can be the starting point of the process of urban revitalization, by developing small economic units with local character, the purpose being to ensure economic stability (Petrea et al., 2012).

So for the economic revitalization of the town of Vașcău a possible solution could be given by encouraging the endogenous development of small economic units focusing on local natural resources: underground resources, hydrographic and biogeographical resource, to these being added as a complementary activity the practice of different types of tourism (rural, healing, recreation). Considering that Vașcău is known as the town of marble, it would be appropriate to develop a profile branch, focused on the superior processing of the many varieties of marble (red, black, white) existing in the area, activity that could give continuity to the urban status of this settlement.

In the economic revitalization process of this area, the natural context (currently insufficiently valorized) provides the proper support for the development of several types of activities such as: development of small production units, practicing craft activities and organic farming, and also the possibility of practicing a sustainable tourism. Therefore, the local development policies and future development strategy of this small town should focus primarily on the high recovery of the endogenous potential to generate complementary economic activity, which should trigger a mixture of functions.

Aknowlegments

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