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Dysfunctions within the Spatial Micro-Systems. The Case of Vama Buzăului Commune, Romania

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ABSTRACT

This study analyzes the main dysfunctions that have occurred within the micro-system of the Vama Buzăului commune, as well as some of the proposals to revitalize the space in question, in order to highlight the characteristics of a functional area whose dimensions have been diminished. In order to achieve a better knowledge and understanding of the real situation, there have been identified and analyzed, by means of several indicators, the dysfunctions that occur in this area. They can be divided into four categories: those of the natural environment, those of the human resources and locations, those due to economic reasons, and those related to the infrastructure. Definite action is to be taken for the micro-system of the Vama Buzăului commune to function correctly. They represent the conclusions of this study.

1. INTRODUCTION

The concept of "system" is very comprehensive, and it has been given different definitions function of the specific application fields. This is why a system is usually represented by a matrix where the geographical areas (e.g. villages, cities, etc.) are disposed on rows, and their functional attributes, on columns, with the inclusion of a third dimension, the temporal one, which generates a hyper matrix [1]. The system is thus made of a series of elements that interact with each other, and also of elements which are in the outer environment, forming, in their turn, subsystems. The system is therefore formed by other ordinate systems. According to the scale of approach, the systems are divided into two main groups: macro-systems and micro-systems. The micro-system is a concept that illustrates regional processes and phenomena through a more detailed analysis [2].

The dysfunctions of systems are the result of inappropriate intervention of natural factors or mainly due to human actions poorly targeted, incomplete or unsuitable with the new evolutionary trends of the territorial system. Dysfunctions define an intervention, showing negative economic or environment component and are overwhelmingly due to uncontrolled, abusive or inappropriate human intervention on the environment or its components. They appear in the interrelations of certain structural components of the territory as well as in inside the same component in all its levels. Their removal can require great efforts, diminishing competitiveness index of the analyzed system when compared to other territorial entities [3]. A system or a micro-system is part of a functional area. This functional geographical space is visualized as a space in which the settlements are hierarchically organized. The interactions that take place in such a territorial entity are aligned to the central locations of different ranks. In

this framework the settlements should be viewed as a whole, which includes the relations between each location with its adjacent counterparts.

Previous studies shown that we can use several indicators to illustrate the dysfunctions of a functional area. The indicators which can be studied are the agglutination, the dispersion index, the general rate of activity index, the index of centrality, the concentration index, or the coefficient of areality [4]. Dysfunctions are viewed as uncontrolled interventions, inadequate human impacts on the environment or its components [5]. Vama Buzăului commune belongs to the category of *micro-systems*, being situated in the functional area of Braşov. The aim of this study is to highlight the dysfunctions that occur in the commune Vama Buzăului. The micro-system of Vama Buzăului is situated in the South-Eastern part of Braşov, covering a surface of 156.63 km², and it comprises the villages Vama Buzăului (administrative center of the village), Dălghiu, Buzăiel, and Acriș (fig. 1).

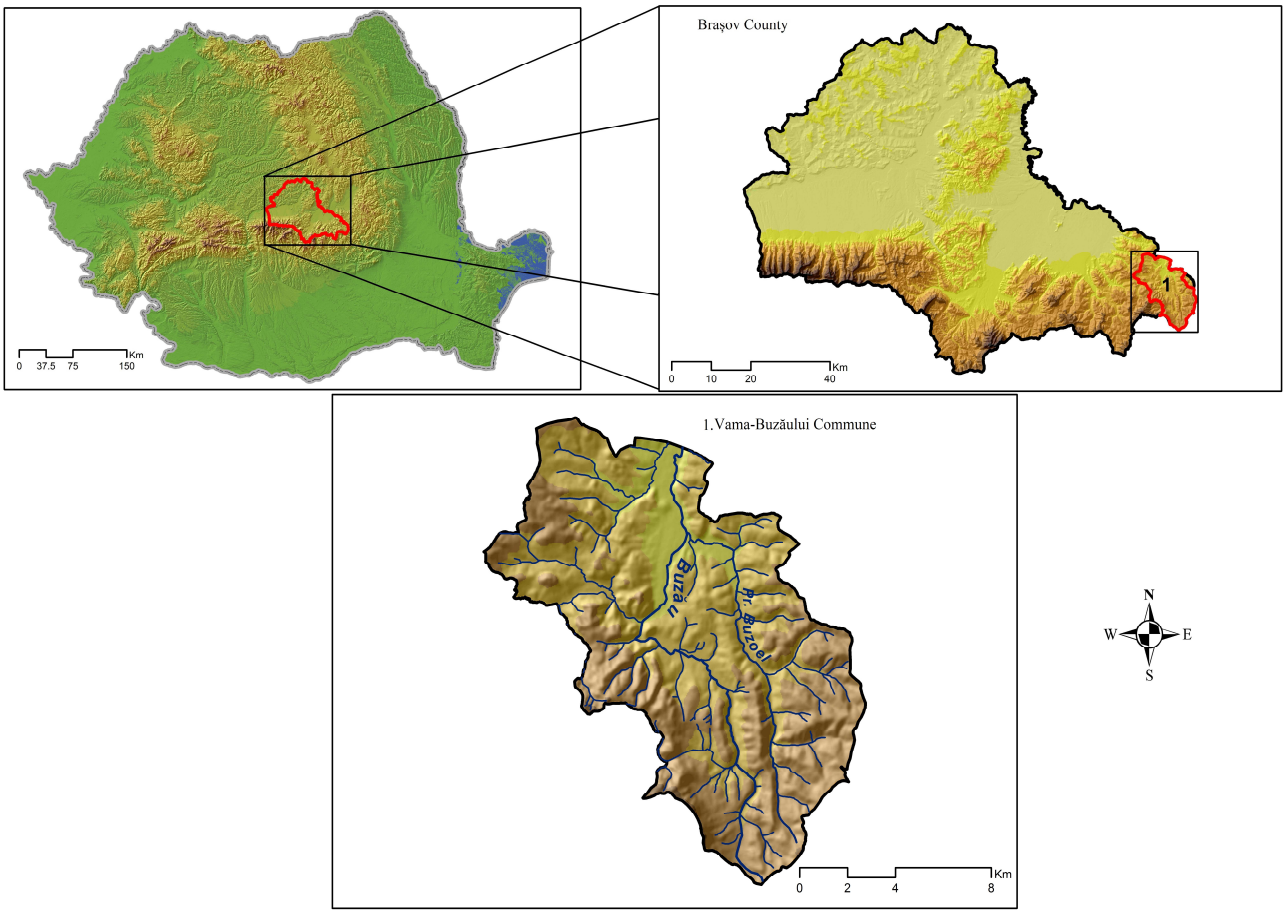

Fig. 1. Geographical position of Vama Buzăului commune.

It is a rural area with the primary functions related to the economic activities [6], [7], [8]. In the European Chart of Rural Areas, the concept of rural area is defined as the territory of the small villages and towns which is used mainly for agriculture, forestry, fishing, as well as for the economic and cultural needs of the inhabitants of that specific area, with sports and entertainment playing an important role as well [9]. Located at a 45 km distance from the city of Braşov, the commune of Vama Buzăului passes through a process of agglutination and assimilation [10].

The position of the micro-system can be considered both an advantage in terms of the development opportunities and a cause of the appearance of the dysfunctions in this area. The short distance to the regional pole Braşov triggers a "shadow"-type situation and a kind of subordination [11]. Braşov city concentrates the largest volume of information and innovation. This fact has had an impact on each territory unit, causing both an individual historic evolution and an uneven distribution of resources.

The economic development of the system in question, as well as its ability to adapt to changes, to the policies imposed on it or to the changes in the natural environment influence the spatial organization of the human settlements and their evolution [12], [13]. The area in question is characterized by some favorable elements, such as: accessibility, natural support, natural resources, vivid traditions, which all constitute attractive elements as far as the micro-system Vama Buzăului is concerned. In contrast to these favorable elements, there are those of dysfunctions, which cause a series of problems within the area.

2. THEORY AND METHODS

The study shows the main dysfunctions within the micro-system Vama Buzaului as well as the measures implemented in order to revitalize the area. The first stage of the study included the identification and limitation of the area under study. The second stage consisted in the reading of the bibliographic and cartographic resources completed by the field research, namely the gathering of quantitative information (provided by The City Hall of the commune of Vama Buzăului and the County Directorate for Statistics Braşov).

The third stage included the analysis and classification of the information gathered, along with an interpretation of the geographical phenomena and processes, which resulted in the completion of graphs and diagrams [14]. The analysis of the indicators allowed an easy identification of the main problems in the Vama Buzăului commune. Indicators that illustrate the demographic state, the social aspects, the standard of living, the economic state, as well as the technical infrastructure of the area have also been considered. Some of the indicators with their characteristic value for the Vama Buzăului commune are presented below contributing to a better emphasis of the main problems and possible solutions:

The general rate of activity shows the active portion of the total population:

$$A = \frac{P_{active}}{P_{total}} \times 100 = 33{,}28\%$$

The coefficient of areality shows a direct ratio between surface and the population of a micro-system:

$$a = \frac{S}{P} = 0{,}046 \text{ ha/inhab. (2009)}$$

The concentration index shows a ratio between the distance of real and theoretical links for the localities of the administrative-territorial units: $C \approx 3{,}4$

The index of centrality refers to the potential of communication between the administrative territorial unit components, considering that most of the streams are aligned toward the centre of the unit: $c = 0{,}8$

The dispersion index is related to the type of relief that stretches the administrative unit and in our case we are talking about a space stretched across the main area: $\sigma = 2{,}1$

The last stage of the process comprised the measurements of improvement of the micro-system and the elaboration of the conclusions.

The information gathered in the field, the bibliographic and cartographic resources, the data provided by The City Hall of the commune of Vama Buzăului and the County Directorate for Statistics Braşov contribute significantly to the illustration of the dysfunctions of a small area (micro-system). One should also not leave aside the measurements which contribute to the revitalization of the area of the micro-system of Vama Buzăului.

The reduced surface, the homogeneous area, the simple structure and the low level of anthropization are the traits that made this classification of the commune possible, the elements being similar to those of other entities that constitute micro-systems. The degree of detail is much more significant than the one in a macro-system, due to the surface occupied, the changes that occur and which refer to the neighbouring areas as well being better noticeable, making it easier to highlight both the functional elements and the dysfunctions in the system [15]. A micro-system has an area of 510 km². If it comprises exclusively the land, it will be of 148 km². Vama Buzăului commune can be included in the category of micro-systems due to its surface of 156.63 km².

3. ANALYSIS OF THE DYSFUNCTIONS WITHIN THE MICRO-SYSTEM OF VAMA BUZĂULUI COMMUNE

In the geographical area in question, we identified and classified the dysfunctions into four groups: those of the natural environment, those of the natural resources and places, economic dysfunctions, and economic and infrastructure-related ones.

3.1. Dysfunctions of the natural environment

As a territorial system, the region shows an extremely varied natural component of sustainability, which confers quality to the landscape and ensures at the same time a multi-functionality at the level of the interrelations with the anthropogenic factor, which results in positive economic and social consequences.

The geological structure, the relief, the climate, the hydrographical network, the soil, the vegetation, and the fauna represent not only the pillars of support for the systemic structure, but also the overall factors directly involved in the best functioning of the spatial organism which is configured this way. Consequently, emphasizing the main characteristics of these physical and geographical elements paves the way to a deep understanding of their role in the constitution of the attractive heritage of the region, especially when it comes to tourism, which is meant to offer the "raw material" for the economic development, both in the short and the long run [16], [17].

Regarding the micro-geographical environment, the territory of the micro-system overlaps the lowland of Întorsura Buzăului, a territory in-between the mountains, with a tentacle-like configuration, situated in the area of the internal curve of the flysch of the Eastern Carpathians, on the upper water course of the

Buzău river, being created by this river and the tributaries in the area as a result of differential erosion in the shale sandstone flysch with massive sandstone insertions. The depression tentacles are separated by hills or small mountains of a height that ranges from 800 to 900 meters [18].

There are both crystalline rocks, sedimentary (the limestone which, due to the erosion, becomes part of the landscape, achieving small prominences with limestone pavement, sinkholes or gorges and valleys), basic irruptive, with sandstone insertions forming a ruin-like relief of pillars, „mushrooms", beet-shaped rocks, as well as brittle marl, limestone and refractory clay, sandstone, which determine a certain instability of Vama Buzăului commune, creating the conditions of landslides, breakdown, mud flows, streams, and erosion. The evolution of the vegetation and fauna in the area has been strongly influenced by the physical and geographical circumstances, as well as by the changes that have occurred in time, due to the forestry planning, deforestation, transformation of the land into arable land, pastures with spontaneous vegetation and land used for constructions.

The territory of the commune of Vama Buzăului is therefore exposed to a moderate geomorphic risk (for instance the areas affected by the superficial landslides, surface erosion, overgrazing, deforestation -„Muchia Paejului", „Valea Morarului", „Vârful Blidarului", „Dealul Stânei", „Stâna Blidarului", „Valea Cerbului", „Muntele Aurel", „Valea Sasului", „Culmea Dobromir", „Dealul Urlătorii", „Valea Șipotului", „Valea Chiruşca", „Dealul Seciului", „Muchia Ogarcei", „Valea Borcii", „Muntele Strâmbu", „Lunca Dălghiului", „Dealul Seciului", „Valea Fetei", „Dealul Dragomir").

3.2. Dysfunctions of the human resources and places

The source of constant innovation and economic development within a territory is the existent population of that area [19]. The number of population inhabiting the micro-system of Vama Buzăului has varied throughout time, due the proximity of this place to the city of Braşov. Beginning with 2002, there has been noted a decline of the population, both in the long and short run. The effect of the decline is rather immediate (medium term) if we refer to the middle-aged population, with a tendency of the phenomenon to spread.

The new demographic trends are valid in Vama Buzăului as well, here from a significant increase of the life expectancy and, at the same time, a considerable increase of the aged population. According to the data gathered at the census of 1992, the total population number was of 3,258 inhabitants, at the level of the entire commune (and of the four places that are part of it). Then, the census of 2002 showed that the number of the inhabitants was at that time of 3,356 inhabitants. Later on, the population has constantly decreased, from 3,356 inhabitants, to 3,335 in 2009, and 3,163 in 2011 (fig. 2).

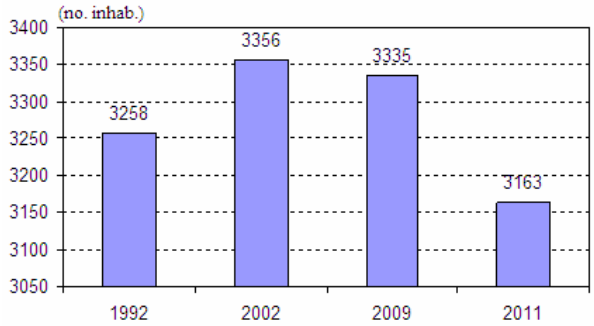

Fig. 2. Evolution of the number of inhabitants, in the period 1992-2011).

The factors considered at the basis of the decrease of the population are: the low birth rate, the aging of the population and the migration to places which grant the possibility of decent life standards and development [20]. The net migration registered in 2009 was of 1.5‰. The migration of the population refers to a process of transformation within the physical, social, and cultural area, and to the movement from one place to another.

The implications of this movement are reflected in the „elimination" of the structures in the areas from which the population has migrated (depopulation of the places, loss of local workforce, aging of the population). The isolation of the places and the aging of the population result from the depopulation of the micro-system in question, to the same extent as they stem from the long distance to the centre of the village and the poor infrastructure. At the level of the commune, the percentage of the population 60 years old or older was of 26%, in 2011. The decline of the birth rate and the decrease of the mortality rate have led to a pronounced phenomenon of population aging.

The social and economic factors that favoured the decline of the fertility rate and of birth are: the ever lower number of fertile females, the emancipation of women, the access to education and work in the fields within the tertiary sector, the increase in the number of parents asking for children care and education, which implies a significant amount of time and higher costs, the increase in the amount of free time, and the access to various forms of entertainment [19] [21]. The expansion of the city of Braşov, and also the increase of the prices on the real estate market have determined the migration from the city area to the rural one, and a reconsideration of the rural environment. Within the micro-system, the commune and the villages which are part of it need to go through changes, and this involves the physical renewal of the buildings, attraction of

investors, which should generate and attract younger workforce that would determine their inhabitation in that area and offer more opportunities to the younger people and stakeholders.

In case of human resources, the large majority of the dysfunctions have the economic factor and the technical infrastructure as causes, which are rather poor, due to the low investment rate, or even lack. Thus, the local inhabitants have to leave the area in order to find better paid jobs and a beneficial lifestyle, triggering the phenomenon of migration.

3.3. Economic dysfunctions

The economic situation of the micro-system Vama Buzăului shows the following structure of the population within the main economic sectors: 50% of the total number of the population is actively involved in the primary sector, 31% in service, and the rest of them in industry, administration, education and health. The statistical data offered by the administration of Vama Buzăului show that the average number of employees in the commune was of 1110 in 2009, out of which 547 were employed in the primary sector (agriculture, forestry), 103 in processing industry and constructions, 349 in service and commerce, 60 in the administrative field, 41 in education, and 10 in the field of health.

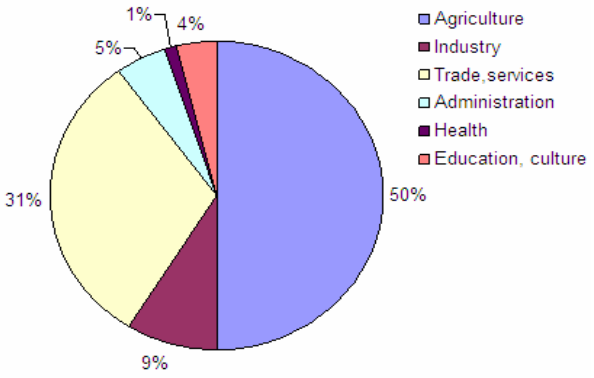

Fig. 3. Employed population by economic branches in 2009.

We can note that a large number of people are concentrated in the primary sector, which shows the low standard of living. Both in the micro-system of Vama Buzăului and in the majority of the rural areas in Romania, people recur to a subsistence agriculture, weakly competitive, which needs modern equipment in order to lead to agricultural productions of high quality. Other factors that contribute to the existence of the subsistence agriculture are: the depopulation and the aging of the population in the villages considered [22]. The level of work productivity and the living standard of the population is influenced by the demographic aging, which impedes the improvement of the standard of living and determines the increase of the dependency rate, due to the lack of measures and firm policies meant to lead to economic development and an increase of the GDP (Gross Domestic Product) [23], [24], [25]. An economic characteristic of this area is the dependence between the natural potential (forest, agriculture, mineral resource) and their type of use.

The predominant activities are cattle breeding, wood operation and processing, traditional handicraft (production of different household objects) and the operation of the materials used for building. These activities have been developed in time, and they all show the direct relationship with the natural environment. A small-size industry based on the production of the materials used in construction is developed in this area, due to the existence of the local subsoil resources (construction rocks, quartz sands, sandstone, limestone, clay, andesite), allowing for some building companies to operate in the area.

The companies, ”Befaco Con Ltd.” and ”Mongamba Trans Ltd.” operate in the area under research, dealing with the production of lime, plaster, and of the items made of concrete and cement. As far as the commercial activity of the area is concerned, it involves retail in mixed shops, which sell food, drinks and cigarettes. In the villages that constitute the area we can found units of public food supply (mixed shops, bars and small shops). There are 40 economic units in the micro-system of Vama Buzăului, such as: food shops, companies of forestry exploitation, transport, dairy and cheese produce, companies specialized in selling fur and raw and processed animal skin, computer service, bakeries, beauty salons, accounting and financial audit firms, and companies specialized in materials used for building. Regarding health services, they are represented by two medical centres, with two doctors and two nurses, a dentist office, a veterinary office, and a pharmacy. In the analyzed micro-system, the ratio of people/doctor is of 1600/doctor, which exceeds to a great deal the ratio of 200 people/doctor, as it is stipulated by the European Union. The health services are faulty, both due to the scarce number of the medical staff and due to the poor facilities medical units are providing.

The renewal and support of the cultural activities, as well as the concern for traditions are very important in the micro-system of Vama Buzăului. The educational services are represented by three schools, a secondary school, two primary schools and a kindergarten. In relation to the cultural life in the area, we should also mention the cultural centre, the library, and cultural events such as "The Sons of the Village (”Fii satului”), "The Day of the Reservation Valea Zimbrilor”, ("Ziua Rezervatiei Valea Zimbrilor"), "The Scattering of the Sheep” (”Răvășitul oilor”), "The Christmas Carols Festival” (”Festivalul de colinde”), "The Holiday of the Eastern Eggs”(”Sărbătoarea ouălor

de Paşte"), or "The Good Householder of Vama Buzăului" ("Gospodarul vămăşean").

3.4. Dysfunctions of the technical infrastructure

For an area to be functional from a social and economic point of view, it should benefit from a dense network of means of communication, a centralized system of water, electrical energy and natural gas supply, and also of an appropriate sewerage network. The amount of water used both for drink and especially for the assurance of good sanitary standards of hygiene is a relevant indicator of the standard of living of a population inhabiting a certain area [26]. That is why we found it necessary to make an analysis of the level of infrastructure available in a micro-area, by approaching its components.

The access roads have a major importance, as they grant not only the connection to and communication with other areas, but also the flow of people, goods, raw materials and information. In the area under study, most of the access roads are evenly distributed, so that all the villages are connected to the polarizing centre of the Vama Buzăului commune, communicating at the same time with neighbouring areas.

The national road DN10 that makes the connection to the county of Braşov grants the access within the micro-system.

The link to the neighbouring villages is achieved through the county roads DJ 103A-Braşov-Cărpiniş-Tărlungeni-Zizin-Dălghiu-Vama Buzăului, and also by means of communal roads: DC 49A-Dălghiu-Vama Buzăului-Buzăiel-Acriş. The rather poor forestry and agricultural roads complete the road network of the micro-region. They have a reduced function and need measures of stabilization and pavement in order to ensure a better accessibility. The micro-system does not have a rail network, the closest train station being 12 kilometres away, in the town of Întorsura Buzăului, Covasna County. That is why only the road network allows the access of the people and goods to the micro-system.

The electrical energy supply of the micro-system of the commune Vama Buzăului was completed in 1943, the supply being granted by the national electricity network. The station Braşov-Hărman 400/220/110 kV- 110/20 kV, located in Triaj area, is equipped with two transformers of 250 MVA, and currently supplies the micro-system Vama Buzăului. All the 1077 homes of the micro-system are connected to the electricity supply network. A quite important dysfunction consists in the fact that the micro-system Vama Buzăului is not supplied with methane gas, which makes it more difficult for activities such as cooking, home heating and the completion of the technological processes to be practiced. Given the lack of the methane gas, the main fuel used in the micro-system for daily activities is wood.

Sewerage and water supply is achieved to a ratio of 70%. The project of water supply in centralized system has started since 2007, and it has been in constant development, the supply network reaching a length of 25 km. The other works that relate to water supply are placed within Vama Buzăului commune and the villages of Buzăiel and Dălghiu. They consist of works necessary to water supply: the catchment of eight streams by means of catchment devices made of simple concrete, a collecting drain and collecting chamber made of reinforced concrete equipped with hydraulic installations made of steel pipes and cast iron tubs. The penstock is 1160 meters long and crosses the valley of Urlătoarea Mică. The water reservoir is 500 m^3, made of monolith reinforced concrete, and it is assigned an area of 6792.41 square meters [27]. At the beginning of 2012, there was approved the start of the sewerage system in the Vama Buzăului commune, works being in an early stage at present. The majority of the households have wells in their yards which provide the needed amount of water both for home use and for other tasks.

The technical infrastructure of the micro-system has several dysfunctions caused by the reduced number of initiatives, as well as by the low investment meant to improve and develop a modern infrastructure, which would play a major role in the creation of new flows that could have an impact both upon the area within the micro-system, and the neighbouring ones. The measures of achievement and development of new projects in the area of technical infrastructure are vital for the renewal of the Vama Buzăului micro-system.

4. RESULTS AND DISCUSSIONS

4.1. Measures for the reduction and elimination of the current dysfunctions

Within the Vama Buzăului micro-system, the dysfunctions identified and analyzed have as a starting point various causes and determine various effects. Here we discuss the importance of the implementation of certain measures meant to counterbalance them. The first element that influenced the historic evolution of each territory unit, and which dictated the appearance of the disproportions in the given area, is the relationship between centre and periphery. The dysfunctions identified are to be analyzed as a whole, deserving measures of stabilization in order to function at higher standards.

The main measures that have to be suggested and adopted, and which regard the natural environment, in order to obtain a better spatial development of the micro-system of Vama Buzăului, should consider the following:

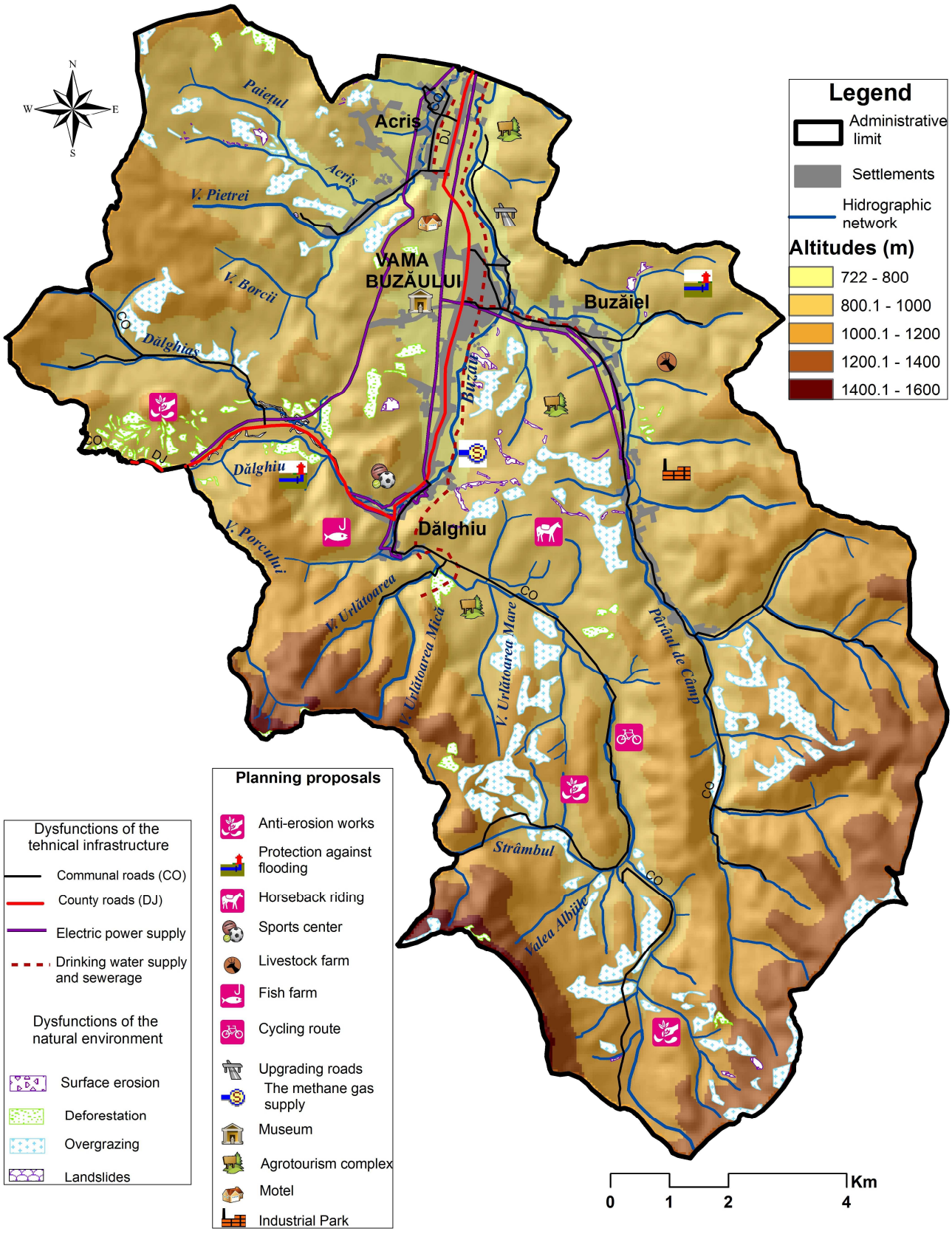

Fig. 4. Spatial distribution of dysfunctions and planning proposals.

- plantations of forests;
- correction of the river beds of Buzău and Buzăiel;
- consolidation of the river banks;
- completion of works meant to make even the level of the soil and restore the natural drain of the soil;

- prohibition of the concrete foundations of the buildings, in order not to damage the land, especially the Buzăului river meadow;

- completion of maps of risk, with the support of the local and county authorities.

Within the micro-system, measures of intensification of the functions achieved by the polarizing centre should be taken, and also the improvement of the relations with the neighbouring systems should be granted. These measures imply an increased promotion of the region, both locally and at the level of the county, put an emphasis on the elements that characterize the area in order to make it more attractive, as well as insist on the advantages that derive from the micro-system's proximity to the Municipality of Braşov [28], [29]. The increase of the functions carried out by the polarizing centre is necessary within the micro-system, to the same extent as it is important to improve the relations with the neighbouring systems.

Regarding the achievement and the improvement of the *technical infrastructure*, the measures have in view the following:

- completion of the water supply network throughout the entire area in question, and completion of the sewerage and filter system;

- modernization of the village road DC 49A, by adding asphalt cover and the widen the transport road;

- improvement of passenger transport from/to the centre of the commune in case of each village;

- introduction of the methane gas network for home supply.

In order to improve the dysfunction related to the demographic component, the following measures should be taken:

- development of the tertiary sector in order to create new stable and well-paid jobs for the university graduates and the young that have the ability to work. Also, the creation of the conditions meant to keep this young population in the micro-system of Vama Buzăului by granting the necessary financial support and well-being;

- encouragement of the medium-level qualified people and organization of professional training courses;

- granting fiscal facilities to the investors who wish to support the development of the area and the profitability of the local economy;

- attraction of young and qualified workforce to the primary sector;

- the people working in other European countries should be encouraged and supported by all means to return and start their own activities that generate funds.

Required measures for the development of *the economic field* [30], [31]:

- promotion of eco farms, in the zootechnics field, in the villages Dălghiu, Vama Buzăului, Acriş, by granting the farmers all the support they need in order to comply with the European standards;

- structural and territorial land organization for the entire agricultural land;

- agriculture and farming in accordance with the geographical environment and the demand on the market;

- cultivation of potatoes, corn, clover, root vegetables and harvesting at the optimum time;

- local producers becoming members of the specific associations in the county;

- specialization in the cultivation of medical plants and development of products made of honey;

- the creation of an industrial park in the Southern-Eastern part of the village Vama Buzăului, specialized in services and sustainable industries, agricultural services, agrifood, non-pollutant industries, ecological and tourist activities, comprising both buildings for offices and rooms for production and warehouses;

- improvement of the educational, administrative, cultural and medical, by using the latest technology and well-qualified personnel;

- implementation of social assistance programs dedicated to the elderly, as they represent a significant part of the total number of inhabitants of the micro-system;

- in order to develop and modernize tourism, a heavy promotion of the region is needed (promotional materials, brochures, mass media, advertising);

- organization and development of tourist infrastructure: the creation of a tourist information centre, the opening of a local museum to illustrate the local ethnographic and cultural potential, a sports hall, the development of bike routes, the organization of a riding and fishing centre in the forest next to the village Dălghiu;

- the creation of an agro-touristic complex, especially a recreational centre with guesthouses, holiday houses and additional services, increase in the number of guesthouses and the construction of a 300-bed motel on the territory between Vama Buzăului and Acriş.

The Vama Buzăului micro-system has a significant potential of development, both natural and anthropogenic, but at the same time it is characterized by numerous dysfunctions. For the implementation of the measures meant to revitalize the micro-system, it is necessary to complete a detailed analysis of the types of dysfunctions that the micro-system faces.

5. CONCLUSIONS

The micro-system analyzed in this study belongs to the category of the small-sized functional systems. This micro-system concentrates around a polarizing centre a group of administrative units

interconnected by a network infrastructure and some common interests. A complex analysis of specific elements was meant initially in order to capture the natural base of support, action and interaction component (population and its environment) and related components (technical infrastructure planning, agriculture, industry, tourism and services). This allowed achieving an optimal territorial level in the Vama Buzăului microsystem.

Thus, any action planning activity within a geographical unit, regardless of its size and complexity, needs to start emphasizing the quantitative and qualitative characteristics of the natural support, respectively the physical substrate (geological structure, topography, climate features (through the features of manifestation forms), water resources, soil and subsoil resources, accounting and support for local development conditions and advantages of planning that must be known and used [32], [33].

An important role in shaping the microsystem is owned by human resources, which are an active factor. Population is a very important and dynamic element in the organization of space through the potential of intervention and the habitats, the settlement systems that were built over the years, which through their functions are agents of transformation in the territory.

The result of the long and complex interaction of people with the physical substrate of the territory is the economic component that carries both a positive and negative impact in developing microsystems. Economy plays an important role in ensuring livelihoods and raising living standards.

The technical infrastructure of the territory aims to provide materials, energy, capital, interest for all of the microsystem components. The uncertainty and lack of quantitative and qualitative elements of infrastructure (transportation routes, water supply and sewerage, gas and thermal energy, telecommunications) cause a difficult operation with numerous interruptions in development. To optimize the situation, rapid intervention is required in order to stop a slow and contradictory evolution. The dysfunctions identified in the Vama Buzăului microsystem - dysfunction of the natural environment, human resources dysfunctions, settlements dysfunctions, economic dysfunctions, dysfunctions of the technical infrastructure - lower the value of the favourability index, reduce the subsystem possibilities to adapt or integrate to the system to which it belongs and represent real obstacles in the development and the territorial cohesion. In terms of physical-geographical main dysfunctions are landslides, surface erosion, overgrazing, and deforestation. In terms of demography, the population density is low and the trend is towards depopulation and increasing of the aged population percentage, leading to demographic imbalance. Economically, the microsystem has a low level of development, and poor diversification of economic activities; the main activities are the primary sector and exploitation of natural resources. Agriculture is underperforming, farms are small and facilities are providing only small family subsistence. Youth employment is low and unattractive. The trend is for temporary labour migration in cities or even other countries. Concerning the microsystem buildings, there is a lack of equipping homes with indoor plumbing in 45% of the households. The share of dwellings made from non-sustainable materials is quite high about 43%. There is an aging housing (about 80% of all houses are over 30 years old). In terms of technical infrastructure, the microsystem has no rail network and road network needs modernization. Sewerage and water supply is insufficient being at a rate of 70%, thus further expansion and development is required. The microsystem has no gas supply. Regarding the social infrastructure and related services, there is insufficient number of medical staff. The study of the Vama Buzăului microsystem represents a major and important territorial analysis having the aim to achieve a strategy of development effective and sustainable.

The aim is to make a diagnosis to the rural space, to identify the main problems the rural communities are facing and achieving rural development strategies to reduce and eliminate dysfunctions and to revitalize the studied area. This microsystem needs to settle dysfunctions in order to place a functional system on a level of rural and regional development.

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