« BABEŞ - BOLYAI »UNIVERSITY in CLUJ-NAPOCA

## FACULTY of GEOGRAPHY

DEPARTMENT OF PHYSICAL AND TECHNICAL GEOGRAPHY

## DOCTORATE THESIS

# TERRITORIAL UNITS OF PLANNING AND DEVELOPMENT IN PLATEAU BOIU MARE – BREAZA PEAK

- DIGEST -

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TERRITORIAL UNITS OF PLANNING AND DEVELOPMENT IN THE PLATEAU BOIU MARE – BREAZA PEAK

### CONTENT

INTRODUCTION4
I.TERRITORIAL UNITS OF PLANNING AND DEVELOPMENT
I.1. DESIGN UNITS – CONTENT, SIGNIFICATION
I.2.GEOGRAPHICAL WAYS FOLLOWER IN 'DISCOVERY', CHARACTERIZATION AND DESIGN OF TERRITORIAL PLANNING UNITS
II RESEARCHED TERRITORIAL SPACE
II.1. ANALYZED GEOGRAPHIC REGION AND ITS SPATIAL CONTEXT
II.2. FACTORIAL COMPONENTS WITHIN THE STUDIED TERRITORIAL SYSTEM
II.2.1.Substrate and its particularities
II.2.1.1.Substrate and techno-structural particularities
II.2.1.2.Geologic formations
II.2.2.Relief and its specific48
II.2.3.Climatic particularities77
II.2.4. Hydrographic
II.2.4.1. Organization and morph-metric characteristic of the network of rivers
II.2.4.2. Evaluation of mean annual flow
II.2.4.3. Spatial repartition of the potential of mean flow
II.2.4.3.1. Spatial repartition of the potential of median flow at level of hydrographic basins
II.2.4.3.2 Spatial repartition of the potential of median flow at level of geographic subunits
II.2.4.3.3. Variation in time of annual flow95
II.2. 4.4.Regime of flow of river water

II.2.4.4.1. Regime of seasonal flow	
II.2.4.4.2. Regime of monthly flow	100
II.2.5. Biotic component	102
II.2.6 Soils and their putting in value	108
II.2.7. Landscape, synthetic expression of geographic integration	116
II.3. PRESENT SOCIAL-ECONOMIC STATE	125
II.3.1. Population	125
II.3.2.Human settlements	141
II. 3.3.Natural resources and putting them in value	152
II.3.4.Economic development	160
III. MAIN DIRECTIONS OF DEVELOPMENT OF THE TERR UNIT	
III. 1. PREMISES OF A NEW GEO-HABITAT ORIENTATION	175
III.2. DIVERSIFICATION OF THE USE OF E	
III.3. DEVELOPMENT OF TOURISM	213
III.4. REHABILITATION OF TRADITIONAL TERRITORIAL SPACE	224
III.5. BUSINESS OPPORTUNITIES	230
IV. TERRITORIAL DIFFERENTIATIONS OF GEO-SPATIAL ENTITIES DESIGN OF FUTURE DEVELOPMENT	
IV.1 PRESENT TERRITORIAL CONFIGURATION (OF ORGANIZAT THE SPACE)	
IV.2. POSSIBLE TERRITORIAL UNITS OF PLANNING AND DEVELO	
10.2. POSSIBLE TERRITORIAL UNITS OF PLANNING AND DEVEL	
CONCLUSIONS	252
BIBLIOGRAPHY	253

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#### INTRODUCTION

Human development during last decades imposed the apparition and evolution to some new branches and currents in geography that were to observe the "new geographical order" determined by this situation.

The problems approached take into account the fact that at date the form of administrative-territorial organization corresponds little to the needs and the possibilities of development necessary to the communities in the studied area.

The work follows the pass from the finding out geography to explicative geography having as final aim projective geography where from operational-applicative geography can be reached. In this respect the studied work stands under two major coordinates stipulated by normative geography and operational geography:

- the coordinate of territorial reality that indicates a vector of movement, change from the state of the geographical system on one moment to the moments of the next term (short, medium, long). The history of the places is in fact geography in movement;

- the coordinate of human control, of the society on territorial systems. Politics and strategies of development have in their statute as desiderate the installation of a geo-spatial order so as the inherited geographical thesaurus is to be continuously perfected and the future generation is to be offered an intact thesaurus not altered in material and aesthetics but on the contrary enriched and with valences for increasing and improvement.

A question may be formulated: What can be in such a study acutely necessary but the identification of the substance, energy, information that feed

the flows of continuous transformations with the doorsteps, crossings and directions followed by the different territorial systems?

There are numerous operating formulas regarding the path to follow within the process of transformations reclaimed by the strategy of development. That we have in attention regarding geo-spaces of local or regional rank has as support the analysis and design on Territorial Units of Planning and Development. This is not just a conception only but in fund it is an instrumental way applied on territory that belongs to operational geography, respectively to applied geography, the geography of scientific pragmatism. In such a context of paradigmatic changing I wanted to inscribe my scientific research. The reason for choosing the topic is so explained by the need to participate in the process of renewal in geography. On the other side the concrete chosen territory belongs to the fact that partially I knew the region since the scientific applications as student. I also was persuaded that the geo-space Plateau Boiu Mare –Breaza Pick offers the chance of a possible demonstration of operation on Units of Planning and Development so of geographic design. Unfortunately during the time of my student training I had no chance of auditing some disciplines of projective geography. Those learnt regarding the territorial planning were of a real use for me and also an impulse towards operational geography.

The collaboration with specialists in urbanism field as well as inspirations taken from legislation regarding the territorial development enhanced the idea of such a topic.

Consequently to the demarches made one can say that this type of geographic investigation leads to scientific imperatives and decisional elements. As consequence the elaboration of such a study required in a first part (chapter 1) to present the scientific and theoretical meaning of the paradigm "territorial units of planning and development", something new in present geographical research. After this capitol with role of getting familiar to the chosen theme follows the second chapter "Researched territorial space" that characterizes the territorial unit of Plateau Boiu Mare – Breaza Pick, both from a physical-geographical and social-economic point of view. Only after that

it was possible to realize the third part of the work (chapter 2) consisting in pointing out the "Main directions of development" of the researched area, representing the essence of this study. The final part of the work (chapter 4) targets "Territorial differentiations of geo-spatial entities and the design of future development concretized in the proposal of some territorial units of planning and development, hierarchically disposed on the whole territory of Plateau Boiu-Mare – Breaza Pick. All elements presented are found in the content of the work and they are detailed in the pages of the text.

#### **CONTENT OF THE WORK**

I TERRITORIAL UNITS OF PLANNING AND DEVELOPMENT

I.1 Units of design – content, meaning

In present the territory may be divided on different units that form a natural, objective development and on territorial units thought, designed in virtue of a purpose. These become territorial units of design – planned development or territorial units of planning and development. They are conceived by the specialized person (geographer, economist, architect, engineer, urbanist etc.).

The purpose of laying out these territorial units is that of economical, territorial revigoration in order to determine a superior level of development. By developing the territorial units of design – planned development it is done the correlation between the existing geographic reality and social command under the ratio of efficient putting in value of a territory.

By definition, the territorial unit of design – planned development is a unit of development and arrangement in virtue of some exploitation purposes. In other words the territorial unit of design – planned development is a referential unit (of reporting) where, based on the existing situation of the new vitalization trials, it is scheduled a new economical, social dimension, etc.

Viewed in the complexity of their components, these units present own compositions through which they are differentiated for the surrounding ones. Territorial units of design – planned development may be identified not by size but by function. The function comes from: <u>localization (geographical position)</u>

<u>mathematics</u> (latitude and longitude) and <u>morphologic</u> (hill, plateau, mountain); <u>the way of putting in value the territory</u> (tree culture, vine culture, exploitation of construction materials); <u>degree of social-economic development</u> (traditional economic may constitute a favor or a brake in the development of a territory). The pivot of a territorial unit of design – planned developments is constituted by: a settlement, a spring, a deposit, a monastery, a cross roads etc. In other words, the territorial unit may gravitate around any of the above-mentioned examples.

*I.2. Paths taken in the "discovery", characterization and design of territorial units of planning and development, observe certain:* 

- General principles that may be used are: the genetic, coordination, causality, regionalism, territorial development, of integration principle etc. ;

- The methods used may be: of synthesis, administrative-territorial organization, cartographic, chromatic etc.;
- The techniques within the methods followed are: swot analysis, GIS technique etc.;
- The procedures afferent to the used methods are: geographic description, geographic enquiry, statistic evidence, superposing of maps etc.;
- Means used: specialty language, graphic and cartographic representations etc.

#### **II RESEARCHED TERRITORIAL SPACE**

In order to identify and characterize the future territorial units of planning and development it has been realized a complex geographic characterization of the region. In this respect this chapter is structured on two major floors:

 - in a first stage the "basic" region has been characterized from a physical-geographic point of view, outlining one by one the essential characteristics of the Plateau Boiu Mare – Breaza Pick;

- the second part of the chapter presents the social-economic realities but only at the level of the unit Plateau Boiu Mare – Breaza Peak following those defining elements that give essence and content to the future territorial units of planning and development.

#### II.1. The analyzed geographic region and its special context

The referred space is located in north-west of the country and partially belongs to the Plateau Someşan (Plateau Boiu Mare), while Breaza Peak was not integrated to it but to Subcarpații Lăpuşului. The whole studied territory is situated on north of Someşul Mare and the Corridor of Someş.

In establishing the limits of the region of Plateau Boiu Mare – Breaza Peak there were taken into account the controversies existing in the literature of specialty. Following the aspect of the water network, orientation of peaks, fractures of tectonic nature the following limits were proposed:

- in north, the Corridor of Lăpuş and the Depression of Lăpuş;

- in west the little fault depression formed by the contact bassinets with Prisnel Hill, the massif Dealul Mare-Prisaca;

- in east the limit is given by Valea Mare (affluent of Someşul Mare) up to the locality Ciceu-Giurgeşti;

- in south the limit follows the imaginary line that unites the localities Ciceu-Giurgeşti – Dumbrăveni – Chiuieşti - Goştila and Poiana Blenchii (area situated at south of Breaza Peak), following Valea Poienii to its confluence with Someş, and then its corridor to Turbuța, as it can be seen in the nearby figure. (Fig.1)

#### II.2. Factorial components within the studied territorial system

The present configuration of the territory is imposed by the paleogeographic progress started in Superior Cretaceous when happened the uneven sank of the crystalline basement of the Basin of Transylvania, due to cutting in faults in blocks. In Eocene and Oligocene succeed marine transgression and regressions (formation of Eocene chalkstones,

representative rocks of this region). At the end of the cycles of marine sedimentation takes place the complete emergence of the surface, retiring of waters on the surface and the interruption of the link between Panonic and Transylvania lakes. In order to explain the present relief the best argument is the advance in Pliocene of Someş by erosion through north to Panonic Lake that constituted basic level for the rivers in the area.

Geologically, sedimentary rocks are remarked: Eocene chalkstones specific to the Plateau Boiu Mare (chalkstone of Cozla and of Cuciulat); "layers of Hida" of Miocene age present in Breaza Peak.

From the point of view of the relief the area is divided in two distinct units:

- the Plateau Boiu Mare a morph-structural unit with character of suspended plate, between the corridor of Someş at South and the Corridor of Lăpuş at North, whose orogenesis fundament was skipped epiro-genetically (Fig. 2); has a mean altitude of 400-500 m; it is remarked by the presence of the richest carst relief in the country ("Cheile Babei", lands of throats, lapisis, caves etc.); structural testifiers are frequent as expression of the structural monocline and tabular relief; (Fig. 3)

- Breaza peak is a suspended synclinal, longed on the direction westeast (25-30 km) with altitudes over 900 m (Top Breaza 974,2 m); it penetrates in the space of the Plateau Boiu Mare by the elevation Vima (777 m) (Fig. 4); is hardly accessible being crossed by two anticlines (Coroieni – 428 m and Curmătura Popii – 632 m); it is bordered to south by a "coronal" of depression bassinets where localities were settled: Măgoaja, Strâmbu, Huta, Breaza etc. The two territorial units are floored on three steps of relief: of valley (meadows and terraces); of 300-400 m (level of erosion); the step of plates and crests (Fig. 5). These steps of relief are favorable for inhabiting, arranging ways of communication and for human activities.

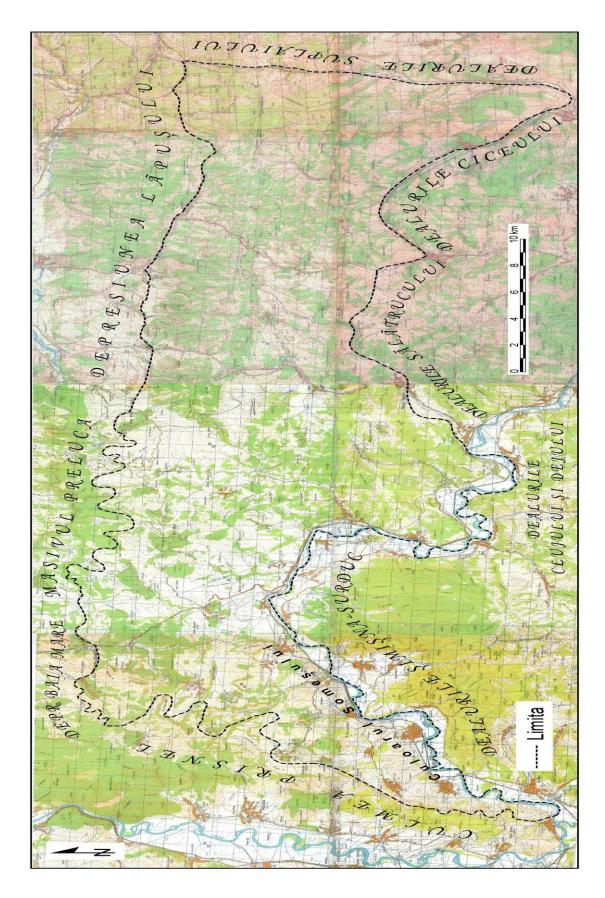


Fig. 1 Situation of Plateau – Breaza Peak, reported to the neighboring relief units



Fig. 2. Plateau Boiu Mare



Fig. 3. Cheile Babei



Fig. 4. Vima Hill seen from the Plate Boiu Mare

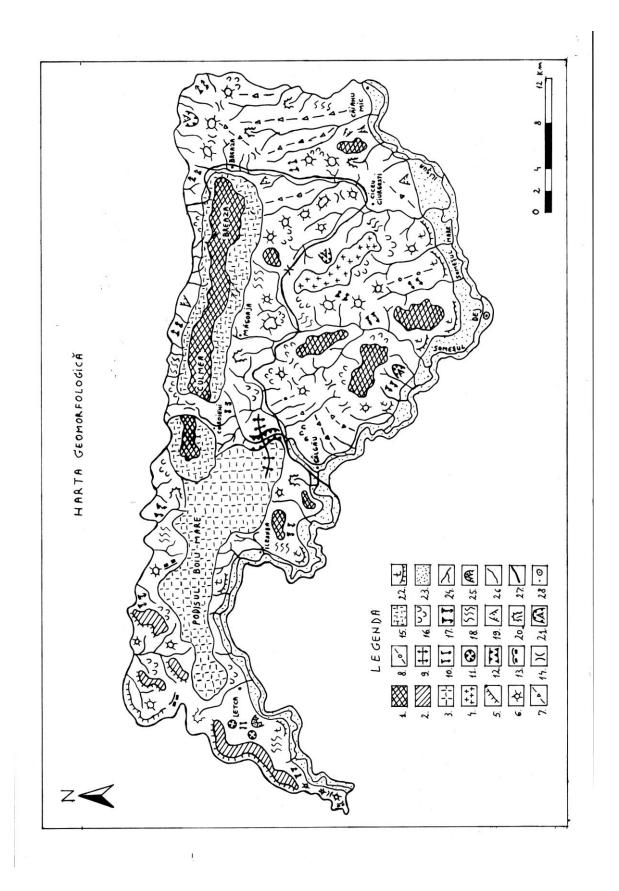


Fig. 5. Geo-morphologic map

#### Legend

- 1. Surface of leveling
- 2. Structural crest
- 3. Chalkstone plateau
- 4. Eruptive formations
- 5. Cuest
- 6. Erosion-structure testifiers
- 7. Sharpen interfluvium
- 8. Rounded interfluvium
- 9. Anticline
- 10. Lapis
- 11. Throats
- 12.Keys
- 13. Stone falls
- 14. Lapping
- 15. Glacis
- 16. Ground slide (superficial active)
- 17. Drips
- 18. Ravening
- 19. Creeks
- 20. Bassinet of differential erosion
- 21. Complex of present geo-morphologic processes
- 22. Terrace
- 23. Meadow
- 24. Waters
- 25. Carrier
- 26. Limit of major geo-spatial unit
- 27. Limit of Plateau Boiu Mare Breaza Peak
- 28. Human settlements

The mathematic definition of the relief is done through the following characteristics:

The depth of fragmentation that has minimum values between 1-30 m in the corridor of Someş and maximum between 330-360 m in the area of Breaza

Peak (Fig. 6); The density of fragmentation is maxim in north of Breaza Peak (4.0 m/sq km) and minimum at the level of Plateau Boiu Mare (Fig. 7); Declivity is over 30° in north of Breaza Peak and it has small values between 2,1°- 5° in the Plateau Boiu Mare (Fig.8).

From the climatic point of view, the analyzed geographic unit belong to the temperate climate, specific to the hills of medium height, with warm summers and winters relatively gentle: TMA 6°- 9°C, annual mean precipitations of 600 - 800 mm/an; predominant direction of winds is western; topo-climates are remarkable.

Hydrographically, the waters belong to the hydrographic basin of Someş, a part of the rivers being tributary directly to this and the other flowing waters of the region are the affluent of Lăpuş and Someşul Mare;

The leaking regime is remarked by an annual maximum in the month of March and a minimum in the month of September;

The most important water flows are: Someş, Lăpuş, Poiana, Ileanda, Valea Mare, Sălătruc, Boiu, Purcăreț and Prislop; (Fig.9)

- Depending on the configuration of the hydrographic network and on the existence of fractures of tectonic nature, at the level of the "basic" region a new compartmenting was proposed: To north, Breaza Peak, on west-east direction;

- In south of Breaza Peak four longitudinal compartments may be separated (north –south), parallel: between Ilişua Valley and Valea Mare; between Valea Mare and Valley of Sălătruc; between the Valley of Sălătruc and Valea Poienii; between Valea Poienii and Ileanda Valley.

- At the level of the Plateau Boiu Mare there are laid out other two sectors with the direction east-west: between Ileanda Valley and the Valley of Purcăreț ; between the Valley of Purcăreț and the locality Turbuța;

Concerning the vegetation the pastures are predominant, grass lands and the forests of lamellar having a distribution in the territory sort of well proportioned.

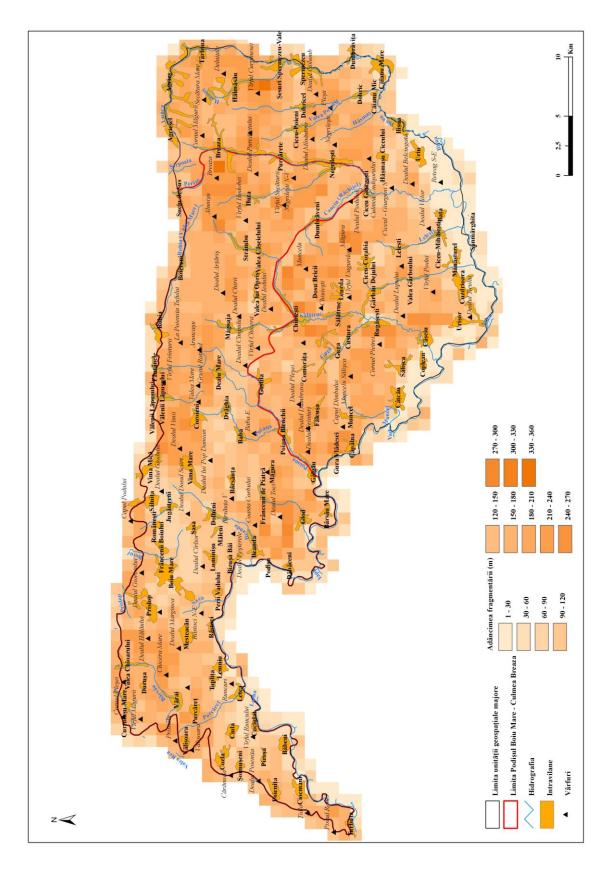


Fig.6. Map of depth of fragmentation

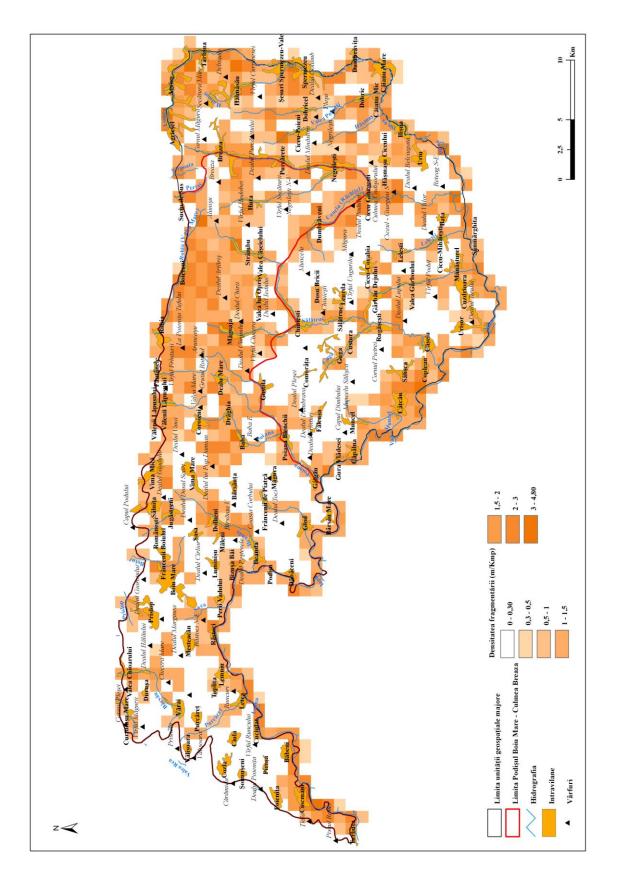


Fig.7. Map of density of fragmentation

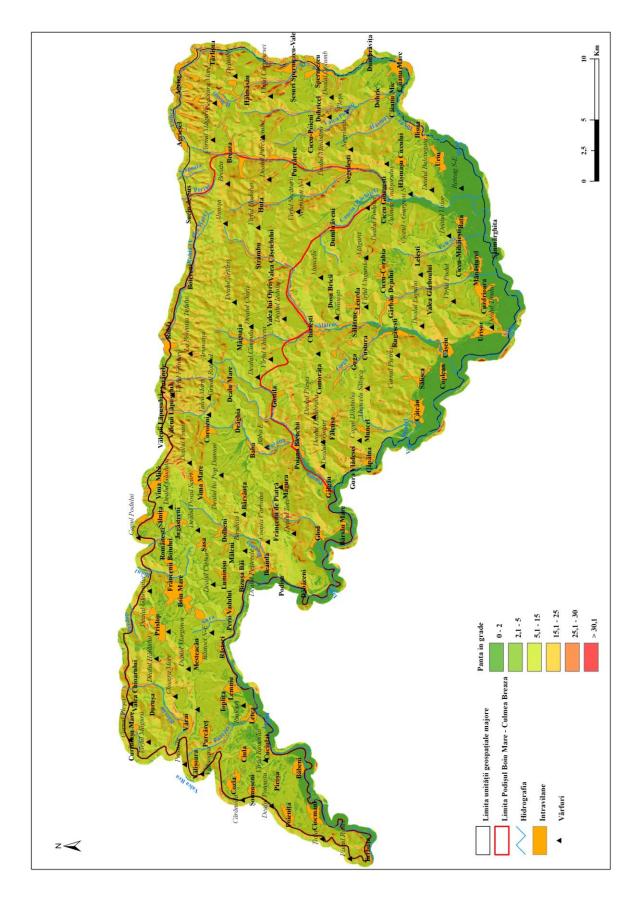


Fig. 8. Map of slopes

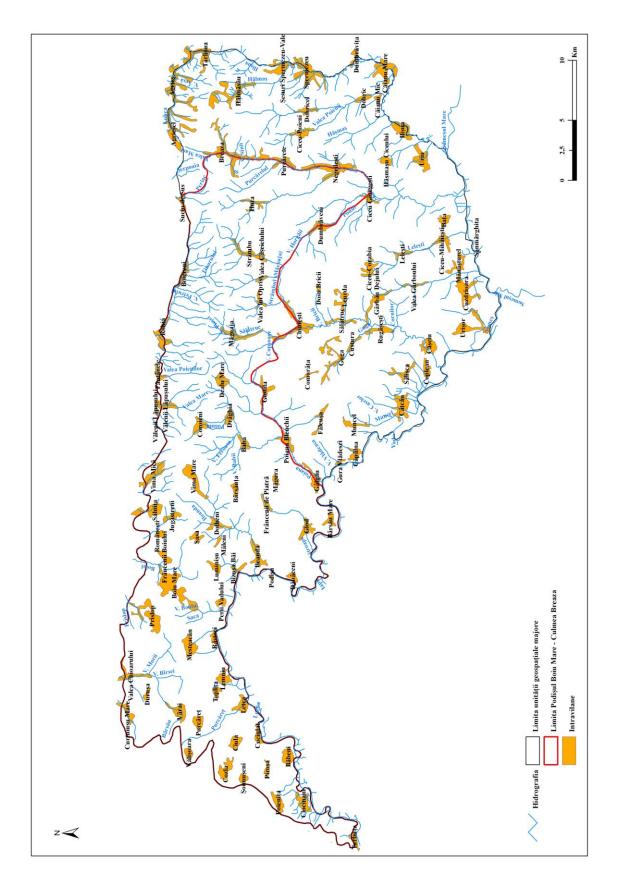


Fig. 9. Hydrographic network

Concerning the soils the greatest ponderosity have the soils in the class of Luvisoils (with reduced fertility, able for pastures and hays), followed by the those within the class of Cambisoils (having also the same type of fertility, being covered especially by hays; in the Corridor of Someş predominate the alluvial soils (alluvisoils, good for agricultural cultures and secondary

Through he human component there are revealed the same characters of relative conservation of a specific environment. The total population is of 24304 inhabitants, which from 11929 men (2002). It is noticed a slight predomination of woman population: The majority is Romanian population (95.87%), followed by Gypsies (3.77%). It is a predominantly rural area; having in it three villages with statute of "districts" of the town Târgu Lăpuş.

Human settlements are defined by a pregnant identity and insulation, fact that represents an inheritance of some old social-economical states. In the studied area there are 12 communes rounded off to the counties: Maramureş (four communes and three villages belonging to the town Târgu Lăpuş), Sălaj (five communes), Bistrița - Năsăud (two communes) and Cluj (a commune), having 64 settlements. The density of the settlements is of 8.40 localities/100 km<sup>2</sup>, and the coefficient of area is of 11.91 km<sup>2</sup>/locality. After the demographic size the small villages predominate (35 - having between 100 and 500 inhabitants) and very small (13 - under 100 inhabitants). After the structure of hearths there are spread villages, agglutinated and very spread villages (hamlet). After the economic functions: agrarian villages with the afferent subtypes and agrarian villages with little industrial units (Băbeni - textile industry, Boiu Mare – processing of milk). From altitude point of view the majority of the villages are between 300 and 500 m. A classification can be made by the geographic position within the units of relief: villages of plateau, in depression bassinets, in the Corridor of Somes and along the valleys.

Underground resources are weakly represented. The most significant are: chalkstone, river aggregates, alabaster and argyle, mineral springs. The soil resources are represented by large areas of lamellar forests (a mean of 1900 ha /commune), agricultural terrain (arable, meadows and hays), these representing 63.47% of the total of the surface of the studied territorial unit

(76231 ha). Although it disposes of few resources the human factor managed to put them in value so as they bring benefits to the local economy.

The economy is of pastoral type – agrarian, where the other branches are weakly developed and represented. The economic exploitation followed the traditional way.

The agriculture is the main economic branch of the area; it has subsistence character; it is based on unqualified labor force and it is practiced on small surfaces (disparate parcels); there are few agricultural farms; it suffers of a chronically under financing; inhabitants' mentality obstructed the foundation of agricultural associations; the main branch is animal breeding.

The industry is based on the exploit and processing of chalkstone, river aggregates, raw agrarian materials and wood. On the entire territory of the studied unit there are spread traditional craft workshops. The tourism is weakly developed although it disposes of a great natural and anthrop potential. Services are in an incipient degree of development.

# III MAIN DIRECTIONS OF DEVELOPMENT OF THE TERRITORIAL UNIT

III.1 Premises of a geo-habitation orientation

In this first part it was pursued the discovery of some new ways and models that local communities should follow in order to give another face to the economy of the area. In the harmonious development of the region it should be taken into account its realities: preponderant agrarian economy of autarchic type, the lack of the circulation infrastructure, reduced natural resources, the existence of some new sources of alternative energy, the revitalization of the sectors of small industry from the past and the increase of the weight of services within the economy. For the agricultural sector the proposals are: creation of some centers of consultancy, qualification of the population in different agrarian specialties, attraction of specialists, change of destination of terrains, practice of an ecologic agriculture, foundation of greenhouse and solariums (in the Corridor of Someş), creation of some brands specific to the area.

The industry holds a little ponderous in the local economy (only 5% from the occupied population is integrated in this sector). The main industrial activities are based on the exploitation of the resources. From the analysis made were pointed out some strategies for the development of this economic branch: creation of stations for making concretes, micro-enterprises of making concrete bricks, development of some little factories of furniture and of processing wood, the foundation of micro-units that are to process animal and vegetal production (factories of processing milk, meat, fruits from forest, etc.). The revigoration of traditional activities (non-agrarian): carpentry, tailoring, processing stone, wickers, cove. The putting in value of the resources of alternative energy: wind energy on Plateau Boiu Mare and in the area of the Corridor of Someş; solar energy by means of the program "Green House" in the plateau area; briquetting the biomass (briquetting the wood flour).

Services are in full development and extension: they are 100% private, with qualified labor force from the area; in this sector it is very good the small initiative; there are already formed polarizing circles that may compared from the point of view of the development of the services with little urban centers (Ileanda and Gâlgău).

The tourism is characterized by e reduced number of tourist units, by the lack of some programs to support this activity and by the precarious state of the basic infrastructure.

The steps to be taken in developing this sector are: promotion of ecologic tourism, of agro-tourism, spa tourism, transit tourism and tourism for hunting, etc.

III.2 Diversification of the use of the existing terrains

In this sub-chapter were highlighted some ways for a better putting in value of the terrains. In this respect it has been focused on the introduction in the economic circuit of unproductive surfaces (cleared surfaces, degraded

terrains etc), fact that contributes to the increase of the economic productivity of the area.

III. 3 Development of the tourism

The strategies for developing the tourism were followed up. In this respect there were identified the following ways through which a rapid way to rapidly make efficient this economic sector as it follows:

- attraction of European funds to refurbish historical and architectural monuments or for creating agrarian-tourist pensions;

development by major investments of the basic infrastructure;

- promotion by the local authorities of the cultural values and popular traditions;

- actions to "arrange as in cosmetics" the localities;

- creation of a "tele-center" in each commune for accessing and communicating the information;

- qualification of the persons that want to initiate or to develop tourist activities.

III.4 Rehabilitation of the traditional territorial space

The main risks and hazards, natural and anthropic, were identified also specifying the measures that must be taken to stop or limit them. The priorities in the rehabilitation of the rural space are:

- Introduction in all localities in the area of the natural gas network, of water adductions and sewage network;

- Concreting the county roads and putting stone on communal roads and streets in the localities respectively;

- Execution of hydro-technical works on the water flows with potential for flooding;

- Extension of the program "lands in lease" through which the state pays to the land owner a fix annual rent;

- Building of bridges and little bridges, walk alleys, parks and play places for children;

- Rehabilitation of schools and sanitary institutions.

III. 5 Opportunities of business

In the end of this chapter we made an analysis of business opportunities in Plateau Boiu Mare – Breaza Peak. In this respect utilities and services were appreciated with balls: white – sufficient, blue – in realization, black – minimum and for the economy we granted stars that correspond to the opportunities for business (three stars – maximum; one star – minimum). The purpose was to find the perspectives of a new way to put in value the geographic potentials.

No.	Commune	Utility/service	Industry	Agriculture	Tourism
1	Coroieni	•	*	***	*
2	Letca	•	**	**	**
3	Băbeni	•	**	**	**
4	Valea Chioarului	•	**	**	***
5	Ileanda	•	**	***	***
6	Gâlgău	•	**	***	**
7	Poiana Blenchii	•	*	**	*
8	Boiu Mare	0	**	**	**
9	Ciceu-Giugești	•	*	**	*
10	Negrilești	•	*	**	*
11	Vima Mică	•	*	**	***
12	Chiuiești	•	*	**	**

13	Boiereni, Fântânele	٠	*	**	***
	Rohia				
14	Pod. Boiu Mare-	•	*	**	**
	Culmea Breaza				

Fig. 10. Business opportunities for the communes in Plateau Boiu Mare - Breaza Peak

## IV. TERRITORIAL DIFFERENTIATIONS OF GEO-SPATIAL ENTITIES ANT DESIGN OF THE FUTURE DEVELOPMENT

IV.1 Present territorial configuration (of organizing the space)

The Plateau Boiu Mare – Breaza peak is a territorial assembly both from a natural support point of view and as regarded from the perspective of the economical and social-cultural component.

The complexity and variety is given by the great surface of this unit of over 760 km<sup>2</sup>, surface that has an irregular shape as outline.

On its all space we find a succession of forms of relief from those represented by meadows and terraces up to high peaks with mountain aspect from the area of Breaza Peak.

On date the studied territorial unit may be evaluated from the perspective of several criteria:

- 1. Distribution of natural resources:
- Territorial unit of great chalkstone exploitation;
- Territorial unit of exploitation of river aggregates from the Corridor of Someş;
- Territorial unit centered around the deposits of mineral waters from Bizuşa - Băi;
- Territorial unit around the exploitation of betonite bricks;
- 2. Distribution of forest fund:

- Forrest unit of Breaza Peak;
- Forest unit of Vima Hill;
- Forrest space on north of Plateau Boiu Mare;
- Area of forests in Lunca Someşului;
- 3. Distribution and structure of agrarian space
- 4. Criterion of human habitat:
- 5. Space of infrastructure:
- The unit developed along the European road E 58;
- Unit developed along the road Gâlgău -Târgu Lăpuş;
- Units axed on access road to the border part;
- 6. Main forms of relief:
- Area Breaza Peak;
- Area Plateau Boiu Mare;
- Area of the contact strips (between Plateau Boiu Mare and the Corridor of Someş; between Breaza Peak and Sălătrucului Hills);
- Area of the localities on the terraces within the Corridor of Someş;
- 7. Altitude:
- Units located on peak level;
- Units located on plateau level;
- Units located at the level of Corridor of Someş or of corridors of valleys;
- 8. Administrative-territorial point of view:
- Cluj County: Commune Chiuieşti (seven villages);

- Bistriţa-Năsăud County: communes Ciceu-Giurgeşti (two villages) and Negrileşti (three villages)
- Sălaj County: Communes Băbeni (four villages), Gâlgău (four villages), Ileanda (ten villages), Poiana Blenchii (three villages) and Letca (nine villages);
- Maramureş County: communes Boiu Mare (four villages), Coroieni (four villages), Vima Mică (five villages) and Valea Chioarului (five villages);
   To the town Târgu Lăpuş belong the villages: Boiereni, Fântânele and Rohia (Fig. 11)

IV. 2 Possible territorial units of planning and development

After the detailed analysis of the natural, social and economic components of the unit Plateau Boiu Mare- Breaza Peak and taking into account the units of managing the territory (administratively) a new imagistic can be conceived to reflect the realities of the area.

Within this orientation appear aspects that are based on the three components of the human habitat, corroborated with the conditions of the natural frame. In this chapter we will try to realize a new vision on the way of managing, developing and making a hierarchy of the studied region.

Starting from the area Plateau Boiu Mare – Breaza Peak there were identified two main units having different physical-geographical characteristics, well individualized. Within these there are highlighted also social-economical differences. The two territorial areas are represented: by the territorial unit of planning of Plateau Boiu Mare and the territorial unit of planning of Breaza Peak.

Territorial unit of Plateau Boiu Mare – unit that occupies the centralwestern part of the region Boiu Mare – Breaza Peak. This is formed by:

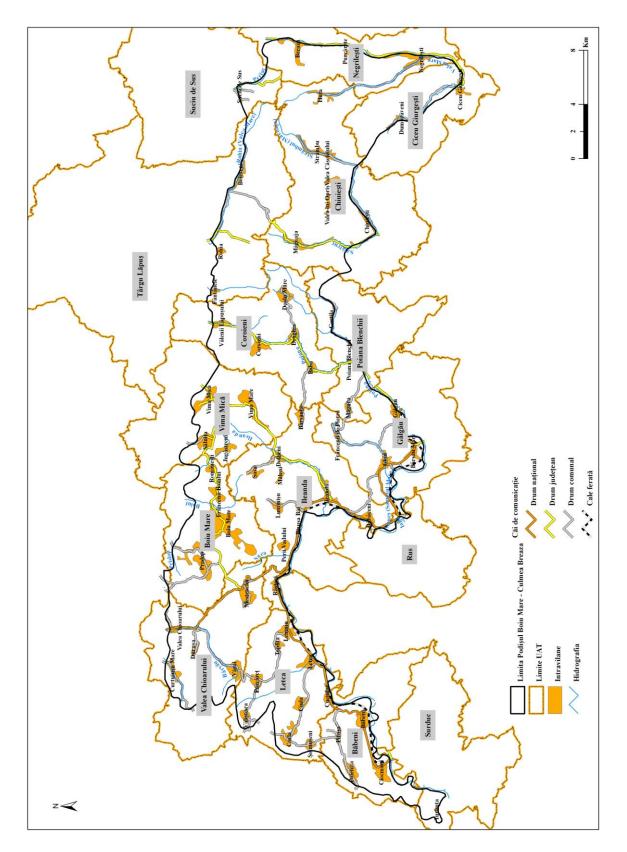


Fig. 11. Map of administrative units in Plateau Boiu Mare – Breaza Peak

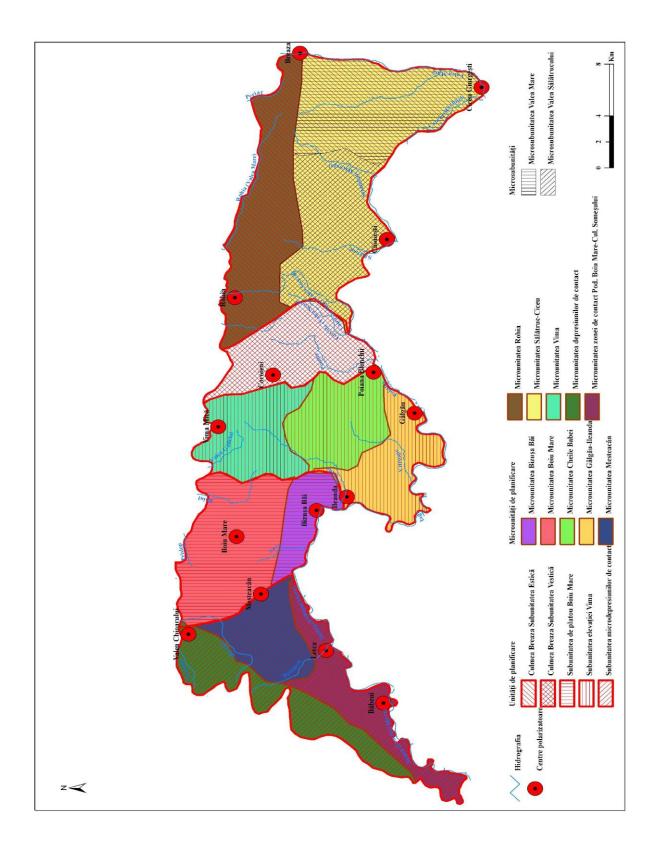


Fig. 12. Map of territorial units of planning and development revealed based on the research (the cartographic representation has as fund elements the colors; details hachured)

1. Subunit of micro-depressions of contact that has in it:

- The micro-unit of depressions of contact with center of attraction Valea Chioarului;

- The micro-unit of the area of contact between Plateau Boiu Mare and the Corridor of Someş with nucleation centers Băbeni and Letca;

- The micro-unit Mesteacăn with center of convergence the village Mesteacăn;

2. The subunit of plateau Boiu Mare with:

- The micro-unit Boiu Mare having nucleation center Boiu Mare;

- The micro-unit Bizuşa Băi (Spa) with attraction center Bizuşa -

Băi;

3. Subunit of the elevation Vima with:

- The micro-unit Vima with attraction center Vima Mică;

- The micro-unit Cheile Babei with attraction center Poiana Blenchii;

- The micro-unit Gâlgău-lleanda with the homonymous center of nucleation; (Fig.12)

The territorial unit of Breaza peak is located in the east of the territorial unit, being limited at north by Valea Lăpuşului, in west by Valea Poienii, in east by Valea Mare, and in south by an imaginary line that unifies the localities: Poiana Blenchii, Chiuieşti, Dumbrăveni, and Ciceu-Giurgeşti. This is formed by:

1. Western subunit with the micro-unit Coroieni, having center of nucleation the locality Coroieni;

2. Eastern subunit, divided as follows:

Micro-unit Rohia with attraction centers Rohia and Breaza;

- Micro-unit Sălătruc – Ciceu divided in two micro-subunits:

- a. Micro-subunit Valea Sălătrucului with convergence center Chiuieşti;

- b. Micro-subunit Valea Mare with attraction center at Ciceu-Giurgeşti.

Another criterion that may be used in establishing some units of territorial planning within the region Boiu Mare – Breaza Peak, should take into account the distribution of water sources, of their quality, of the real possibilities offered by this natural resource in their harmonious development. Using this criterion, of water, the following units of territorial planning may be established:

1. Planning units that have great water deficit;

2. Planning units in which predominate sources of carst nature;

3. Planning unit where appear the discharges of water in marginal depression units forming defection cones:

a. Planning unit Valea Someşului;

b. Unit form in the marginal area of Breaza Peak;

For developing these planning units "of water" it has to be taken into account the following main directions:

-assuring the necessary of water for the localities with reduced water regime;

-works of hydro-technical arrangements on all water flows;

-capture of water flows or in deficit areas execution of drillings in order to find out some water depots;

-keeping the qualities of waters and reduction of their pollution.

#### CONCLUSIONS

Fixing some territorial planning units axed on natural, human and economically objective realities, could assure a re-launch of those local communities. It has to be taken into account that this can be done only in accordance with present requirements, with the desires of the members of the communities and with the possibilities they have. All these facts can be done only in a perfect harmony with valid legislation, with general directions offered by Romanian state. In essence, any territorial planning unit (conceived in any way) may achieve a durable development only if it takes into account the following main directions:

1. integration and harmonization of development strategies with the needs, desires and wills of the component communities;

2. development and improvement of the rural infrastructure;

3. development and diversification of economic activities (especially the tourism);

4. development of human resources, increase of the degree of occupation of labor force and combat of the social exclusion;

5. development of a local marketing for the promotion of the community;

6. development of the agriculture and attraction of investors in agrarian exploitation.

One of the great directions of development based on the evaluation of the present state would be not to abandon the agrarian - pastoral character but the substitution with new components regarding the pomiculture, apiculture and mainly the tourist putting in value of the region on four directions: rural tourism, recreational tourism – spa, transit tourism and tourism for hunting.

Units of Planning and Development within Plateau Boiu Mare – Breaza Peak, enounced in the work start from existing states and prefigure other chances to improve the quality of life in its assembly and to make essential the specific offers.

#### BIBLIOGRAFIE

- 1. **Bailly, A.** (2001), *Les concepts de la géographie humaine*, Edit. Armand Colin, Paris.
- 2. **Beaujeu-Garnier, J.** (1971), *La géographie: méthodes et perspectives*, Edit. Masson et Co, Paris.
- 3. Benedek, J. (2001), Introducere în planning teritorial, Edit. Risoprint, Cluj-Napoca.
- Benedek, J. (2004), Amenajarea teritoriului şi dezvoltarea regională, Edit. Presa Universitară Clujeană, Cluj-Napoca.
- Berindei, I., Iacob, E. (1961), Contribuții la studiul morfologic al Depresiunii Guruslăului, Studia UBB, Geol-Geogr., Cluj-Napoca.

- 3. Bertrand, G. (1968), Paysage et géographie physique globale, RGPSO.
- 4. Bleahu, M. (1974), *Morfologia carstică. Condiționare geologică și geografică a procesului de carstificare*, I, Edit. Științifică, București.
- 5. Bleahu, M. (1982), Relieful carstic, Edit. Albatros, Bucureşti.
- 6. Boutot, A. (1997), Inventarea formelor, Edit. Nemira, Bucureşti.
- 7. Brunet, R., Dolfus, O. (1990), Géographie Universelle, Edit. I. Hachette, Paris.
- 8. Chorley, R., Hagget, P. (1969), *Physical and informations models in geography*, University Paperbacks, London.
- Ciurean, C. (2008), Jugul Intracarpatic: Funcțiile geografico umane, Edit. Presa Universitară Clujeană, Cluj-Napoca.
- 10. Ciupagea, D., Paucă, M., Ichim, Tr. (1970), Geologia Depresiunii *Transilvaniei*, Edit. Academiei, București.
- 11. Cocean, P. (1988), *Chei şi defilee în Munții Apuseni*, Edit. Academiei, București.
- 12. Cocean, P. (1997), *Geografia turismului românesc*, Edit. Focul viu, Cluj-Napoca.
- 13. Cocean, P. (2002), *Geografie regională*, Edit. Presa Universitată Clujeană, Cluj-Napoca.
- 14. **Constantin, P.** (1996), *Sisteme ierarhizate. Rolul Informației în geneză și dezvoltare*, Edit. Academiei, București.
- 15. Coteț, P. (1971), Direcții de dezvoltare în geografia modernă, Progresele științei, vol. VII, nr.9.
- 16. Coteț, P. (1973), Geomorfologia României, Edit. Tehnică, București
- 17. David, M. (1945), *Geneza, evoluția și aspectele de relief ale Podișului Transilvaniei,* "Rev.Științifică V. Adamachi", vol.XXXI, nr, 1-2, Iași.
- 18. **Dezsi, Şt.** (2004), *Evoluția rețelei de aşezări din Țara Lăpuşului,* Studia UBB, Geographia, 1, Cluj-Napoca.
- 19. Dolfus, O. (1973), L'éspace géographique, P.U.F., Paris.
- 20. Donisă I., Băcăuanu V., Hârjoabă I. (1974), *Dicționar Geomorfologic,* Edit. Științifică București.
- Drăguţ, L. (2000), Geografia peisajului, Edit. Presa Universitară Clujeană, Cluj-Napoca.
- 22. Dumitru, I. (martie1992), Graiul Maramureşului, articol.
- 23. Enache, M. (1986), Sistematizarea teritoriului, Edit. Tehnică, București.
- 24. Faludi, A. (1986), A Decision-centred View of Environmental Planning, Pergamon Press, Oxford.

- 25. Faludi, A., van der Valk, A. (1994), *Rule and Order Dutch Planning Doctrine in the Twentieth Century London,* The Geojournal Library. Kluver Academic Publishers.
- 26. Filip, S. (2009), *Planning urban*, Edit.Presa Universitară Clujeană, Cluj-Napoca.
- 27. Filip, S. (2003), Îndrumător practic pentru planning urban şi plannig rural, Universitatea Babeş-Bolyai, Cluj-Napoca.
- Geanana, M., Florea, N., Săvulescu, I. (2005), Solurile pe Glob, Edit. Universității București.
- 29. Geanana, M., Oghiu, I. (1989), *Clasa Argiluvisolurilor*, Editura Universității București.
- 30. Geanana, M., Oghiu, I. (1989), *Clasa Cambisolurilor*, Editura Universității București.
- 31. Geanana, m., Oghiu, I. (1989), Clasa Solurilor Neevoluale, Trunchiate sau Desfundate, Editura Universității București.
- 32. George, P. (1970), Les méthodes de la géographie, P.U.F., Paris.
- 33. Grigoraş, C. (2003), Solurile Terrei, Tipografia Universității din Craiova.
- 34. **Grigore, M.** (1989), *Defileuri, chei și văi de tip canion în România*, Edit. Științifică, București.
- 35. **Gugiuman, I**. (1960), *Dezvoltarea geografiei*, în vol. Contribuții la istoria dezvoltării Universității din Iași-1869-1960, vol. II, București.
- Hosu, Maria (2007), Valea Someşului între Dej şi Ţicău: studiu geomorfologic, Cluj-Napoca. Teză de doctorat. Coordonator ştiinţific: Prof. Dr. Virgil Surdeanu.
- 37. Ianoş, Gh. (1977), Solurile Iumii, Edit. Mirton, Timişoara.
- Ianoş, I. (1987), Oraşele şi organizarea spaţiului geografic, Edit. Academiei, Bucureşti.
- 39. **Ianoş, I.** (2000), *Sisteme teritoriale. O abordare geografică*, Edit. Tehnică, București.
- 40. **Ianoş, I.,Humeau, J.-B.** (2000), *Teoria sistemelor de aşezări umane*, Edit. Tehnică, Bucureşti.
- Ianoş, I., Heller, W. (2006), Spațiu, economie şi sisteme de aşezări, Edit. Tehnică, Bucureşti.
- 42. **Ielenicz, M. (**1999), *Dealurile şi Podişurile României*, Edit. Fudației "România de Mâine", Bucureşti.
- Ielenicz, M. (2000), Geografie generală, Edit. Fundației " România de mâine", Bucureşti.
- 44. Ilie, M. (1958), Podişul Transilvaniei, Edit. Ştiințifică, Bucureşti.

- 45. Josan N., Petrea D., Petrea Rodica (1996), *Geomorfologie Generală*, Edit. Universității din Oradea.
- 46. Koch, A. (1894-1900), Die tertiarbildungen des Beckens der Siebenbürgischen Lanseteile, I, Budapest
- 47. Labasse, J. (1971), L'organisation de l'espace. Éléments de géographie volontaire, Hermann, Paris.
- 48. Lăzărescu, C. (1977), Urbanismul în România, Edit. Tehnică, București.
- 49. Lenghel, Ioana (1998), Podişul Boiu Mare. Posibilități gegrafice de optimizare a teritoriului, Cluj-Napoca, Lucrare metodico-ştiințifică de obținere a gradului didactic I, Coordonator Ştiințific: Prof. Dr. Liviu Nicoară.
- 50. Mac, I., Sorocovschi, V. (1978), *Relații morfodinamice în Depresiunea Transilvaniei,* Studia UBB, Geol-Geogr., 1, Cluj-Napoca.
- 51. Mac, I. (1978), Aspects de morphologie structurale dans la Dépression de *Transylvanie*, RRGGG-Geogr., 22, 1, Edit. Academiei, Bucureşti.
- 52. Mac, I. (1980), Geomorfologie (curs litografiat), vol. I și II.
- 53. Mac, I., Sorocovschi, V. (1982), Intercondiționări morfoclimatice în Depresiunea Transilvaniei cu efecte semnificative în peisaj, Studia UBB, Geol-Geogr., Cluj-Napoca.
- 54. **Mac, I.** (1996), *Geomorfosfera și geomorfosistemele*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
- 55. Mac, I. (2000), Geografie generală, Edit. Europontic, Cluj-Napoca.
- 56. **Mac, I.** (2000), *Mediul natural și mediul construit,* Studii și cercetări de Geologie-Geografie, 5, Bistrița.
- 57. **Mac, I.** (2005), *Stategia dezvoltării spațiale prin unități teritoriale de planificare,* Studia Universitatis Vasile Goldiş Arad, Seria Ştiințele vieții,Nr. 15, Edit. Vasile Goldiş University Press, Arad.
- 58. **Mac, I.** (2007), *Teritoriu, teritorialitate, oportunitate și semnificație*, Societate și politică, Nr. 2, Arad.
- 59. Mac, I. (2008), Geografie normativă, Edit. Presa Univ. Clujeană, Cluj-Napoca.
- Mac, I. (2009), *Riscurile în mediul habitațional rural*, în "Riscuri şi catastrofe", An VIII, Nr. 7, Edit. Casa Cărții de Ştiință, Cluj-Napoca.
- 61. **Maier, A.** (2001), *Podişul Someşan populația și aşezările,* Edit. Gh. Barițiu, Cluj-Napoca.
- 62. Martonne, Emm. de (1925), *Traîté de géographie physique,* Edit. A. Collin, Paris.
- Mehedinți, S. (1931), Terra. Introducere în geografie ca ştiință, vol.I,II, Edit. Națională, Bucureşti.

- 64. Mihăilescu, V. (1934), *Platforma Someşană*. Bul. Soc. Rom. De Geografie, vol.LIII, București.
- 65. **Mihăilescu, V.** (1937), *Observații noi asupra Platformei Someşene* (*Latura internă*), Bul. Soc. Rom. de Geografie, vol.LVI.
- 69. Mihăilescu, V. (1968), Geografie teoretică, Edit. Academiei R.S.R., București.
- 70. Molnar, E. (1972), Cercetări geografice aplicative în județul Cluj, Cluj-Napoca.
- 71. **Monod, J., Castelbajoc, Ph.** (1971), *L'aménagement du territoire*, Presse Universitaire de France.
- 72. Mureşan, Gabriela-Alina (2002), Regiunea de bordură a Munților Apuseni cu Depresiunea Transilvaniei (sectorul Ampoi-Someşul Mic), Cluj-Napoca. Teză de doctorat. Coordonator științific Ion Mac.
- 73. Mutihac, V., Ionesi, L. (1974), Geologia României, Edit. Tehnică, București.
- 74. Negrea, Şt., Racoviță, Gh., Lascu, C. (1984), *Peşteri din România*, Edit. Sport
  Turism, Bucureşti.
- 75. **Paucă, M.** (1953), *Cercetări geologice în bazinele neogene din NV Ardealului*. Dări de seamă ale şed. vol .XXXVII, Bucureşti.
- 76. **Paucă, M**. (1970), *Geologia Depresiunii Transilvaniei*, Edit. Academiei RSR, București.
- 77. **Petrea, D.** (2005), *Obiect, metodă și cunoaștere geografică,* Edit. Universității din Oradea, Oradea.
- 78. Philipponneau, M. (1960), Géographie et action. Introduction a la géographie appliquée, A. Colin, Paris.
- 79. Pop, Gh. Şi colab. (1984), *Graiul, etnografia şi folclorul zonei Chioar*, Baia Mare.
- 80. Pop, Gr. (1986), Probleme de geografie aplicată, Edit.(s.n.), Cluj-Napoca
- Pop, Gr. (2001), Depresiunea Transilvaniei, Edit. Presa Universitată Clujeană, Cluj-Napoca.
- 82. **Pop, Gr**. (2001), *Probleme de regionare geografică a Depresiunii Transilvaniei*, Studia UBB, Geographia, 2, Cluj-Napoca.
- 83. Posea, Gr. (1962), *Țara Lăpuşului*, Edit. Științifică, Bucuresti.
- 84. **Posea, Gr**. (1963), *Relieful de cuestă din apropierea Clujului*. Comunicări de geografie, 4, Bucureşti.
- 85. Posea, Gr. (1974), Relieful României, Edit. Științifică, București.
- 86. **Posea, Gr., Moldovan, C., Posea, A**. (1980), *Județul Maramureş*, Edit. Academiei, București.

- 87. Posea, Gr., Armaş, Iuliana (1998), *Geografie fizică*, Edit. Enciclopedică, București.
- 88. **Puşcas, Angelica** (2003), *Țara Chioarului. Premisele individualizării ca sistem geografic în secolele XVIII-XX,* Studia UBB, Geographia, 1, Cluj-Napoca.
- 89. **Puşcaş, Angelica** (2007), *Țara Chioarului. Studiu de geografie regională*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
- 90. **Raffestin, C.** (1977), Paysage et territorialité, Cahiers de Géographie de Québec.
- 91. **Rădoane Maria, Ichim I.** (2000), *Geomorfologie*, vol. I, Edit. Universitară, Suceava.
- 92. **Reich, L**.(1950), *Evoluția geologică a Ardealului de Nord și poziția lui tectonică în cadrul sistemului bazinului carpatic*, Budapesta.
- 93. Roşian, Gh. (2008), Modele de geomorfologie funcțională ale sistemului vale versant din Depresiunea Transilvaniei. Teză de doctorat. Facultatea de Geografie, Universitatea "Babeş Bolyai", Cluj-Napoca.
- 94. Russu, C. (1993), *Management concepte, metode, tehnici*, Edit. Expert, Bucureşti.
- 95. **Savu, AI**. (1963), *Podişul Someşan Studiu geomorfologic*. Autoreferat asupra lucrării de disertație pentru obținerea titlului de candidat în științe geografice, Cluj-Napoca.
- 96. **Savu, Al.** (1965), *Terasele Someşului între Dej şi Jibou*, Studia UBB, Geol-Geogr., 2, Cluj-Napoca.
- 97. **Savu, Al**. (1986), *Podişul Purcăreț-Boiu Mare.Potențial natural și uman, perspective în dezvoltare*, în vol." Probleme de Geografie aplicată", Studia UBB, Geol-Geogr., Cluj-Napoca.
- 98. Săndulescu, M. (1984), Geotectonica României, Edit. Tehnică, București.
- Soceava, V. (1975), Geosistemul: concept, căi de clasificare, Studii şi Cecetări Geolog., Gefiz., Geogr., seria Geografie, t. XXII.
- 100. Sorocovschi, V., Schreiber, W. (1986), *Relații morfohidroclimatice în nordul Transilvaniei*, SUBB, Geol. – Geogr, XXXI, 1, Cluj-Napoca
- 101. **Sorocovschi, V.** (1993), *Potențialul scurgerii medii a râurilor din nord vestul Podişului Transilvaniei*, Analele Univ. din Oradea, Geogr., Oradea.
- 102. **Sorocovschi, V., Şerban**, **Gh**. (1995), *Diferențieri regionale ale potențialului scurgerii râurilor din Podişul Someşan*, SUBB, Geogr., 1 2, Cluj-Napoca.

- 103. **Sorocovschi, V**. (2001), *Particularitățile scurgerii lichide în vestul Podişului Someşean*, Analele Univ. "Dimitrie Cantemir", Târgu Mureş.
- 104. **Sorocovschi, V., Horvat, C.** (2007), *Potențialul scurgerii medii lichide din Podişul Someşan*, Studia Univ. Babeş-Bolyai, Geographia, LII, 2, University Press, Cluj, România, p. 171-182.
- 105. **Sorocovschi, V.** (2005), *Câmpia Transilvaniei. Studiu hidrogeografic,* Casa Cărții de Ştiință, Cluj-Napoca.
- 106.**Spitzer, H.** (1995), *Einführung in die raumliche Planung,* Editura Eugen Ulmer, Stuttgart.
- 107. Spânu, R. (2000), Sisteme spațiale sinergice, Edit. Mediamira, Cluj-Napoca.
- 108. **Spânu, R.** (2000), Introducere în studiul amenajării teritoriului. Planning regional și spațial, Edit. Mediamira, Cluj-Napoca.
- 109. Spânu, R. (2002), Planning-ul rural, Edit. Mediamira, Cluj-Napoca.
- 110. Spânu, R. (2003), *Planning-ul urban*, Edit Mediamira, Cluj-Napoca.
- 111. Stugren, B. (1994), *Ecologie teoretică*, Casa de Editură Sarmis, Cluj-Napoca.
- 112. **Surd, V.** (2003), *Geografia aşezărilor*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
- 113.Surd, V., Zotic, V., Chira, Carmen (2005), Amenajarea teritoriului şi infrastructuri tehnice, Edit. Presa Universitară Clujeană, Cluj-Napoca.
- 114. Tricart, J., Kjlian, J. (1979), L'Éco-géographie, Maspero, Paris.
- 115. Tricart, J., Cailleux, A. (1963), Cours de géomorphologie (Litografiat).
- 116. **Zotic, V.** (2005), *Componentele operaționale ale organizării spațiului geografic*, Edit. Presa Universitară Clujeană, Cluj-Napoca.
- 117. Velcea, I. (1979), Geografia Podișurilor României, Universitatea București.
- 118.Vincze, Maria (2000), *Dezvoltarea regională și rurală. Idei și practici*, Edit. Presa Universitară Clujeană, Cluj-Napoca.

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www.primariai-leanda.ro

www. chioar.ro

www. primariacoroieni.ro

www. primariapoianablenchii.ro

www.primariachiuiesti.ro

www.primaria.lapus.ro

www.primariacomuneinegrilesti.ro

www.roeu.net/ciceu-giurgesti

www.emaramures.ro

www.tourism.info.ro

www. hello romania.ro

www.strategvest.ro

- \*\*\* Cercetări speologice, vol. III (1995); vol. VI (1996).
- \*\*\* Geografia României, I, Geografie Fizică, Edit. Academiei, 1983.
- \*\*\* Geografia României, III, Carpații și Depresiunea Transilvaniei, Edit. Academiei, 1987.
- \*\*\* Planul de amenajare a teritoriului Regiunii de Nord-Vest (PATR). Coordonate majore, (2004), Coordonator, Prof. Dr. Pompei Cocean, Edit. Presa Universitară Clujeană, Cluj-Napoca.
- \*\*\* P. U. G., (1999), Comuna Chiueşti.
- \*\*\* P. U. G., (2001), Comuna Boiu Mare.
- \*\*\* P. U. G., (2001), Comuna Ciceu-Giurgeşti.
- \*\*\* P. U. G., (2000), Comuna Valea Chioarului.
- \*\*\* P. U. G., (2002), Orașul Târgu Lăpuș.

- \*\*\* P. U. G.,(1998), Comuna Băbeni.
- \*\*\* P. U. G., (1998), Comuna Poiana Blenchii.
- \*\*\* P. U. G.,(1995), Comuna Vima Mică
- \*\*\* **Recensământul populației** (1992). Direcția Județeană de Statistică Cluj, Bistrița-Năsăud, Maramureş și Sălaj,
- \*\*\* **Recensământul populației** (2002). Direcția Județeană de Statistică Cluj, Bistrița-Năsăud, Maramureş și Sălaj,
- \*\*\* Strategia de dezvoltare a Comunei Băbeni pentru perioada 2009-2013.
- \*\*\* Strategia de dezvoltare a Comunei Chiuieşti pentru perioada 2007-2013.
- \*\*\* Strategia de dezvoltare socio-economică a Comunei Coroieni 2007-2013.
- \*\*\* Strategia de dezvoltare a Comunei Gâlgău pentru perioada 2009-2013.
- \*\*\* Strategia de dezvoltare a Comunei lleanda pentru perioada 2009-2013.
- \*\*\* Strategia de dezvoltare a Comunei Letca pentru perioada 2009-2013.
- \*\*\* Strategia de dezvoltare a Comunei Negrileşti pentru perioada 2009-2013.
- \*\*\* Strategia de dezvoltare a Comunei Poiana Blenchii pentru perioada 2009-2013.
- \*\*\* Strategia de dezvoltare a Comunei Vima Mică pentru perioada 2007-2013.
- \*\*\* Studii și cercetării în speologie, voll, Râmnicu Vâlcea, 1982.
- \*\*\* Arhiva personală de fotografii.

**ATLASUL CLIMATIC AL ROMÂNIEI**