

**“BABEȘ-BOLYAI“ UNIVERSITY
FACULTY OF GEPGRAPHY**

PhD Thesis

CULTURAL LANDSCAPES IN METALIFERI MOUNTAINS

**Scientific coordinator,
Prof. univ. POMPEI COCEAN PhD.**

**PhD. Candidate,
CAMELIA - INA GAVRA (căș. FAUR)**

**CLUJ-NAPOCA
2012**

TABLE OF CONTENTS

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

I. CULTURAL LANDSCAPE AS PART OF GEOGRAPHICAL LANDSCAPE.....1

I. 1 GEOGRAPHIC LANDSCAPE.....1

- I. 1. 1. Landscape – origin, semnification, approaches.....1
- I. 1. 2. Areas of application.....2
- I. 1. 3. Schools and research of landscape.....4
- I. 1. 4. Contributions to landscape research.....5
- I. 1. 5. National contributions to landscape research.....6

I. 2. CULTURAL LANDSCAPE.....10

- I. 2. 1. Cultural landscape - origin, approaches.....10
- I. 2. 2. Cultural landscape – meanings, definitions.....14
- I. 2. 3. Associated terms.....15
- I. 2. 4. Conclusions.....17

I. 3. CULTURAL LANDSCAPE – theoretical basis.....19

- I. 3. 1. Cultural landscape as a systemic enty.....19
- I. 3. 2. Genesis of cultural landscape.....19
- I. 3. 3. Cultural landscape structure (conceptual level).....20
- I. 3. 4. Internal hierarchical organization of cultural landscape.....21
- I. 3. 5. Cultural landscape elements characteristics.....22
- I. 3. 6. Dynamic of cultural landscape elements.....25
- I. 3. 7. Classification of cultural landscape elements.....26
- I. 3. 8. Dynamic of cultural landscape.....33
- I. 3. 9. Cultural landscape characteristics.....34
- I. 3. 10. Cultural landscape compoents (structure).....37
 - A). *Natural components*.....37
 - B) *Anthropogenic components*.....40
- I. 3. 11. Cultural landscape perception.....41
- I. 3. 12. Time and space in cultural landscape.....42
- I. 3. 13. Cultural landscape delimitation.....43
- I. 3. 14. Cultural landscape typology.....44

II. METHODOLOGICAL APPROACH.....50

- II. 1. Steps to create the thesis.....50
- II. 2. Research methods.....51
- II. 3. Specific cultural landscape research methods.....55
- II. 4. Means used for cultural landscape research.....59

III. CULTURAL LANDSCAPES IN METALIFERI MOUNTAINS.....61

III. 1. CULTURAL LANDSCAPES STRUCTURE (METALIFERI MOUNTAINS).....	61
III. 1. 1. Names used over time for Metaliferi Mountains.....	61
III. 1. 2. Metaliferi Mountains location.....	61
III. 1. 3. Metaliferi Mountains cultural landscape components	62
A) Natural components.....	62
a) Geological structure.....	63
b) Relief.....	73
c) Climate.....	80
d) Hydrography.....	82
e) Soils.....	86
f) Vegetaion and fauna.....	90
B) Anthropogenic components.....	93
a) Population.....	93
b) Settlements.....	95
c) Economic profile.....	103
d) Economic model of household.....	113
III. 2. GENESIS AND EVOLUTION OF CULTURAL LADSCAPE (METALFERI MOUNTAINS).....	115
III. 3. CULTURAL LANDSCAPE TYPOLOGY OF METALIFERI MOUNTAINS.	149
III. 3. 1. Cultural landscape related to housing and household	150
III. 3. 2. Agricultural cultural landscape.....	164
III. 3. 3 Cultural landscape related to forestry.....	179
III. 3. 4. Industrial cultural landscape.....	184
III. 3. 5. Cultural landscape related to transports.....	203
III. 3. 6. Touristic cultural landscape.....	213
III. 3. 7. Sacral (religious) cultural landscape	221
III. 3. 8. Classification of Metaliferi Mountains cultural landscape	
according to the type of habitat	233
A) Rural cultural landscape	233
B) Urban cultural landscape.....	235
III. 3. 9. Vulnerability of Metaliferi Mountains cultural landscape.....	239
III. 4. SWOT ANALYSIS OF METALIFERI MOUNTAINS CULTURAL LANDSCAPE.....	241
III. 5. CONCLUSIONS	243
BIBLIOGRAPHY.....	245
ATTACHMENTS	

Key words:

Metaliferi Mountains, cultural landscape, traditional, resources, mining.

Abstract

Physiognomic diversity of surfaces, showing specific space systems, takes certain directions, intensity of exchange of matter, energy and information between natural and anthropogenic components of complex. Thus, determining the causes and types of transformation, allows the action of grouping large landscapes into two classes: natural landscapes and humanized landscapes called anthropogenic or cultural landscapes.

In terms of semantic association of the two terms landscape and culture was meant to express clearly and integrated anthropogenic intervention in transformation of geographical landscape, recognizing in this way the increasing human capacity in natural transformation. In this context, over time, both internationally and nationally, researching, defining, analyzing and classifying it stirred controversy, many views expressed, highlighting theoretical and practical importance of the field.

In recent years, partly under socio-economic and political (legislative) impetus, cultural landscape has begun to receive attention, both at scientific and legislative level, reflected in more specific works. Thus, as a result of Romanian ratification of the European Convention on Landscape (2000) and of our country's participation in various community programs of scientific research, conceptual considerations and approaches on this subject received a new dimension both in terms of individual scientific research and in community projects (integrated).

PhD Thesis, entitled Cultural Landscapes in Metaliferi Mountains, fall in the current trend of cultural landscape approaches, highlighting, in three chapters, theoretical aspects, research methodology and research results.

Chapter I. **CULTURAL LANDSCAPE AS PART OF GEOGRAPHICAL LANDSCAPE** outlines various theoretical concepts related to landscape and cultural landscape, brought to light by the relevant views and arguments offered by many Romanian and foreign researchers and geographers.

On geographical landscape, are highlighted distinct modes of understanding of the term, (view, art of gardening, an area of a state or region, images of the earth's surface, type of arrangement ,landforms etc.), areas of application (painting, literature, architecture, geography, tourism and even medicine), schools and trends of landscape research (German, French, Russian, Anglo-Saxon) highlighting various theoretical or pragmatic approach in defining it outstanding contributions, reflecting three specific trends focused on: systemic character of the landscape (see Troll C. 1950, Bertrand, G., 1969, Tufescu V., 1971, Soceava 1975, Wieber J.C. 1985 G and Beroutchachvili Rougerie 1991, Nice L . 2000, Mac I., 2000, P. 2002 Cocean etc.), the image or character, as a reflection of all territorial components (Alexander von Humboldt, Taillefer F. 1974, Raffestin C. 1977, Posea G. 1978, Levy B. 1991, K. Koreleski 2008) or human component

as the dominant factor in shaping geographical space (Schmithüsen J. 1959, Roşu A., Ungureanu Irina 1977, Hart John Fraser 1998, Woebse H. 2008, Macaria Brigitte 2009).

On this background, attention is focused on the concept of cultural landscape by highlighting relevant aspects such as meaning of the term (scientific significance - with reference to the theoretical basis through which cultural landscape is defined, characterized, classified, etc. - and the practical one - in terms of opportunities for cultural landscape conservation and enhancement -), relevant studies in theorizing cultural landscape, developed by Romanian and foreign researchers, which revealed various aspects such as: the role of historical evidence held by the cultural landscape (see Schwind 1950, Hard 1973, D. Denecke 1997), its reflection in the various activities undertaken by humans (see Negrutiu F.1980, Finike MH, FM Grünweis , Wrbka T. 1989), J. Fellman, Getis A., Judith Getis 1990), people decisive role in cultural landscape becoming (see Hart, John Fraser 1998, Catrin Schmidt 2007, 2009 Terry O'Regan) or cultural landscape as a complex spatial unit (see Hiess H. 1999, European Landscape Convention 2000, Dorozhynskyy O., I. Kolb, Olenka Dobrozhynska 2008).

In this context, it is considered appropriate, significance analysis of cultural landscape associated terms (eg. cultural landscape with special character, historic cultural landscape, traditional rural landscape, modeling, management and preservation of cultural landscapes, etc. .) to achieve a fair and consistent global perception, on the cultural landscape concept.

The second part of this first chapter, reserved exclusively to theoretical aspects analysis, highlight personal proposals on cultural landscape concept, filtered through the systemic vision. It is proposed therefore cultural landscape like a complex spatial entity, characterized by internal hierarchical organization, dynamics, relationships, characteristics and specific structure, whose genesis and persistence are conditioned by the existence of the human factor.

Global evolution is considered to be in close correlation with the dynamics of spatial and temporal sequences characteristic of many local (local cultural landscapes, regional cultural landscapes etc.), also putting out specific ways of interaction of natural and cultural components.

Cultural landscape method and time occurrence is related to bifurcation, occurring in the system with the material manifestation of human intervention in natural landscape. Thus, the human landscape transformation was achieved gradually and was mainly due to: actions taken by people in order to meet basic needs, scientific and technical progress, population growth, and lately, to meet new needs, trends (sometimes adopted the natives of other nations), fashion, etc..

Landscape transformation involved simultaneously structural transformation (physical) thereof - by removing the natural elements and / or introducing cultural elements - and functional transformation – transformed natural landscape, received getting new and different functions.

- At the conceptual level, cultural landscape systemic entity can be defined as incidence manifestation field of the four intrinsic dimensions: spatial - temporal, structural, relational and functional in its own manner and extent (Fig. 1.)

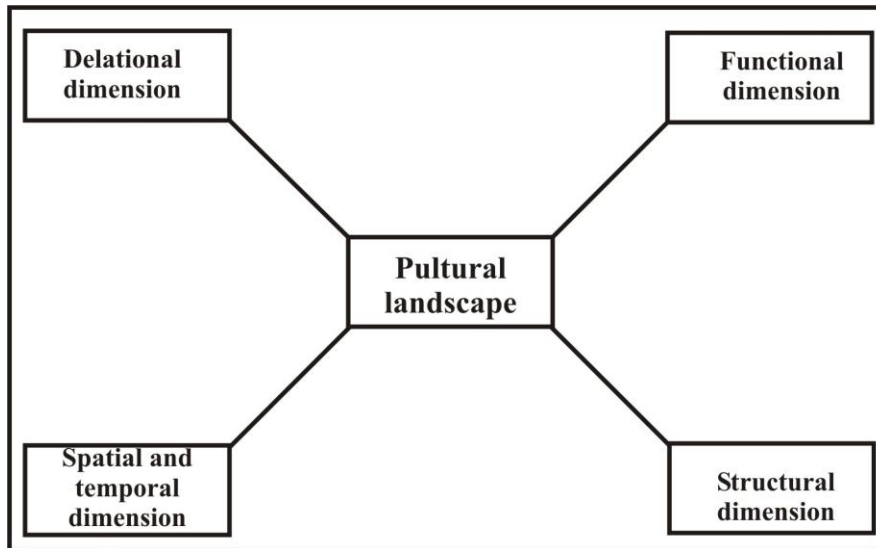


Fig. 1. *Cultural landscape - intrinsic dimensions*

- Internal hierarchical organization of the cultural landscape is based on three structural-functional hierarchical levels, from the lower level, represented by the cultural landscape element, the middle level represented by the subassembly and ending with the upper level, defined by the cultural landscape (Fig. 2) ;

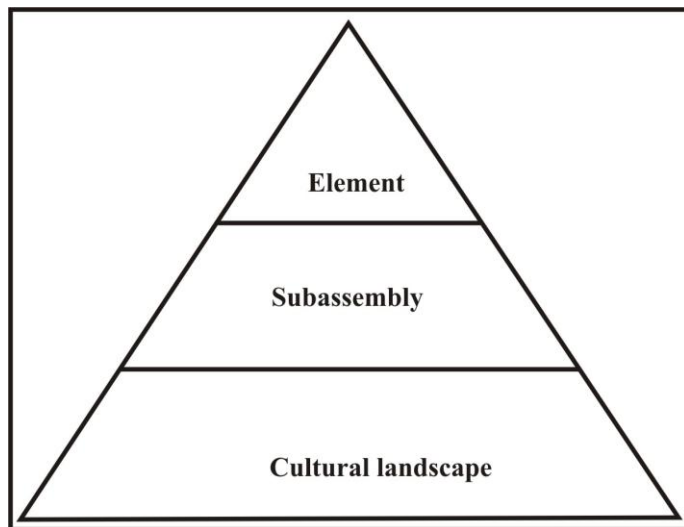


Fig. 2. *Cultural landscape internal hierarchical organization*

- “Internal rhythms - endogenous, depending on material and energy exchanges to each element and external-exogenous, related geophysical phenomena and laws,”¹ require cultural landscape space-time dynamics, manifested at two levels simultaneously: dynamic elements that make up the cultural landscape and general dynamic cultural landscape (Fig. 3.). Cultural elements dynamic is determined by their spatial and temporal structural and functional characteristics and also by physical phenomena and laws, under which it is subject at all times. General dynamic is a summation of cultural elements dynamics. It manifests itself as temporal-spatial, structural and functional evolution of cultural landscape in its entirety;

¹ Mac I., (2000), *Geografie generală*, Editura Europontic, Cluj-Napoca, p. 382

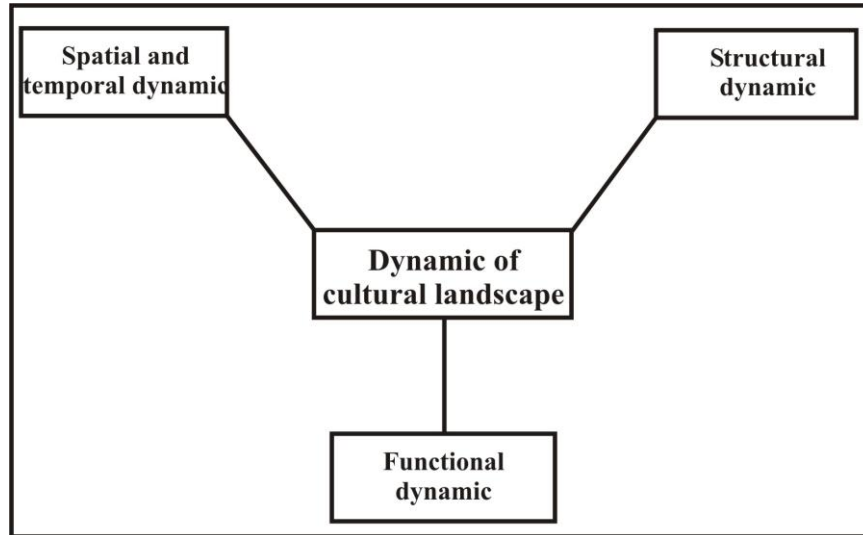


Fig. 3. Cultural landscape dynamic

- Spatial-temporal, structural and functional characteristics of cultural landscape are the result of infinite possible combinations of its elements and their interrelationships manifested in space and time.

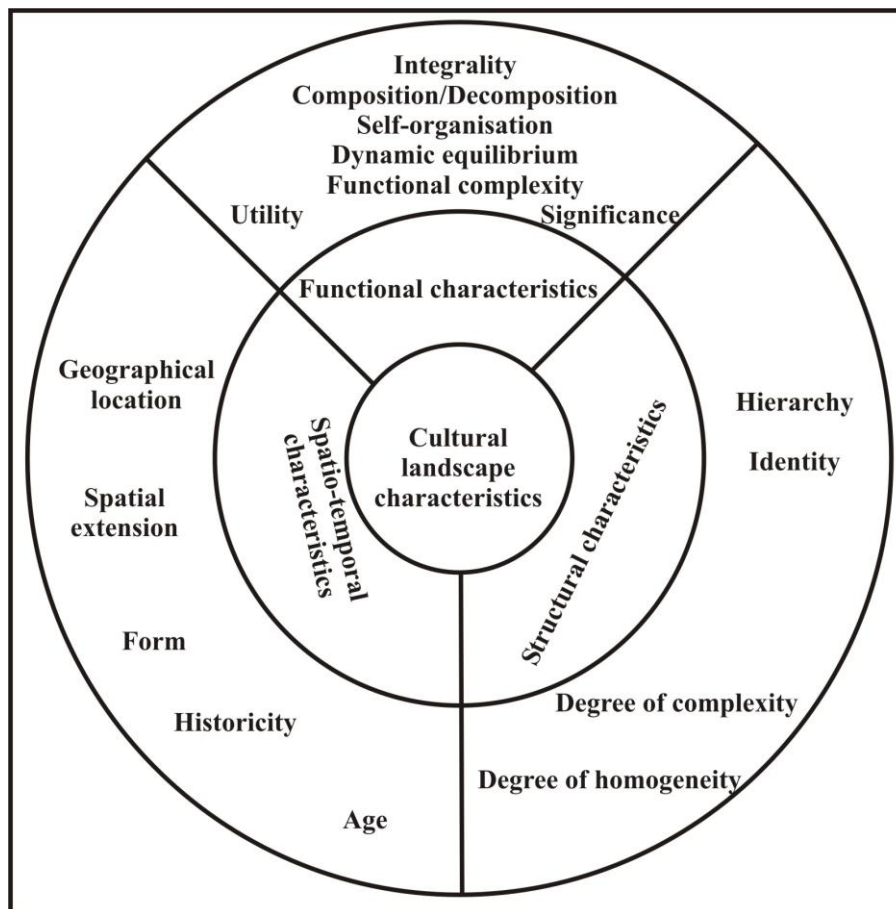
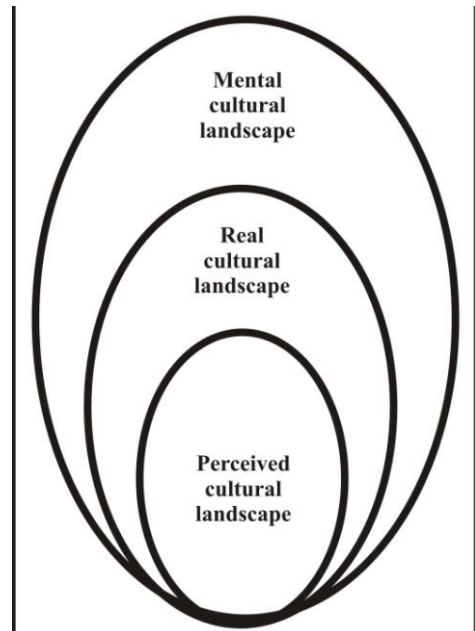


Fig. 4. Cultural landscape characteristics

- Seen as a complex system, with specific and dynamic hierarchy, imposed by inter-and intra-systemic exchange of matter, energy and information, cultural landscape is composed of two distinct components in constant interaction: natural component (as a support) and anthropogenic component.
- Through perception filter are detected three distinct types of cultural landscapes (real cultural landscape, perceived cultural landscape and mental cultural landscape) – Fig. 5. –
- Demarcation of existing cultural landscapes on the Earth surface is a complex process, involving the choice of geographical scale and criteria for determining, according to the purpose and objective reality. Drawing them is sometimes difficult, because limits, most often do not take the form of continuous strips, visible, tangible and precise, but as areas of discontinuity, which marks the connection between two separate units and bearing the imprint (visible or not) of the two. Choosing the scale at which cultural landscape research is carried out is essential, according to it, choosing the appropriate criterion for delimitation (natural, administrative, functional, mental and derivatives);



Picture. 5. Cultural landscape perception

Table 1. Criteria for cultural landscapes delimiting. Types of limit

Criterion of demarcation	Type of limit	Characteristics of limit	Surface characteristics defined as a cultural landscape
Natural	Natural	Irregular shape, stable, objective	Irregular shape, relatively homogeneous
Administrative	Administrative	Precise form, stable, subjective	Precise form of different sizes, heterogeneity
Functional	Functional	Irregular shape, unstable, objective	Irregular shape, relative homogeneity
Mental	Mental	Irregular shape, relatively stable, subjective	Irregular shape, subjective perceived, relative homogeneity
Complex	Complex	Irregular shape, objective, unstable	Irregular shape, relative heterogeneity

- According to specific spatial-temporal, structural and functional features of cultural landscape, it may be subject to classification according to the following criteria: functional (by assessing cultural landscapes in accordance with specific functional features), land use, historical period to which they belong, type of habitat, degree of human

intervention, degree of conservation, vulnerability degree, structure, degree of specificity, degree of complexity (by grouping according to structural features of the cultural landscape).

Chapter **II. METHODOLOGICAL APPROACH**, make known technical issues underlying the development of this thesis, by outlining the stages of development, methods (general methods - observation, analysis, synthesis, induction, deduction, comparison, cartographic methods, statistical methods, historical methods, GIS methodology, bibliographical documentation - and specific methods – register of cultural landscape elements, ECOVAST method-) and means (geographical description, dating, explanation, comparison, classification, hierarchy) that have been used Fig. 6). Choosing methods and means was carried out in first stage of research (information storage), while their use has occurred (individually or in combination) throughout the entire research process. Frequency of their use varied depending on immediate goals and major objectives proposed.

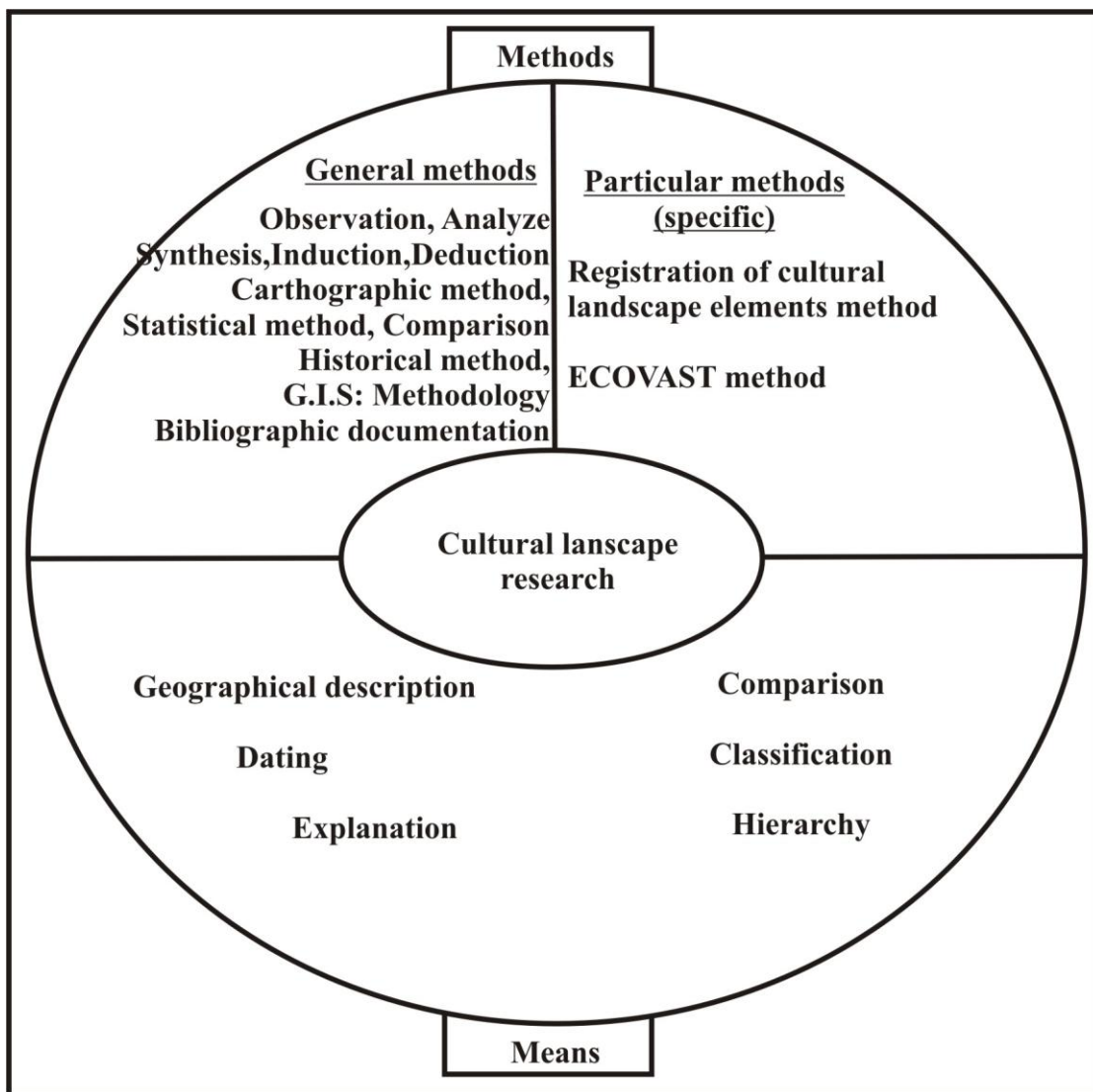


Fig. 6. *Methods and means used for cultural landscape research*

Chapter III. **CULTURAL LANDSCAPES IN METALIFERI MOUNTAINS** highlights the regional structure, genesis, evolution and typology of Metaliferi Mountains cultural landscape. Through SWOT analysis are made known, aspects to be taken into account in any action for cultural landscapes protection and conservation in the region.



Fig. 7. *Metaliferi Mountains. Geographical position*

Thus, to highlighting the cultural landscape structure, attention is turned to reveal geographical location (southern Apuseni Mountains), mountain area limits (Crișul Alb, Abrud, Arieș and Mureș valleys), basic features and functions performed by natural components (role of support and framework for the development and transformation factor of Metaliferi Mountains cultural landscape, etc.) and characteristics of natural components, such as:

- Structure, lithology (volcanic rocks, various sedimentary rocks) and tectonic great complexity;

- Types and forms variety of specific relief (volcanic and sedimentary mountains and depressions);
- Moderate continental temperate climate with oceanic influences and in particular, various climates, marked by the influence of different air masses;
- Special quality water (rivers, thermal and mineral springs, lakes etc.)
- Varied soils and specific high hills and low mountains vegetation (deciduous forests - oak *Quercus petraea* -, mixed forests - beech, spruce etc.- secondary steppe grasslands, and ruderal - segetal vegetation).

For shaping regional cultural landscape image and the manner in which it has become, two sets of anthropogenic components are investigated: people and the elements resulting from its activities. People are seen as the main transformation factor of geographic landscape since its inception, by introducing more and more changes, temporary or permanent, for all system components. Thus, voluntary or not (most times), the human factor is the cultural landscape creator, through its products (cultural components, subassemblies and cultural landscapes) materialized in the most synthetic and expressive way possible, both material (human settlements, households, etc.) and spiritual.

Material culture of Metaliferi Mountains area "highlights anthropogenic features, dictated by people needs and by its practical possibilities of changing natural landscape"². Thus knowledge of these issues through indicators related to population number and distribution, characteristics of human settlements and local economy is essential to determine the cultural landscape features of this area.

Also, discerning the genesis and evolution of cultural landscape in this region, involves analyzing the structural (through natural elements removal and / or cultural elements introduction) and functional transformation (natural landscape transformed received new and different functions) of the natural landscape, occurred with the material emergence of human intervention (in primitive times) and then developed according to historical and cultural trends of the time. Research of cultural elements typical features (spatial-temporal, structural, relational and functional) allows identifying and grouping of territorial cultural landscapes, according to three relevant criteria: function, type of habitat and cultural landscape vulnerability.

- a.) Thus, according to functional criteria, Metaliferi Mountains are identified by: high specificity cultural landscapes emerged from a distinct way of natural and anthropogenic components interaction (characterized by specific qualitative and quantitative traits) on regional level.

² Cocean P., (1979), *Valorificarea agricolă a reliefului carstic din Munții Apuseni* in Studii și cercetări de geologie, geofizică, geografie. Geografie, Tomul XXVI, Editura Academiei Republicii Socialiste România, p. 89

- *Cultural landscape housing and household related.* Visual expression of human intervention on natural landscape, through housing and household activities, is represented of traditional household. Traditional household has a central role in the settlement, including elements for people housing (see Fig. 8), animals housing, tools and cereals storage, water supply and other specific elements to pursue traditional activities. A similar situation, but manifested in a smaller scale, is found in urban areas. Thus, concentration of urban elements with similar functions (houses, villas and apartment blocks, and other buildings belonging to different institutions, distinguished by size and specific architecture), formed over time, a specifically urban cultural landscape housing and Household related. In present times, cultural landscape the originality (especially in Abrud) is endangered by the same factors that cause "cultural landscape poorness" in rural areas. This phenomenon requires adequate intervention.



Fig. 8. *Traditional house – straw roof*
(Valea Barnii village, Mogoș commune)

- *Agricultural (agrarian) cultural landscape.* Elements belonging to this category of cultural landscape, owes their existence and persistence to the practice of farming and traditional crafts such as: growing various species of plants (adapted to local climatic and soil conditions), cattle breeding (mainly cattle, horses, etc.), wood exploitation, beekeeping, milling, obtaining traditional alcoholic beverages etc. Thus, Metaliferi Mountains agricultural cultural landscape can be considered as the result of landscape perpetual transformation, by practicing the various agricultural activities and

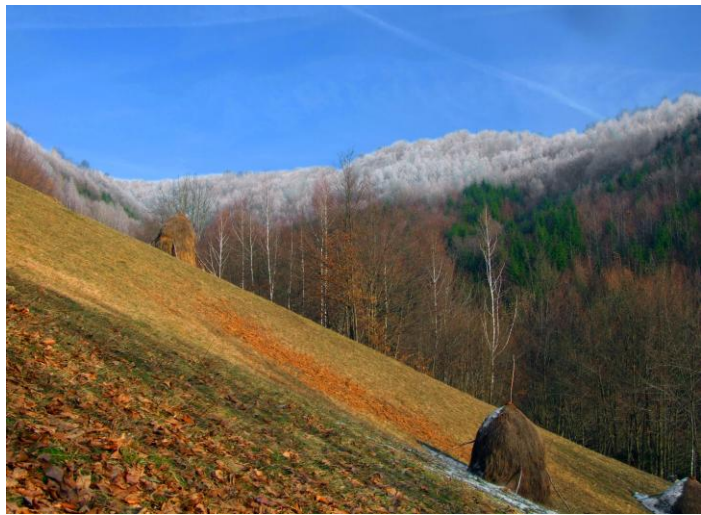


Fig. 9. *Grassland* (După Piatră village, Buceș commune)

traditional crafts. This reflects the natural potential and specific modes of operation (means and archaic techniques often used in subsistence agriculture, and rarely policies imposed by modern agricultural efficiency), mainly by cattle breeding (70% of agricultural land consisting of pastures and grasslands – Fig. 9. -), by growing plants (extensively) and practice of traditional crafts and occupations. This landscape is closely linked to demographic factors and local culture, functioning as a sounding board of them, reflecting the social and economic mutations nationally manifested. Agriculture, no longer perceived as a source of income, do not poses a major interest for local communities. This translates into reality by abandoning territorial land and natural reconstruction (eg. abandoned pastures reforestation).

- *Cultural landscape related to forestry.* This emerged from the manifestation of two distinct sets factors: natural conditions and low human intervention on Metalifei Mountains (based on actions to meet some needs). It is characterized by a low diversity of the elements composing it (quantitative variety) compared to other cultural landscapes, location on slopes and surfaces unfavorable to agriculture and relatively uniform distribution of its elements (gives a compact appearance).



Fig. 10. *Forest (Ciunganilor Range)*

- *Industrial cultural landscape.* Resource factor (gold, silver, copper, mercury etc.) led to the development of a millennial history of mining practice (extraction and processing).



Fig. 11. *Cultural landscape mining related (Roşia Poieni –copper extraction)*

This meant unprecedented development of cultural landscape, mainly depending on mining (extraction and primary processing) and to a lesser extent of cultural landscape related to industrial production, by the progressive introduction of new and specific cultural elements, under some impetus factors, such as: new deposits discovery, technological progress, economic policies, consumption increase, etc.

- *Cultural landscape transports related.* Analysis of cultural landscape transports allows highlighting three subtypes (grouped based on the same type). This



Fig. 12. *Cultural landscape transport related*
(Buceş-Vulcan village, Buceş commune)

establishes the existence of cultural landscape related to road transport, rail transport and special transport, each resulting from the territorial concentration of specific elements. Possible future introduction of new specific elements (remarkable by its quantitative and qualitative characteristics) could generate cultural landscapes transports related, suitable for regional analysis.

- *Cultural landscape tourism related.* The existence of natural or anthropogenic elements (mineral thermal water, Avram Iancu's Grave, Horea's Oak, King Ferdinand's Oak, Alburnus Maior archaeological site of Roşia Montană etc.) used for tourism, recreational or therapeutic activities,



have facilitated the emergence of specific infrastructure elements

Fig. 13. *Roman*

baths (Geoagiu Băi Resort)

and ultimately, the emergence of cultural landscape tourism related. Determinant factors in shaping this type of cultural landscape are: varied local tourism resources, the change of some cultural elements function, tourism infrastructure and specific facilities developing, lack of regional tourism development policies, etc. Although exists various types of cultural tourist elements spread (conferred by age, uniqueness, novelty, size, position) on the entire mountain area, only in certain areas with high favorability have shaped cultural landscapes tourism related (in the true sense of the word), the rest remain disparate without having the ability to be a cultural landscape than. Thus we consider, Țebea touristic complex, Roșia Montană Museum, Vața and Geoagiu Resorts, as being representative for regional cultural landscape tourism related.

- *Sacral cultural landscape* acts as cultural landscape incorporating elements (eg. the church, Fig. 15.) and sub-assemblies (ex. the cemetery, Fig. 14.) with specific structure and functions within each local community (village/city). Generally this type of cultural landscape reflects high degree of conservation, explained by the fact that the entire local community is involved (both spiritual and material) in elements good preservation.

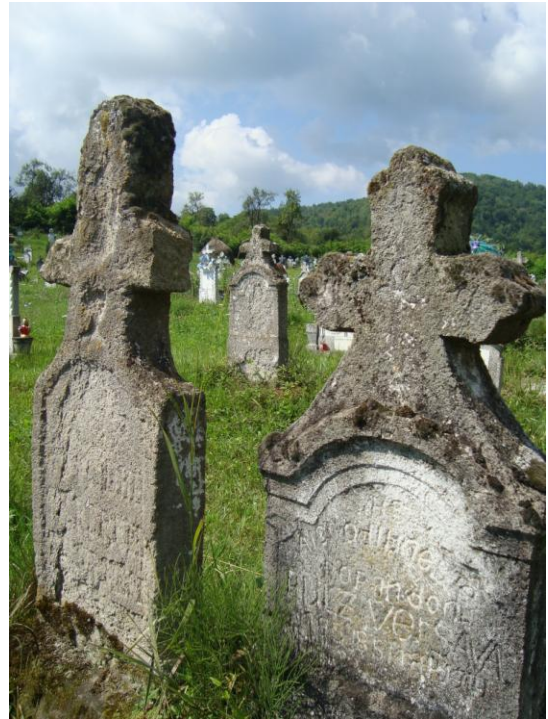


Fig. 14. Cemetery. (Prăvăleni village, (Vața de Jos commune)



Fig. 15. Wooden church (Ciungani village, Vața de Jos commune)

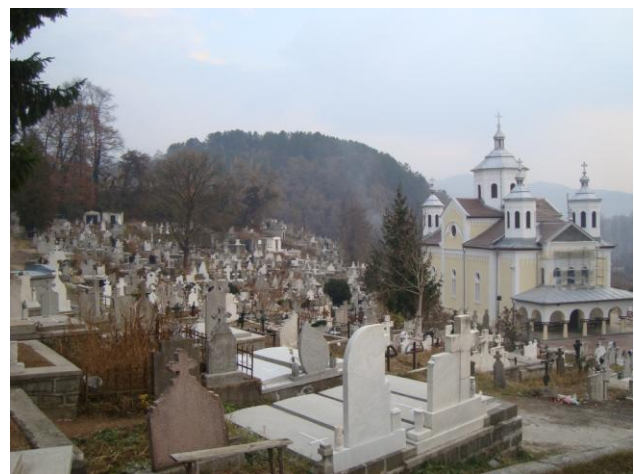


Fig.16. Sacral cultural landscape (Brad city)

(FORMAT A 3 LANDSCAPE)

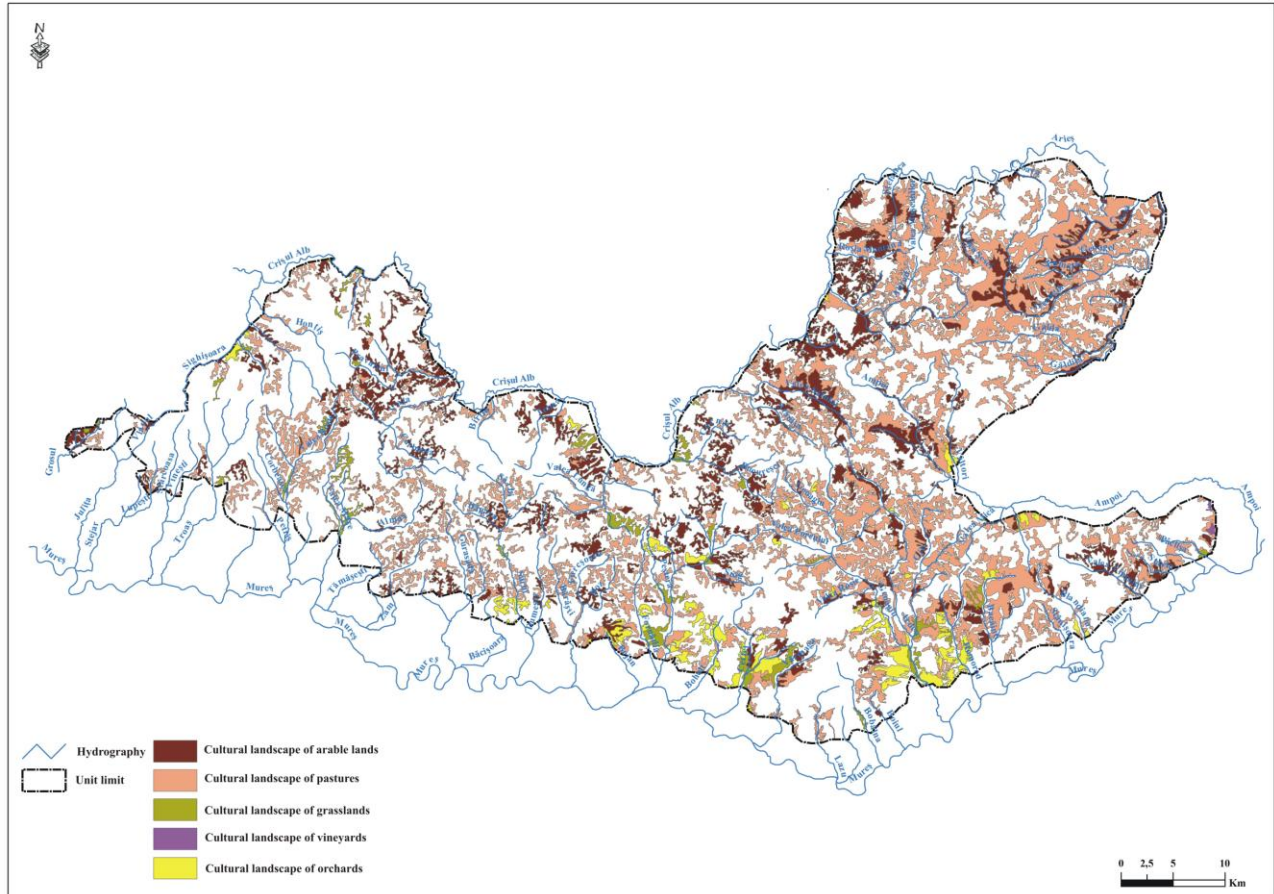


Fig. 16. *Metaliferi Mountains. Agrarian cultural landscape*

(format A 3 LANDSCAPE)

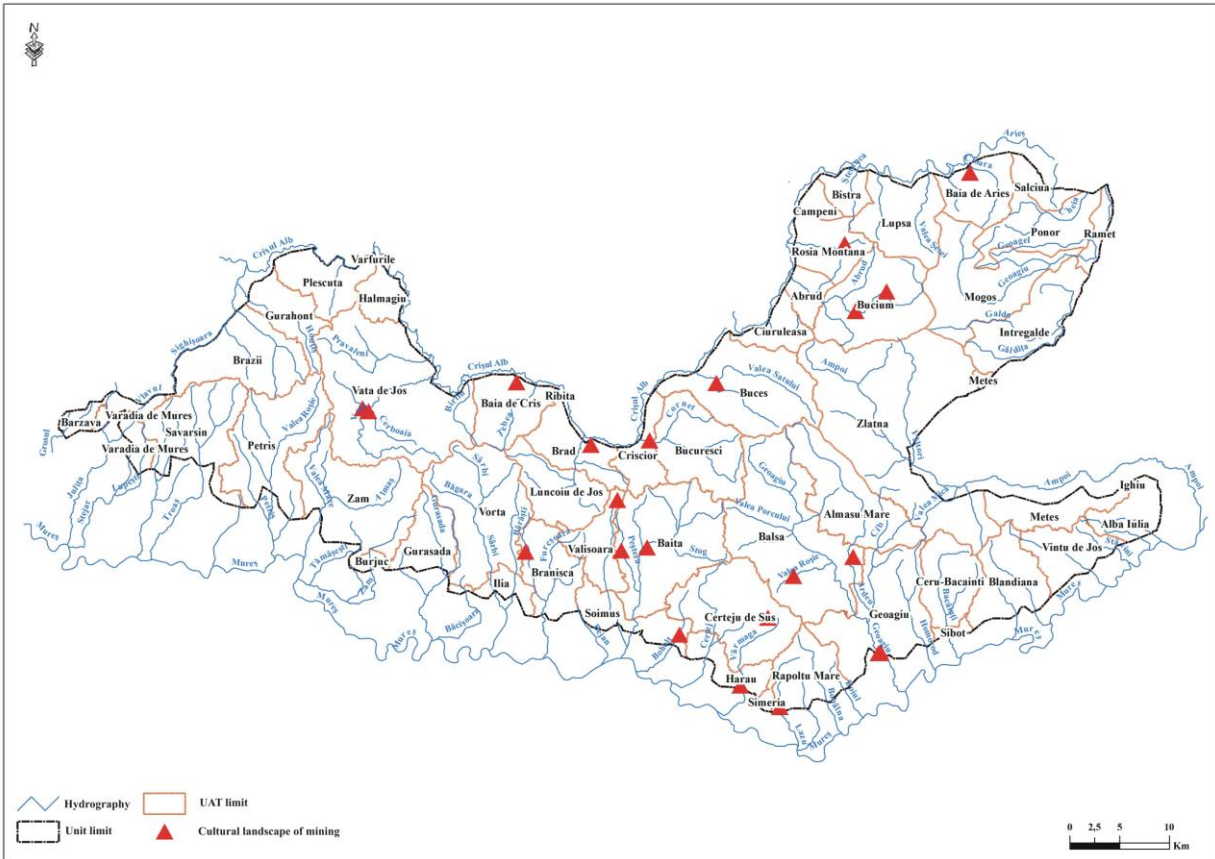


Fig. 18. Metaliferi Mountains. Cultural landscape mining activities related

b.) Second criterion (habitat type) reveals rural cultural landscapes predominance also low representation of urban cultural landscapes, developed on favorable surfaces (depression, small basins), mainly under economic and administrative impetus.

As a result of past constant changes, induced by natural and human factors action and interaction, rural area reflects mainly rural cultural landscapes, where historical cultural elements, although dominant, are in perfect harmony with modern ones. Regional rural cultural landscapes reflects traditional agricultural activities (animal husbandry, plant cultivation, beekeeping, forestry, which have seen over time separate development, specific to mountain areas), extractive industrial activities (subsoil various resources exploitation), industrial processing (calcite, wood, ore processing etc.), regional infrastructure (roads, railways, electricity and water supply, communications), tourism (by exploiting mineral and thermal springs) and services.

In particular, are rural cultural landscapes specific to scattered structure settlements (Fig. 19.). Their cultural elements, related to housing and household, those concerning local economy and infrastructure are spread on entire surface. Households are isolated or relatively grouped as hamlets, in direct contact to forests, pastures, fields etc.

Urban cultural landscape is specific to urban areas (Abrud, Brad, Baia de Arieș, Geoagiu). It is distinguished by settlement area, open countryside, infrastructure characteristic elements, which contribute to its specificity.



Fig. 19. *Scattered structure settlement (Vârși village, Câmpeni city)*

(format A 3 LANDSCAPE)

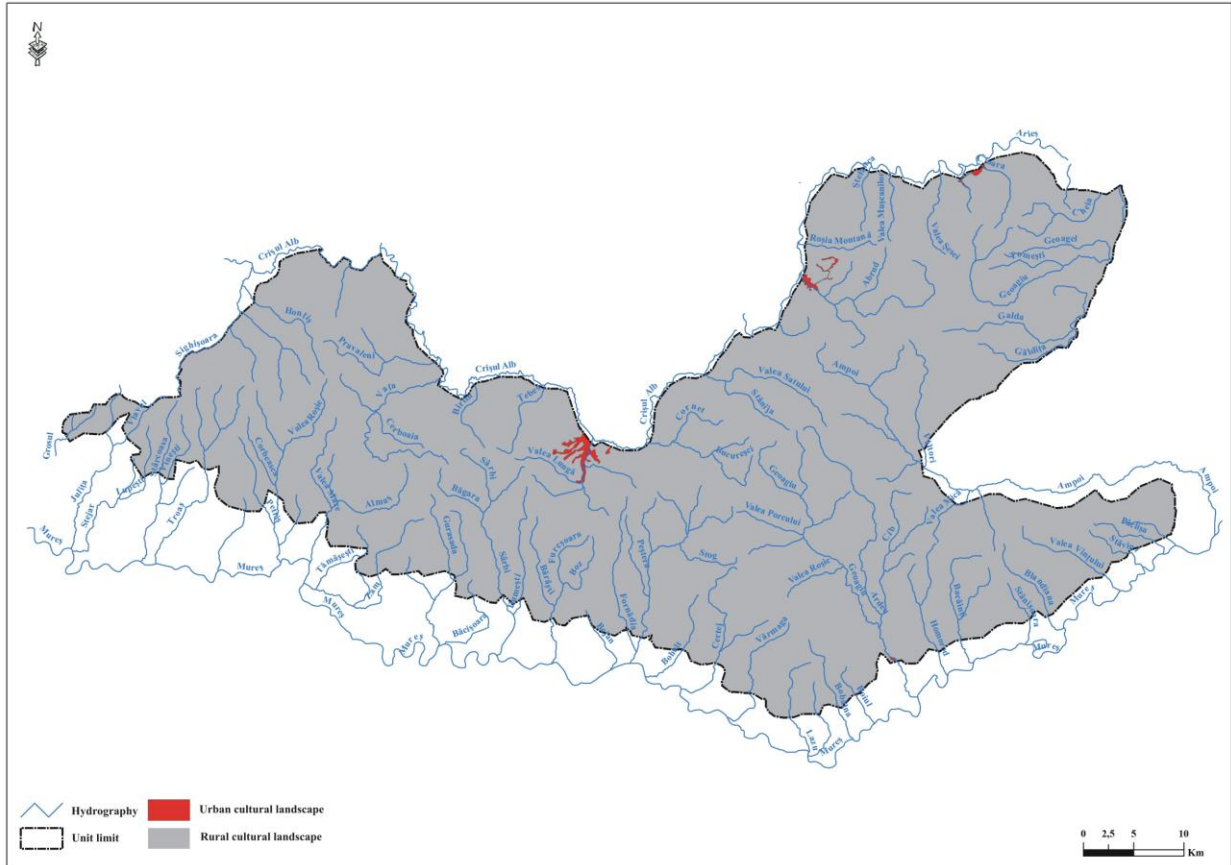


Fig. 20. *Metaliferi Mountains. Urban cultural landscape, rural cultural landscape*

c.) Vulnerability of Metaliferi Mountains cultural landscape

By the fact that people are responsible for cultural landscape origin and evolution, population decrease (through death, migration, etc.) and its constant aging states as key determinants in its degradation trend. Grouping cultural landscapes according to their vulnerability, allows predicting the evolutionary trajectory or rather, involution, that appears on individual cultural landscapes and finally to regional cultural landscape.

Thus, according to vulnerability degree, we can distinguish three types of cultural landscapes:

- *Cultural landscapes with high vulnerability.* Include especially cultural landscapes mining related (of Roșia Montană, Crișcior, Hondol villages etc.). Closure of mining and processing units meant the deterioration of specific cultural elements. Also includes deteriorated cultural landscapes housing and household related (of Bucium Mogoș, Lupșa, Râmeț, Ceru Băcăinți villages etc.), that related to forestry (of Bucium, Baia de Arieș, Ponor etc.), degraded by the introduction of quantitative or qualitative changes (by irrational exploitation of wood) and agrarian cultural landscapes (damaged by abandonment).
- *Cultural landscapes with moderate vulnerability.* Comprise cultural landscapes in an average state of danger (eg. cultural landscape tourism related of Vața Băi Resort, sacral cultural landscapes, including cultural elements such as: wooden churches, wooden crosses).
- *Cultural landscapes with low vulnerability.* Currently not in danger cultural landscapes (eg. cultural landscape tourism related of Geoagiu Băi Resort, industrial cultural landscape of Cgișcădaga cement plant, urban cultural landscapes of Brad city, Geoagiu city etc.)



Fig. 21. *Cultural landscapes with high vulnerability (Hondol processing plant (Certeju de Sus commune)*



Fig. 22. *Degraded cultural element - cleared forest parcel (Brad – Deva Corridor)*

SWOT ANALYSIS OF METALIFERI MOUNTAINS CULTURAL LANDSCAPE

Objective research of Metaliferi Mountains cultural landscape state, through positive attributes (which highlight the cultural landscape qualities) and negative traits (which reduces the cultural landscape value and need to be improved), allows deep understanding of potential problems and identify strategies to follow. Diagnostic analysis of the region reveals the following aspects to be taken into account in any action for protection and conservation of regional cultural landscape:

Table. 2 SWOT analysis of Metaliferi Mountains cultural landscape

Strengths	Weaknesses	Threats	Oppurtunities
<ul style="list-style-type: none"> - Cultural landscape greath widespread in this region; -Remarkable typological diversity; - Complex cultural landscapes, resulting from the interference of various human activities; - Many cultural landscapes in good preservation; - Representative historical cultural landscapes; - The existence of inherited cultural elements (various archeological sites); - The existence of unique cultural elements; - Cultural landscape capacity to be exploited, planned, , protected and preserved; - High accesibility to almost all cultural landscapes. 	<ul style="list-style-type: none"> - Cultural value insufficient perception and development; - Protection lack of representative cultural elements; - Cultural elements degradation or lost as a result of their abandonment; - Cultural landscape alteration by adopting foreign feature elements; - Very low tourist use; - promotion lak of regional cultural landscape; - Ignorance of cultural landscape existence; - Abandoning of continuity principle (in architecture, local economy, etc.). 	<ul style="list-style-type: none"> - Cultural landscape degradation (through cultural elements abandonment; - Disappearance of some cultural landscapes; - Emergence of some foreign cultural landscapes types; - Appearance of uniform cultural landscapes (due to increased manifestation of globalization and interchangeability); - Replacing of some local cultural landscape types, with some worthless (degraded), due to aggressive implementation of mining projects (eg. in Roşia Montană, Certej). 	<ul style="list-style-type: none"> - Awareness of cultural landscape planning, protection and conservation as a primary need; - Concepts and strategies development for national cultural landscape preserving; - Cultural landscape restoring (by rehabilitating degraded cultural elements); - Agro- and ecotourism development; - Regional cultural landscape promoting; - Implementation of planning, protection and preservation policies (for regional cultural landscape) - Airmation of local and regional initiative in protecting cultural landscape; - Projects that supert regional characteristic features development

			<p>as a source of regional identity and sustainable regional development;</p> <ul style="list-style-type: none"> - Accesing European programs fons to develop and mentain a sustenable cultural landscape.
--	--	--	---

Chapter IV. marks the end of both cognitive and practical approach, detailed above, by highlighting some succinct conclusive ideas on Metaliferi Mountains cultural landscape:

- It is an organic structured cultural landscape with defining elements, derived from long cohabitation of local people and nature. Housing is constant and unequivocal statement in all historical periods from the Paleolithic to the present, due to natural resources existence (high quality and quantity), favorable landforms and climate (caves, valleys, depressions, small basins, high hills etc.), soil local characteristics (favorable for plants cultivation and cattle breeding) etc. Thus the transformation of natural landscape into a cultural landscape and its recent evolution represents a consequence of changes introduced by humans in the natural landscape and relationships that exists between its components.
- Reflects the regional uniqueness, resulting from the accumulation (over time) of material culture in different social, political, economic and historical contexts;
- Illustrates a varied typology, due to the specific natural conditions and their distinct valorisation by local people, according to various human needs, socio-demographic characteristics (number, density, traditions, habits, etc.), cultural-historical context, technological progress and economic / administrative context;
- Typology (functional point of view) of Metaliferi Mountains cultural landscape reflects six distinct categories of cultural landscapes, generated by fallowing human activities: housing and household, economic activities (agriculture, forestry, industrial and services), transport activities, clerical activities and those concerning tourism and recreation;
- Regional cultural landscape is distinguished by special extension of industrial cultural landscape resulting from the operation of various types of resources extraction and primary processing (gold, silver, copper, various rocks etc.) and raw materials processing in specific production units;
- Includes an expended agrarian cultural landscape (about 48% of Metaliferi Mountains area), whose complexity and variety derives both from the high degree of

representativeness of areas occupied by arable land, pastures and meadows, and the continuity of the practice of traditional crafts and occupations, clearly manifested in the cultural landscape through specific elements;

- It is distinguished by the appearance of cultural landscapes on the basis of some enharitated cultural elementse (eg. Roman baths of Geoagiu Băi, Roman galleries of Roşia Montană, etc.), according to “prior potior” principle;
- Highlights the need to perceived in many ways the cultural landscapes, using "indicative elements" (eg. mines etc.), due to the underground location of some cultural elements.
- Illustrate recent assertion (at a higher level compared to previous historical periods) of cultural landscape tourism related (by specific facilities in locations with high favorability, eg. Ţebea touristic complex, Roşia Montană Museum, Vaţa Băi and Beoagiu Băi resorts).
- Reveals the massive damage of cultural landscapes as a result of the anthropogenic factors (declining and aging population, regional mining industry collapse, abandoning of farming, crafts and traditional occupations), due to unfavorable economic context and the manifestation of an increasing globalization.
- It is characterized by the emergence of cultural landscape transports related (represented by the elements of transport infrastructure), due to transport infrastructure development (road, rail, special transports).
- It is itself a resource that can be valued in economic terms (in touristic context), with special favorable repercussions in regional cultural landscape preservation.

Selected Bibliography

1. Apolzan Lucia, (1943), *Sate crânguri din Munții Apuseni. Observații asupra așezării lor sociale*, in Revista de Sociologie Română, An. V, Nr. 1-6;
2. Ciangă, N. (2007), *Wooden churches. A representative component in the cultural landscape of Transylvania*, in Romanian Review of Regional Studies, III, nr. 2., Cluj-Napoca;
3. Cocean, P. (2006), *Turismul cultural*, Editura Presa Universitară Clujeană, Cluj-Napoca;
4. Cocean, P. (2010), *Geografie regională*, Ediția a III-a, Restructurată și adăugită, Presa Universitară Clujeană, Cluj-Napoca;
5. Denecke D. (1997), *Kulturlandschaftspflege, Beiträge der Geographie zur räumlichen Planung*, Gebruder Borntraeger Berlin-Stuttgart;
6. Dulamă Maria Eliza, (2006), *Metodologie didactică*, Editura Clușsum, Cluj-Napoca;
7. Duma S. (2000), *Geoecologie – Tratat*, Editura Dacia, Cluj-Napoca;
8. Fellman J., Getis A., Getis J. (1990), *Human Geography. Landscapes of Human Activities*, University of Illinois, USA;
9. Finik M. H., Grünweis F.M., Wrbka T., (1989), *Kartierung ausgewählter Kulturlandschaften Österreich*, Wien;
10. Gavra, Camelia-Ina (2010), *Cultural landscape typology*, in Volumul Conferinței Internationale „Dezvoltare și Integrare Europeană”, Sighetul Marmăției, 16-17 Oct. 2009, Editura Presa Universitară Clujeană;
11. Gunzelmann T. (1987), *Die Erhaltung der historischen Kulturlandschaft*, in Selbstverlag des Faches Wirtschaftsgeographie der Universität Bamberg;
12. Hart J. F. (1998), *The rural Landscape*, The Johns Hopkins University Press, Baltimore, Maryland, USA;
13. Koreleski K. (2008), *Theoretical and Practical Aspects of Rural Landscape Creation*, in Infrastructure and Ecology of Rural Areas. Cultural Landscape. Protecting Historical Cultural Landscapes, Polish Academy of Science, Commission of Technical Infrastructure, Kraków;
14. Mac I., (2000), *Geografie generală*, Editura Europonic, Cluj-Napoca;
15. Matley, I. M. (1971), *The Human Geography of the Western Mountains of Romania*, in Scottish Geographical Magazine, 87, nr. 2, New York;
16. Meyer, H. H., Schmidt Catrin, Glink C., (2008), *Catalog and Register of Cultural Landscape Elements. A Practical Guide to Using the International Mapping Key (Register) and Glossary* in Infrastructure and Ecology of Rural Areas. Cultural Landscape. Protecting Historical Cultural Landscapes, Polish Academy of Science. Commission of Technical Infrastructure, Kraków;
17. Morariu, T., Onișor, T. (1970), *Spălarea aurului în Carpații Orientali și Meridionali*, Studia UBB. Seria Geographica, 1, Cluj-Napoca;
18. Oncu, M. (2000), *Culoarul Mureșului (Sectorul Deva – Zam). Studiu Geoecologic*, Editura Focul Viu, Cluj-Napoca;
19. Plăiaș, I. (1994) *Agricultura montană – societate. Un necesar contract posibil: Munții Apuseni*, Editura Libris, Cluj-Napoca;
20. Pop, P., G. (2006), *Carpații și Subcarpații României*, Editura Presa Universitară Clujeană, Cluj-Napoca;
21. Popa, A. (2000), *Mineritul aurifer din Munții Apuseni*, Editura Infomin, Deva;

22. Roșu, A. (1983), *Peisaj – geosistem - mediu*, in Sinteze geografice, Editura Didactică și Pedagogică, București;
23. Roșu A., Ungureanu Irina, (1977), *Geografia mediului înconjurător*, Editura Didactică și Pedagogică, București;
24. Rougerie, G., Beroutchachvili, N. (1991), *Géosystèmes et paysages. Bilan et methods*, Armand Colin Éditeur, Paris;
25. Schmidt, Catrin (2005), *Kulturlandschaftsprojekt Ostthuringen-Historisch gepragte Kulturlandschaften und spezifische Landschaftsbilder in Ostthuringen*, FH Erfurt, FB Landschaftsarchitektur und Regionale Planungsgemeinschaft Ostthuringen;
26. Schreiber W, Cocean P, Cianga N., Benedek J., (2008), *Protection and Valorisation of Cultural Landscapes in Transylvania*, in Infrastructure and Ecology of Rural Areas. Cultural Landscape. Protecting Historical Cultural Landscapes, Polish Academy of Science. Commission of Technical Infrastructure, Kraków;
27. Stoica Flavia, Schreiber W., (2008), *Peisaje culturale istorice*, Editura Argonaut, Cluj-Napoca;
28. Surd, V., Bold, I., Zotic, V., Chira, Carmen (2005), *Amenajarea teritoriului și infrastructuri tehnice*, Editura Presa Universitară Clujeană, Cluj-Napoca;
29. Tudoran, P. (1983), *Țara Zarandului. Studiu geologic*, Editura Academiei, București;
30. Woebse H. (2008), *Die Bedeutung historischer Kulturlandschaftselemente für die Eigenart und Schönheit von Kulturlandschaften*, in Kulturlandschaften, Analyse und Planung, Peter Lang Internationaler Verlag der Wissenschaften;
31. Wollmann, V. (1996), *Mineritul metalifer, extragerea sării și carierele de piatră în Dacia romană*, Bibliotheca Musei Napocensis, XIII, Cluj-Napoca;
32. ***ECOVAST (European Council for the Village and Small Town), (2006), *Landscape Identification. A guide to good practice*;
33. ****Geografia României. Geografie unană și economică* (1984), Editura Academiei Republicii Socialiste România, București, vol II;
34. *** M.Of. nr. 536/23 iul. 2002, Convenția Europeană privind Peisajul (2000).

Investing in people! PhD scholarship, Project co-financed by the

SECTORAL OPERATIONAL PROGRAMME HUMAN RESOURCES DEVELOPMENT
2007 - 2013

Priority Axis 1 "Education and training in support for growth and development of a knowledge based society"

Key area of intervention 1.5: Doctoral and post-doctoral programmes in support of research.

Contract **POSDRU 6/1.5/S/3** – „DOCTORAL STUDIES: THROUGH SCIENCE TOWARDS SOCIETY"

Babeş-Bolyai University, Cluj-Napoca, Romania

The author wish to thank for the financial support provided from programs co-financed by The SECTORAL OPERATIONAL PROGRAMME HUMAN RESOURCES DEVELOPMENT, Contract **POSDRU 6/1.5/S/3** – „Doctoral studies: through science towards society".