

## STUDY OF MOUNTAIN LANDSCAPE ELEMENTS IN APUSENI MOUNTAINS (GÂRDA DE SUS COMMUNITY)

### STUDIUL ELEMENTELOR DE LANDŞAFT MONTAN DIN MUNȚII APUSENI (COMUNA GÂRDA DE SUS)

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**Abstract:** There are cases when long-term human activities and their interaction with nature have created agro ecosystems with high conservative value of flora and fauna. Such agro ecosystems are among others, old grasslands and meadows, specific forms of traditionally managed forests, or even mosaics of grasslands, cultivated fields and forests. These land mosaics, formed usually by traditional land use systems of low intensity, result of handwork with simple apparatus and animals, are known as traditional (or historical) cultural landscapes or shortly cultural landscapes (EWALD, 1994; MEEUS, 1995; PHILLIPS, 2001; KONOLD, 1996; MÜLLER, 2005; KONOLD ET AL. 2001; FARINA, 2007; FORMAN AND GORDON, 1986). In our country, a precious landscape from cultural and pastoral point of views is constituted by the one in Apuseni Mountains, where, in time, traditional human activities marked the mountain landscape making it unique in Romania and in the world. With a high degree of novelty and originality, the study of mountain landscape elements brings forward some specific peculiarities to Apuseni, as well as their shaping and maintenance, but also the possibility of loosing them once new exploitation and building technologies are introduced or due to abandonment. The study was performed with the help of satellite images. The management practices of land, in time, have generated a mosaic landscape dominated by landscape elements which individualizes it. Among these, the following distinguish themselves: enclosures, rocks piles, isolated trees, lopped spruces, Fagus with contorted trunk, houses with roof made of spruce and fir branches, hay piles, fallowed terraces, enclosed arable land patches, forest grazing, meadows with plum trees, permanent and seasonal houses traditionally built, houses built at high altitude etc.

**Rezumat:** Există cazuri în care activitățile umane de lungă durată și interacțiunea lor cu natura au creat agroecosisteme cu înalta valoare conservativă a florei și faunei. Asemenea agroecosisteme sunt, printre altele, pășuni și fânețe vechi, formele specifice ale pădurilor exploatare tradițională sau chiar mozaicuri de pășuni, câmpuri cultivate și păduri. Aceste mozaicuri ale Pământului, formate de obicei de sisteme tradiționale de folosință ale terenului cu intensitate scăzută, rezultat al muncii manuale, cu ajutorul uneltelor simple și a animalelor, sunt cunoscute ca landşafturi culturale tradiționale sau pe scurt, landşafturi culturale (EWALD, 1994; MEEUS, 1995; PHILLIPS, 1995; KONOLD, 1996; MÜLLER, 2005; KONOLD și colab. 2001; FARINA, 2007; FORMAN și GORDON, 1986). În țara noastră, un landşaft valoros din punct de vedere cultural și practic îl constituie cel din Munții Apuseni, unde activitățile umane tradiționale de-a lungul timpului au marcat landşaftul montan devenind unic în România și în lume. Având grad mare de nouitate și originalitate, studiul elementelor de landşaft montan aduce în prim plan unele particularități specifice Apusenilor, precum și modul lor de formare și menținere, dar și posibilitatea pierderii acestora o dată cu introducerea de noi tehnologii de exploatare și construcție sau datorită abandonului. Studiul s-a făcut cu ajutorul imaginilor satelitare. Practicile de gospodărire a terenurilor de-a lungul timpului au generat un peisaj mozaicat, dominat de elemente de landşaft ce îl individualizează. Dintre acestea se remarcă: împrejmuirile, grămezile de pietre, copacii singuratici, molizii cu ramuri tăiate, fagul cu trunchi contorsionat, casele cu acoperiș de cetina, câpițele de fân, terasele înțelenite, petecele de teren arabil împrejmuite, pășunatul în pădure, pășiștile cu pruni, așezările umane permanente și sezoniere construite tradițional în stil moțesc, locuințe construite la mari altitudini etc.

*Key words: grassland, cultural landscape, traditional exploitation, anthropic activity*  
*Cuvinte cheie: pajiste, landsaft cultural, exploatare tradițională, activitatea antropică*

## INTRODUCTION

The human being has modeled the nature depending on his necessities and needs. Thus, the landscape expresses the picture of interaction in time between man and his environment (WWW.PETRARCA.INFO). There are however cases, where the long lasting human activities and their interaction with nature have created agro ecosystems with high conservation value for their fauna and flora. Such agro ecosystems are among others, old grasslands and meadows, specific forms of traditionally managed forests, or even mosaics of grasslands, cultivated fields and forests. These „land mosaics, formed usually by traditional land use systems of low intensity, characterized by handwork with simple apparatus and animals, are known as traditional (or historical) cultural landscapes or shortly cultural landscapes” (EWALD, 1994; MEEUS, 1995; PHILLIPS, 1995).

Each type of landscape has a peculiarity and a personal identity, features that determine the multitude of landscapes (the landscape of a forest, the landscape of a river, the landscape of a village etc.). Within each landscape there are certain elements which it identifies itself with. These are called landscape elements and took shape as result of extensive use (traditional) of land and their maintenance is inseparable from the human influence. The diversity of landscape elements’ shapes, their logical arrangement, the closeness to natural, as well as the oneness make the landscape elements the most important features for landscape aesthetics (MÜLLER, 2005). The diversity of landscape elements is the result of cultural landscape’s evolution. Some landscape elements were born from human will, and others appeared without its interference.

In Romania, in mountain region, due to less favorable life environment, the man has created, according to possibilities, life conditions and livelihoods, radically transforming the region. For the study of mountain landscape elements we chose the region of Gârda de Sus commune, in Apuseni Mountains, because it shows a valuable cultural landscape with numerous specific elements which prove a traditional way of use of the land in this area. Gârda de Sus community is situated in Alba district, at an altitude comprised between 775 and 1.380 m, covering an area of 8.270 ha.

## MATERIAL AND METHODS

Landscape elements can be studied as separate shapes, but of remarkable importance is their research in the framework of the use category that generated them (forest, arable, grassland) (GÂRDA, 2008). Using a satellite map of Gârda de Sus community, trips in the field were made, during which, the main landscape elements had been identified and the study area has been delimited: Ghețari – Poiana Călineasa Plateau. On the spot the element was registered, including some characteristics, and, after discussions with some locals, we obtained information concerning the role and forming manner of elements. The approximate position in field and the kind of elements have been marked on the map.

## RESULTS AND DISCUSSIONS

An important factor with direct implications in diversity of landscape elements is the way of land use. Main activities of the locals are: wood exploitation and animal husbandry. Besides these, also some vegetables cultivation and some tourist’s activities in a smaller extent are being practiced. Being an attractive area from tourist point of view, due to karst shapes of relief (glaciers, caves, springs, dolines) and to cultural landscape generated by managing

practices of natural resources, this region has a considerable potential for ecotourism in locals benefit, here the human settlements reaching up to 1.300 m elevation.

After the study, a few results regarding the forming and description of cultural landscape elements present on Ghețari – Poiana Călineasa Plateau were obtained. The noticed landscape elements characterize a secular way of living together between man and nature.

Permanent human settlements are specific to mountain areas, with villages having rare precinct, organized in family hamlets called „crânguri”. Among hamlets the traditional roads appear, which are narrow with numerous rocks on the surface and accessible only to carts and, in some cases, to jeeps. This situation, in a way, protects the naturalness of places, but at the same time, makes difficult the locals access to other services like sanitary, educational, commercial, cultural and social ones.

The traditional house has apparent rock foundation, built without mortar, sometimes high up to a semi-basement, walls made of halves of round trunk with large diameter (30-40 cm.), caught in x shape at corners, or carved girder (recently), always without plaster in exterior, sometimes plastered and whitewashed in the interior, porch on the corner or along front side. In this area, the houses with roofs made of spruce and fir branches and wood chips can be distinguished, which are an important element for the landscape, thanks to its oneness in Romania, but rarely practiced nowadays.

Animal husbandry has generated numerous elements both at grasslands level and at forest level. Grasslands use through mowing and graying has determined in time the forming of rocks piles, hay piles, beeches with contorted trunk, spruces with barren trunks, construction of wooden fences that surround the properties, traditional wells and watering places, seasonal houses (locally called „mutături”) from the communal pasture, used in summer time, forest grazing. The rock piles have resulted after the rocks gathering activity in order to facilitate the mowing, tilling and the maintenance works, having different shapes and sizes (linear, round, irregular). Due to the karst relief and limestone land, there are many rocks at the surface that hinder an efficient exploitation of land. They appear as hillocks of rocks, the old ones covered by vegetation, being proof of use of grasslands as hay meadow. Hay piles on the grasslands are the result of traditional technology of hay drying on soil, after the grass was mown manually in general, later to be transported within the farmstead. The beech (*Fagus sylvatica*) with contorted tree, usually, appears close to houses, in fences, at crossroads, at the forest edge. The unusual aspect of the trunk is the result from repeated periodical cutting of their branches, the leaves being used as fodder in very dry summers, which are frequent on this limestone plateau. The fallen leaves are gathered and used for stable bedding, and in the past they were used for making pallets for sleeping. The trunk's diameter is getting larger from year to year, resulting in a small stature, but voluminous tree. The spruces (*Picea abies*) with barren trunks present only a few branches in the top, the inferior ones being cut and used in different purposes. The main destination of cut branches is to feed the animals with it as supplement during winter. The spruce's branches can be used to build the traditional roofs of the houses. Traditional wooden fences are manufactured out of the scraps that result from spruce and fir processing and have the role to delimit the following areas: farmsteads and family properties, hay meadows from pastures, arable in grasslands, limit to the road and for access interdiction. Access to fields or farmsteads is made through small gates or passing bridges over the fence. Forest grazing is a very important landscape element for the region. It is practiced both on the plateau and on the communal pasture, with cattle and horses in summer.

Other managing practices of natural resources have modeled landscape elements like: fallow terraces, enclosed arable land, meadows with plum trees, spruces with scared over holes. Fallow terraces have different sizes, depending on the size of the field former cultivated within the agricultural system with fallow. This system is based on macroelements's use

(nitrogen, phosphorus, potassium etc.) resulted from ploughed layland. The land, in this way ploughed, is being used for 2-3 years, until the resources exhaust, and then it is abandoned, naturally following, which determine the forming of certain uniform, straight, turned green and further used as hay meadows. Another arable land category is enclosed arable, which is used for cultivation of a reduced plant assortment, like: potatoes and other species of vegetables. In general, it occupies reduced areas (2-5 acres) in the grassland close to the farmstead. Near to the houses, also, can be found meadows with plum trees, but in much smaller extent, and serve as fruit source for family consumption. The harvest is very low and the trees make fruits only in auspicious years. Spruces with scared over holes in the stem are the result of raisin collecting, and the *Fagus* with the bark removed appear as an effect of sweet sap scraped – a delicacies for locals, especially for children.

### CONCLUSIONS

The principal mountain landscape elements on the Ghețari – Poiana Călineasa Plateau indicate a traditional (extensive) management of natural resources in time, their maintenance depending on people's activities, being directly influenced by their livelihoods.

These elements have a great diversity thanks to the extensive (traditional) management applied in the region, but, at the same time, they are threatened by the wave of the new construction technologies that don't keep in mind the traditional architecture specific to the region's landscape, the irrational tourism, the urbanization, the abandonment, so, they risk to loose their cultural traditional character.

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