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METHODOLOGY FOR THE CHARACTERIZATION AND DIFFERENTATION OF LANDSCAPE UNITS OF A MOUNTAIN AREA: MOUNTAINS OF BÉJAR AND CANDELARIO

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I. INTRODUCTION: LANDSCAPE AND ITS TREATMENT

The landscape is the maximum exponent of the natural and cultural evolution of territory and in it we can interpret the trends followed by human activities becoming a significant source of information in this regard.

Since the arrival of the first proposals on landscape conservation, during the course of the nineteenth century, some actions have been taken aimed to know it as a significant element of the territory with room to be conserved, although was it not until the adoption of the European Landscape Convention (ELC) in the 2000 that we laid the groundwork for a regulatory framework for landscape management and has developed an objective definition of it. During this evolutionary process for the creation of a coordinating policy have appeared numerous actions aimed at defining the term landscape, as this was one of the fundamental problems managing it. Not only has the term landscape settled the main problem in, but also in the definition of the component elements, making the definition of «landscape unit» which has occupied the first place, it is necessary to understand all components in order to anticipate their possible evolution and relationships arising between them and thus be willing to include these aspects in the definition of the term landscape.

The ratification and approval, by the Spanish Parliament, the European Landscape Convention has matched the creation of specific centers devoted to public entities providing the right tools for the management and planning of landscapes follow the correct channels, plus guidance about European Landscape Convention application.

Outside the regulatory framework, which is implemented following the development of the European Landscape Convention, the trend in landscape research has evolved into the dynamic aspect of it, today's landscape studies are concerned with analyzing,

describing and synthesizing the dynamic characteristics of same, making it necessary for the understanding of the factors pasts and current configuration and landscape organization. Among the new ways to analyze and study it, stands the British model «Landscape Character Assessment» (LCA) devised by the Countryside Agency and Scottish Natural Heritage in order to get the character of the landscape, carrying out, in addition to the perceptual studies the physical environment, a thorough study of the current and past human factors in order to predict the possible evolution of the landscape. I must be highlighted in the process of implementation of this method, its flexibility in the interpretation of the steps depending on the local landscape trends.

From the Spanish geography, both from the depth and continuity of the contributions at the time it did the professor Terán, as in close interdependence with contributions and advances made by French geography are essential references in science and study of landscape work teams of the Autonomous University of Madrid, University of Barcelona and University of Granada.

II. METHODS

The development of this work is structured, based on the theoretical definition of landscape and the development of three stages, the first step is the identification of natural and anthropogenic factors affecting the space of mountain selected as the target of study. The second stage is focused on the identification and characterization of the different landscape units and the identification of the criteria used for this. Having defined the landscape units, the third stage deals with the application of different units in a landscape analysis method, in this case we have used the landscape units, through their interaction, to identify geosystems of the Sierras de Béjar and Candelario, in accordance with the methodological process of systemic landscape analysis.

Among the definitions of landscape analyzed, both linked to decision makers, such as those linked to the scientists, it has been obtained a variety of common elements to all of them being the evolving nature of it one of the most important within the definitions .

Before synthesize the methodological aspects for carrying out the subdivision of the landscape in a mountain area in landscape units or elements that make up the landscape, it is dead necessary to make a first zonal subdivision within the mountain area. Three enclosed places can be distinguished: summit area, slope or hillside area and space of piedmont or valley floor, these places where they performed the distribution and localization of different landscape units, apart from giving each one significant traits provided the fact of being in one place or another, traits such as varying slope, climate, altitude restrictions, etc.

The characteristics obtained from the definitions have been considered as the starting point of the followed methodology, with which was pursued the object of emphasizing those aspects that define the units that make up the landscape of a mountain area.

Several criteria have been taken into account to make the difference between landscape units, being the relative homogeneity one of the most important, because in terms of visual perception of the landscape all those homogeneous elements help to create the first units, a feature closely related to land use. This first section is a slight approach to landscape

analysis that will be useful for the following conducted methodological paragraphs later on.

In the process of differentiation between landscape units, the first step carried through once the approach was made by the homogeneity of units, is the separation between the natural character units and the anthropic character ones where its defining element is the influence or not of human activities on the area, being added thereby the most representative social and cultural values to identify a series of landscape units in which not only physical and environmental values are included, but also social and cultural.

Within the first group of landscape units, regarding natural ones, a new subdivision is made, thus identifying two new subgroups of units, the first of which is related to abiotic landscape units and secondly the biotic character. Identification of abiotic and biotic units is ruled by the degree of evolutionary dynamism of the elements that compose them, abiotic units require a longer period of time to evolve, in the other hand biotic ones evolve faster. That is to say, that plant species, which are able to colonize an area, do not evolve in the same time range and develop towards its climax state in a temporary period of decades for instance such as habitual erosion processes which may affects the bedrock of a mountain area evolving more sustainable over time.

Meanwhile, in the case of the anthropic character units, for their identification, criteria used are mainly focused on aspects of land use in addition to those related to the homogeneity of the units, from which three types can be obtained: units of agricultural spaces, the uses of urban and industrial. In this kind of unit the homogeneity factor makes it relatively easy to distinguish between one and another due to the fact that the limits are usually substantially defined.

After the landscape units are been obtained and characterized those elements and land uses that form them, we are in condition to elaborate a potential geosystems typology that shape the landscape of a mountain area because it is necessary for us to know both aspects biotic and abiotic that are in addition to the fundamental units of the landscape.

III. LANDSCAPE UNITS OF MOUNTAINS OF BÉJAR AND CANDELARIO. APPLICATION OF THE DEFINED TYPOLOGY

The space selected as case under study is related to the mountains from Béjar and Candelario, located in the western sector of the Central System (SW of province of Salamanca and of the autonomous community of Castilla and León). They are located in the context of transition between the Mediterranean mountains and the Atlantic mountains, because they acquire bioclimatic trends of the two main biomes that concern the Iberian Peninsula. Besides these two trends, climatic characteristics of a mountain area must be taken into account.

To begin with it is advisable to make a first approximation to the three main landscape units that put into groups most of both landscape units, natural and anthropogenic character, besides giving entity and shape to the landscape of the mountains from Béjar and Candelario.

The landscapes of peaks, the transition or of slope and valley landscapes are large units that, altogether, make possible the creation of a unique mountain landscape of great diversity and value.

The landscape of peaks is located on the tops of the mountains, at its culmination. It is characterized by its own plain Germanic structure and the lack of vegetation, motivated by the harsh climate and the presence of bare rock.

The landscape of slope or transition is notable for a high slope recorded on its side and by the multitude of landscape units located in it.

The valley landscape is the most diverse one in terms of the landscape units, because most anthropic landscape character units appear mixed up with natural ones, especially those referring to forests.

Within the subdivision landscaping done in the context of the mountains of Béjar and Candelario and using the landscape units identified, whose combination allows us, together with knowledge of the physical and natural in this space, identify a number of geosystems in order to apply them in the context of systemic analysis of the landscape, thus being in a position to define and characterize, in a very brief way, the main geosystems that are located in this space of mountain.

A total of six geosystems have been obtained For the Sierras de Béjar and Candelario:

«Geosystem of high peaks shaped by glaciation», located in the mountain area presents orographic characteristics marked by the break of slope created by glacial action.

«Geosistem of culmination the plain» is characterized by having iso-altitude line peaks, for the absence of vegetation and for the dark typical color of granitic materials that appears in this space.

«Geosystem of the slopes modified by glaciation». This is highlighted by the action of over-excavation carried out by the glaciers in the installation and subsequent action on hilly slopes.

«Geosystem of slope occupied by *Cytisus balansae* and mixed forests of *Quercus pyrenaica* and *Castanea sativa*. The main features of this geosystem are steep slopes and the notable presence of vegetation. In this geosystem vegetation is articulated by the altitude factor, being the upper area is domain for *Cytisus balansae* and lower for the mixed forest.

«Geosystem of valley of Cuerpo de Hombre river». This is emphasized by the presence of the valley and riparian vegetation associated with the fluvial channel.

«Geosystem of piedmont and urban uses». Is a geosistema which is characterized by human action, mainly urban and the decrease of the slope.

IV. CONCLUSIONS

This article presents a methodological approach headed to locate and discern the different elements of the mountain landscape, having shown as an application example the mountains from Béjar and Candelario and its use within a consolidated analysis landscape system such as the systemic analysis of the landscape.

The definition of landscape units developed and subsequently the development of geosystems of this protected natural area has allowed us to express a first view, dead

briefly, of the elements that make up this mountain landscape and the interactions turned up from them, highlighting among the results, the threat due to the prevailing dynamics of abandonment of traditional activities that have promoted diversity and wealth of this landscape, besides the presence of negative factors such as spread massive character urbanization taken place since mid of the eighties in the last century. Nowadays a natural notable quality must be reflected, where human being presence has been able to cope with customs and a better use of it, as well as the environment sustainability.