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Determining Landscape Character Areas and Types in District Scale: The Sample of Artvin-Savsat-Turkey*

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ABSTRACT : In this study, the landscape character assessment (LCA) methodology was tested at the district scale in Savsat, which is located in the Turkish Eastern Black Sea Region. In addition, the role of the LCA at a district scale in the determination of the tourism and protection potential of the landscape character areas, the development of the regional policies, and integrating them into current land use policies are also discussed in the study.We usedthe LCA methods in this study. The natural and cultural datawere collected in thestudy areas. The determination of thelandscape character areas and ecological analyses were evaluated in GIS; moreover, thelandscape character areas were identified with "Area Survey Forms". As a result of theanalyses, 854 different landscape character types and 13 landscape character areas were determined. We also prepared identity cards to determinethe landscape character areas.As a result, the importance of LCA Method in protecting biodiversity, rural development, and tourism strategies were emphasized in the study.

Key Words: Landscape, Landscape Character Analysis (LCA), Artvin-Savsat/Turkey

İlçe Ölçeğinde Peyzaj Karakter Alanları ve Tiplerinin Belirlenmesi: Artvin-Şavşat Örneği, Türkiye

ÖZET : Bu çalışmada, "Peyzaj Karakter Analiz" yöntemi, Doğu Karadeniz Bölgesi'nde ilçe ölçeğindepeyzaj karakter alanları ve tiplerinin belirlenmesi amacıyla kullanılmıştır. Peyzaj karakter alanlarının turizm ve korunma potansiyelinin belirlenmesinde, bölgesel politikaların geliştirilmesinde ve mevcut arazi kullanım politikalarına entegrasyonunda yerel düzeyde peyzaj karakter analizi yönteminin rolü tartışılmıştır. Çalışma alanının doğal ve kültürel verileri toplanmış, sayısal ortama aktarılmıştır. Peyzaj karakter tiplerinin tanımlanması ve ekolojik analizler Coğrafi Bilgi Sistemleri (CBS) kullanılarak değerlendirilirken, peyzaj karakter alanları yerinde gözlem ile "Arazi Sörvey Formu"ndan yararlanılarak tanımlanmıştır. Yapılan analizler sonucu 854 peyzaj karakter tipi, 13 peyzaj karakter alanı tespit edilmiştir. Her bir peyzaj karakter alanı için alanı tanımlayıcı kartlar hazırlanmıştır. Sonuç olarak biyolojik çeşitliliğin korunması, kırsal kalkınma ve turizm stratejilerinin geliştirilmesinde PKA yönteminin önemi vurgulanmıştır.

Anahtar Kelimeler: Peyzaj, Peyzaj Karakter Analizi (PKA), Artvin-Şavşat/Türkiye

INTRODUCTION

Landscape is the existence of a design formed by definable landscape elements with different characters in a continuous manner (Swanwick 2004).Landscape character area analysis is the definition of landscape character areas and types as a result of systematic analysis of natural and cultural landscape characteristics. The purpose of landscape character evaluation is to develop spatial planning strategies that are specific to landscape character areas and types. In addition, this analysis is a tool used in a rational manner to perform sustainable rural development targets (Kim and Pauleit 2007).

Landscape character analysis is an informative tool for decision-makers on national, regional and local scale. Landscape Character Analysis" (LCA) was used as a term in the scope of "European Landscape Character Assessment Initiative" (ELCAI).European Landscape Character Analysis study was applied with the participation of 14 different countries in Europe, and there are 51 specific examples in this field. Many of these examples are in national scale like UK, Ireland, the Netherlands, Hungary, (Heritage Council 2006;Wrbkaet al. 1999; Van Eetvelde and Antrop 2007; Swanwick 2002; Turner 2005),or in regional scale like Lower Normandy (France), Belgium(Gulincket al. 2001, Gomez-Sal et al. 2003, Kim and Pauleit 2007).In order to ensure a unity that is acceptable at international level by using a common language on the definition, protection, management and planning of landscapes, the European Landscape Convention (ELC) was opened for signature in 2000, and became effective in 2004. The countries that are members or candidates, which accepted the agreement, and among which Turkey also existed, are responsible for defining their landscapes, determining the character types of their landscapes, and follow-up of the changes and the transformations of the landscapes (Van Eetvelde and Antrop 2007). Therefore, scientific studies in Turkey

in this direction are carried out at different scales (Uzun et al. 2011, Eroğlu 2012, Guneroglu et al. 2015, Erdoğan 2014, Atik et al. 2015; 2016).

Savsat has a complex structure with different landscapes created by unique natural and cultural landscape values. This study is a local-scale application in Eastern Black Sea Region of Turkey, which has a rich natural, cultural and touristic potential and a wide variety of landscape types, and was conducted in a parallel manner to previous studies conducted by Gulinck et al. (2001), James and Gittins (2007), Vogiatzakis et al. (2006) and in accordance with the Landscape Character Analysis in European Countries.The changes in agriculture, forestry and energy resources put great pressure on the natural and cultural structure of the region. Therefore, defining landscape areas is extremely important in terms of forming future landscape area plans that have alternatives. The region is an important example that can be useful in similar areas due to nature conservation issues and strategies being implemented.In this context,it is aimed to determine the landscape character areas and types in order to ensure the sustainability and the destruction of natural and cultural landscapes. The data that will be obtained as a result of the works will provide opportunities for region such as solution of the problems that emerge as a result of misuse of the land, developing the areas with high landscape value, forming regional landscape policies and integrating these policies with the existing laws and regulations.

STUDY AREA

The County of Savsat is one of the 8 district of the province of Artvin, which is located in the Eastern Black Sea Region part of Turkey (Figure 1). It surrounded by Ardahan from eastern side, Artvin center and Borcka from western side, Ardanuc from southern and southern west side and Georgia from northern side. Savsat district has approximately 2100km² surface area which is covered by high mountains. General topographical elevation in the area varies between 600 m and 3171 m. This situation causes that the area presents a topographical structure that has an increasing heightin short distances. Savsat is situated on the transition area between Black Sea humid climate and East Anatolia continental climate. Topografic factors are a significant element on climate. The main area usage covers forests, meadows, agricultural and settlement areas. The excessive and unconscious use of the resources in the area where tourism potential is high causes a pressure on the natural and cultural landscapes.

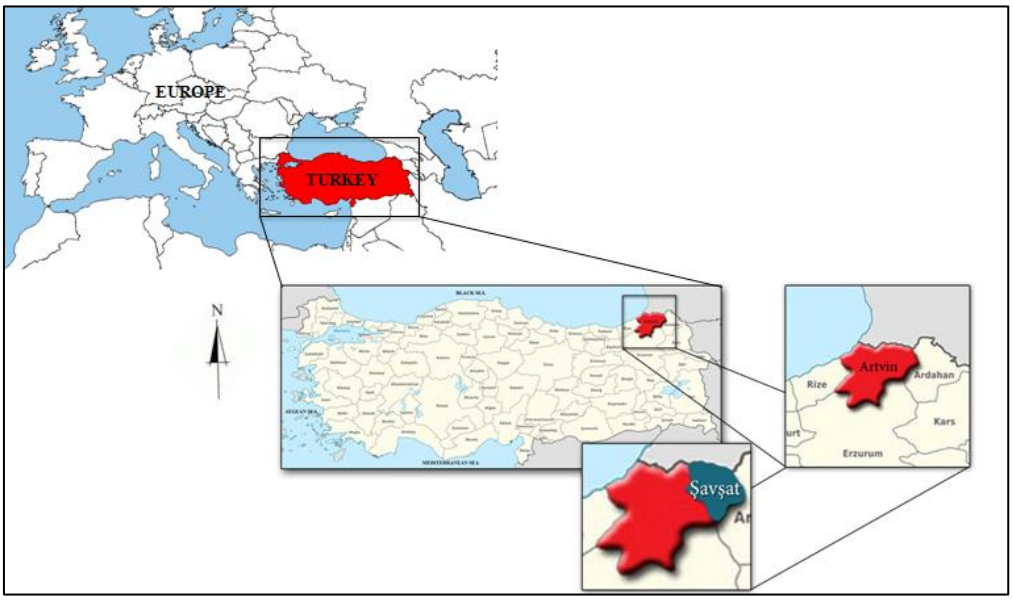


Figure 1. Geographical Location of the Study Area, Savsat

The Eastern Black Sea Region has a rich flora and fauna variety because of its location on the passageway of the Eastern Anatolian Continental Climate. The study area contains 3 different vegetation types which are; forest vegetation, Alpine vegetation and Aquatic vegetation; and also has different geological and geomorphological formations. The Alpine vegetation, which exists in Continental Ecosystem, covers the second biggest area after the forest vegetation in the study area. *Picea orientalis L., Fagus orientalis Lipsky., Abies nordmanniana subsp., Pinus sylvestris L., Alnus*

*glutinosa subsp. barbata, Castanea sativa, Quercus spp.,Carpinus betulus, Acer spp., Populus tremula*L., *Tilia spp.* And *Sorbus spp.* are the tree types that cover the forest areas. Savsat is located on the border of 3 different cultures which are the Black Sea, Eastern Anatolia and Georgia, in the Northeastern Part of the Eastern Black Sea,and hosts many historical works that have the traces of these cultures (traditional Savsat houses, mountain houses, historical heritage, etc.). Savsat has been an important residential area since IX. Century. It is possible to observe the traces of Urartus, Cimmerians, Saka Turks, Romans, Sassanids, Byzantines, Arabs, Georgians, Ottomans and the Republican Period starting from the prehistoric periods in the area (Anonymous 2008). There are registered historical works and traditional civil architecture examples such as Kocabey mosque, Curch of Tibet, Castle of Eskikale settlement, historical stone bridge and rooms etc. belonging to these different periods within the borders of study area. The study area has rich cultural landscape values with its active and changing topography, rich flora, historical pattern, and with the rural settlements, which are the outcome of cultural and traditional area usage. This wealth has created a great specificity in the cultural landscape.

METHODOLOGY

This study was conducted at district scale and the LCA Method. There are many studies in literature that differs in number and kind of input parameters. These variables are mostly physical characteristics of the region of interest (Wascher 2005). Therefore, there is no limitation on the number and types of data layers to be used for LCA. The studies conducted by Swanwick (2002), Mücheret al. (2005), Wascheret al. (2005), Atik et al. (2015), Uzun et al. (2010) were examined, and the Landscape Character Areas (LCA) in these studies were taken as the bases, and were revised according to the characteristic properties of the study area. The Parametric Method (Wascher 2005), which is based on the evaluation of different physical layers that constitute the landscape, and the Interpretive Approach (Swanwick 2002), which is based on on-site observation and analysis on the aesthetic values was used to define the Landscape Character Areas. The study was conducted in 3 basic stages: (1) Determination of the variables and selection of the databases, (2) field survey, (3) classification of the landscape character types and field (Figure 2).

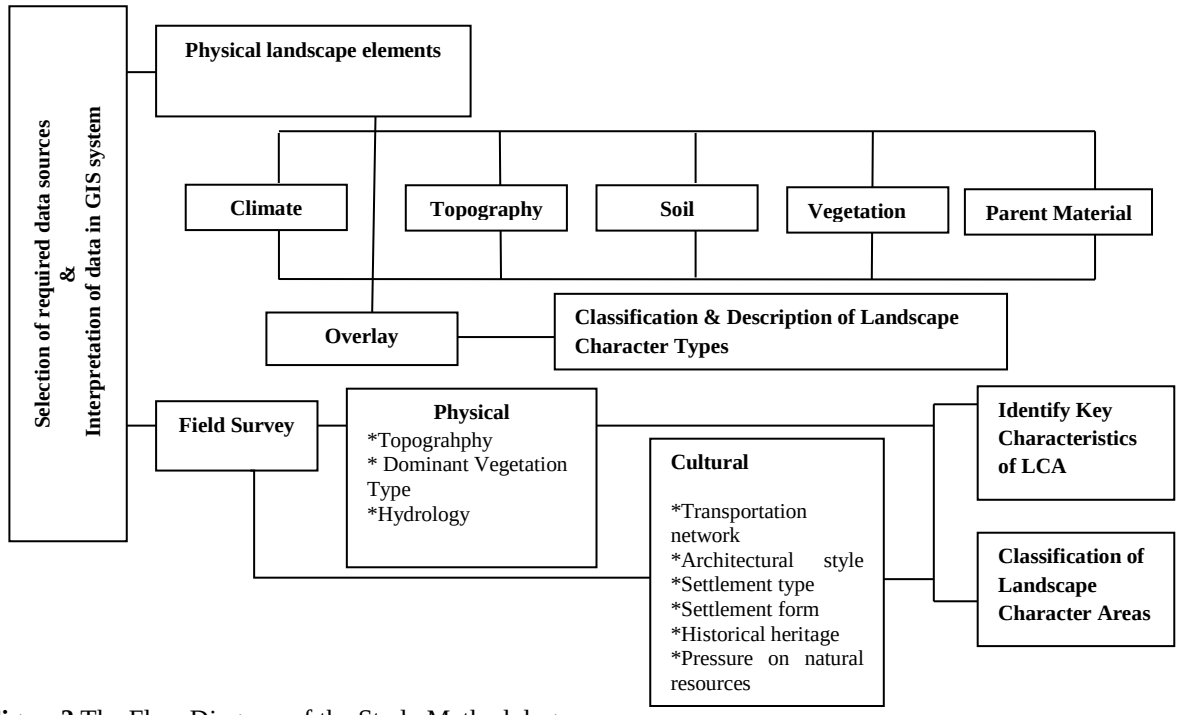


Figure2. The Flow Diagram of the Study Methodology

Determining the Variables and Selection of the Databases

Main natural factors that shape the landscapes are; the climate, geology and geomorphology, topography, hydrology, the soil and the vegetation. Natural factors change due to a series of cultural factors as a result of human interaction. Main cultural factors are; agriculture, forestry, settlement pattern, industry and transportation network (Wascher et al.2005). In this context, firstly, the databases of the geology, soil, topographical structure, vegetation, settlement pattern etc. and natural and cultural components that constitute the landscape in the study area were defined:

1. 1/25.000 scale topographical map (T.R. Ministry of National Defense, General Command of Mapping),
2. 1/25.000 scale geology map (General Directorate of Mineral Research and Exploration, Geology Studies Department),
3. 1/25.000 scale Soil structure, erosion status, the soil maps that include the field skill classes map T.R. Ministry of Agriculture and Village Affairs, Village Services General Management),
4. Climate Data (General Management of Meteorology), vegetation (ArtvinForestry Regional Directorate),
5. Savsat Karagöl- Sahara National Park Long-term Development Plan (Obtained from T.R. Ministry of Forestry and Water Affairs, Protection of the Nature and National Parks, General Management).

Field Survey

Firstly, the study of Swanwick (2002) was taken as the basis, and it was revised by adding the cultural landscape factors in Savsatarea after the pre-analyses in the field, and the "landscape character analysis field survey form" was organized. The following 4 routes were determined to cover the whole of the study area(Figure 3).

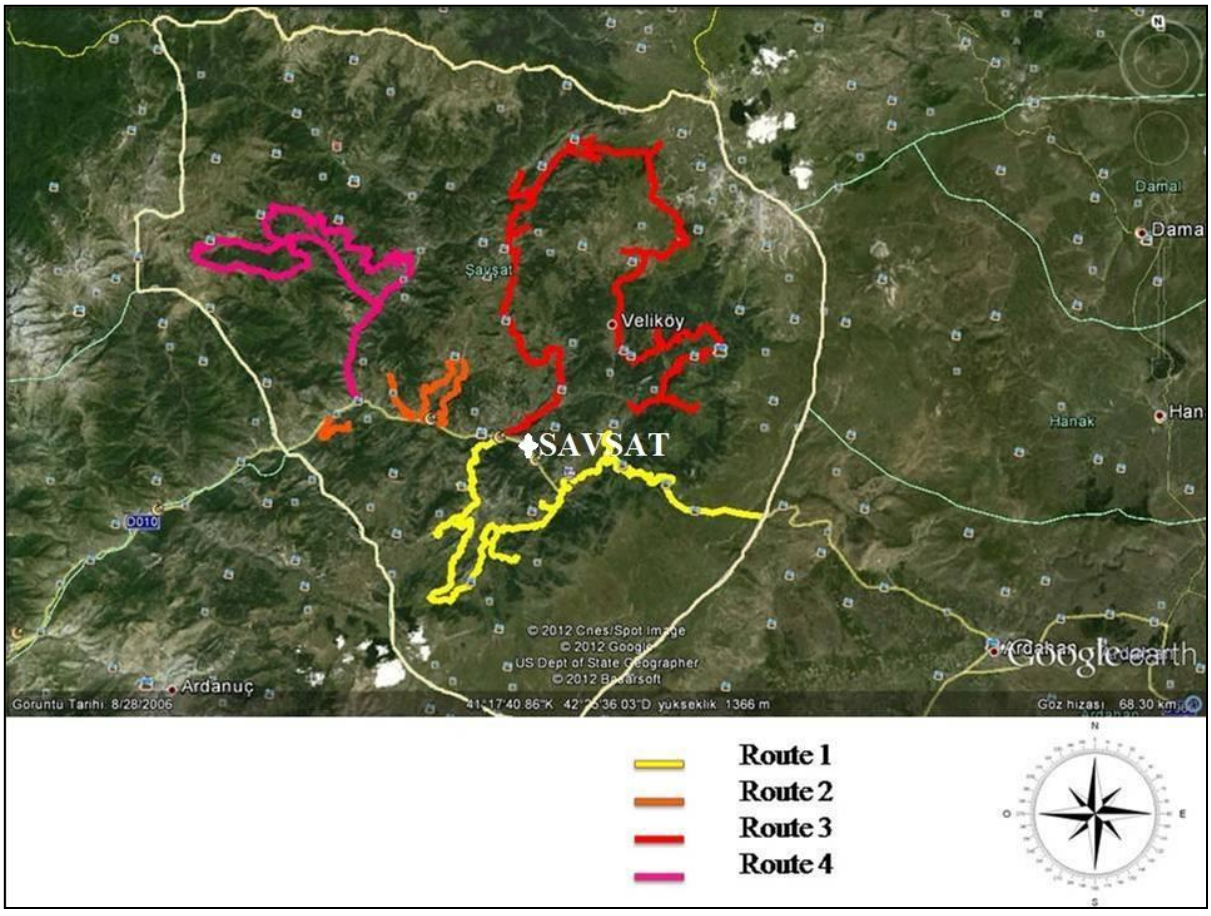


Figure 3. Field observation routes

The natural and cultural landscape properties were examined with on-site observations by using the "Landscape Character Areas Survey Form", which was created with the field works along the 4 routes in the study area, and the landscape character areas were identified in line with the data obtained through the field surveys. The survey form include the following parameters; topographical properties of the study area, the dominant vegetation, uniqueness and historicity, cultural properties such as architectural style, local substances that affect the formation of the architecture, settlement form and settlement type, and the pressures that cause changes in the landscape. Also photographs were taken from points that were overlooking the study area.

The Classification of the Landscape Character Areas and Types

All the databases needed for the classification of Savsat Area landscape types like the topographical structure, climate, soil, geology, vegetation and current use were analyzed with the Geographical Information Systems (GIS). The digital maps were overlapped in a hierarchical system and the Landscape Character Areas and types were obtained. According to the data obtained in the basic database used in the study, the landscape encoding system that was developed by Swanwick (2002), Mücher (2005), Wascher (2005), Van Eetvelde and Antrop (2009) andUzun et al.(2010), which comes to the forefront with the definition of landscape character types, was adapted for Savsat by making it include the climate, topography, soil groups, vegetation and geology data. In this context, spatial datas were stored, processed and interpreted using Geographical Information Systems (GIS) at the classification stage. The Landscape Character Types Map was obtained by using the data that coincided for the purpose of separating the elements that constituted the landscape that showed homogenous distribution in the study area. In this context, the climate data of the study were classified according to the Erinç Method. Then the geology map of the study area was examined and each geological formation was encoded with a number to adapt to the methodology. In order to reveal the topographical structure of the study area and to adapt it to the methodology, the slope and elevation groups were evaluated together. The great soil groups in the study area were classified in 5 groups in the landscape classification and they were encoded with the symbols used in national soil classification. In order to reach the vegetation map of the study area, the Forest Stand Inventory was used. The obtained Stand Map was classified again according to the dominant vegetation, and the Vegetation Map was formed. There is no management plan for the Karagol-Sahara National Park, which is located in the study area. For this reason, the vegetation classification was not made in this area, and the National Park (NP) code was given in the classification. The vegetation codes that were used in the management plans were used in the Landscape Classification of the data of vegetation obtained as a result of the analyses. In encoding the Landscape character types of the Savsat Area, each landscape character type was encoded with a denotation system that consisted of 4 letters and 1 number by placing a line between the vegetation data, climate, topography, great soil groups, and parent materials. Codings to be formed for landscape classification at local level were explained in Figure 4.

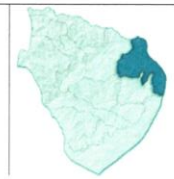
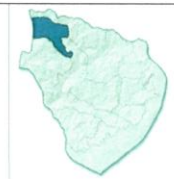
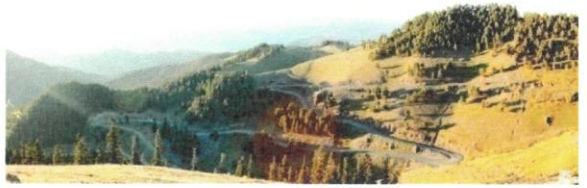
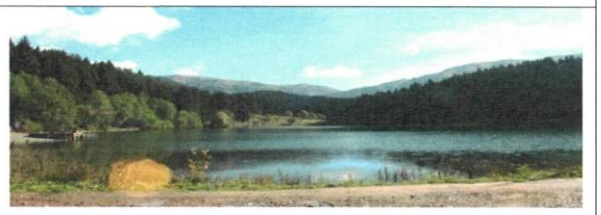
SOURCE OF INFORMATİON				
CLIMATE	**TOPOGRAPHY**	**SOIL GROUPS**	**PARENT MATERIAL**	**VEGETATION**
1.Semi-arid (Sa) 2.Semi-humid (Sh) 3.Humid (H) 4.Perhumid (Ph)	1.Valley bottom (Vb) 2.Moderately slope hillside (Msh) 3. Moderately slope mountainside (Msm) 4. Moderately slope plateau (Msp) 5.Steep slope hillside (Ssh) 6. Steep slope mountainside (Ssm) 7. Steep slope high mountainside (Sshm)	1.Alluvial (A) 2.Brown mountain (M) 3.Red-yellow podzolic (P) 4.High mountain-grassland soil (Y) 5.Undefined (x)	1.Lake/river (1) 2.Sabuline (2) 3.Andesite (3) 4.Basalt (4) 5.Metabasic rock (5) 6.Ebonite rock (6) 7.Pebble Stone (7) 8.Limestone (8) 9.Agglomerate-andasite (9) 10.Basalt-tuff-agglomerate (10) 11.Sandstone-mudstone (11) 12.Alluvion (12) 13.Slope wash (13) 14.Sandstone-mudstone-limestone (14)	1.Abies (A) 2.Picea (P) 3.Mixed (Mx) 4.Meadow (Me) 5.Pinus sylvestris (Ps) 6.Degraded forest (Df) 7.Grassland (G) 8.Non-forest area (Nf) 9.National park (Np)
Landscape Type **Sa-Msh-M_8-P** **Climate + Topography + Soil Groups + Parent Material + Vegetation** "Picea Area Cover with limestone rocky shape that has brown forest soil with moderately slope hillside in semi-arid climate"				

Figure 4. The Codes Taken as Bases and the Classification Key that was used in the Determination of the Savsat Landscape Character Types

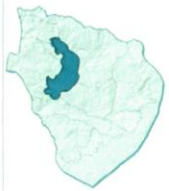
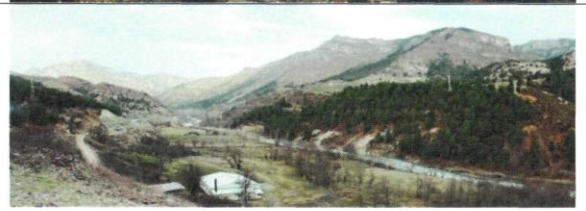
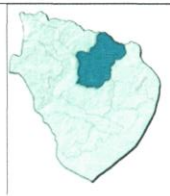
RESULTS

In this study, 13 landscape character areas and 854 landscape character types were determined in Savsat district (Figure 5). The study area was defined under the title of the "Black Sea high mountainous rocks and forest landscape character type" on a regional scale; and under the title of "Savsat Area landscape character area" on a local scale. When determining the borders of the Landscape Character Areas, the rural settlement areas and central settlement areas, which have similar characteristic properties, were evaluated together based on the similar characteristics (land forms, vegetation, settlement pattern, etc.) in the areas stated in the field survey forms that were filled for each rural settlement area. Then, each landscape character area was defined with special names according to their specific and distinctive dominant characteristic properties (mountain, valley, settlement area, etc.).The definitive characteristic properties of the 13 landscape character areas were revealed by considering their geographical, natural and cultural properties (Table 1).

Table 1. Landscape Character Areas and the Definitive Characteristic Values of Each Area

Order No	Landscape Character Areas	Location	Characteristic Landscape Value	Definitive Photographs
1	Arsiyan Mountains		Natural and cultural properties: It is important in terms of high mountain vegetation, ice lakes, the variety in species and habitat value; it also attracts attention with highland areas which are the part of traditional rural life; the active topography of the area strengthen the visual perception.	
2	Papart Valley		Bio variety, natural and cultural properties: It is an important natural area in terms of endemic species in the valley ecosystem ; it comes to the forefront with the examples of traditional rural life; cultural values are transferred with the traditional structures that are specific to the area; however, traditional architectural structures are replaced by concrete structures that are far from being traditional; the HEPPs in the area pose a threat for the general characteristics of the areas.	
3	Sahara Mountains		Bio variety, natural and cultural properties: Karagol-Sahara forms the Sahara part of NP; it is extremely important in terms of the high mountain vegetation and bio variety; it is characterized with the agricultural landscape design formed by wide pastures, it attracts attention with the plain and slightly rough topographical structure; new concrete structures move the settlements away from being traditional.	
4	Karagol		Bio variety, natural and cultural properties: Karagol-Sahara forms the Sahara part of NP; it is characterized with the natural structure and still water existence; the surrounding of the lake is covered by picea and pine trees; it is important in terms of bio variety; new concrete structures move the settlements away from being traditional.	

5	Karcal Mountains		Bio variety, natural and cultural properties: Karçal Mountains are in the warm areas; it is important habitat and reproduction area located on the migratory routes of birds, it represents the traditional rural settlement areas where traditional architecture is dominant.	
6	Duzenli Rural Settlement Area		Historical, natural and cultural properties: It is characterized with plains and slightly rough topographical areas; it represents the rural usage that is specific to the area, but traditional structures are under the pressure of new construction; the forest areas are the rich landscape elements of the area.	
7	Cevizli Rural Settlement Area		Historical, natural and cultural properties: It has a cultural value with many historical ruins; the agricultural landscape has been formed with forest cover; it is important in terms of forest, variety of species and habitat.	
8	Kocabey Rural Settlement Area		Historical, natural and cultural properties: It is characterized with the topographical structure with slightly rough areas and traditional settlement areas; the forest areas are under the threat of human pressure; it is an important area with traditional architecture that has survived until today.	
9	Savsat Stream		Natural and Cultural properties: It is characterized with multi-story buildings that are far from being traditional, the settlement areas are distributed to slopes and hills; the agricultural areas are formed in the plains of Savsat stream; the dam and new transportation network constructions have a pressure on natural landscape areas.	

10	Sarı cayır Mountains		Natural and Cultural properties: It is important in terms of high mountain vegetation and the variety of species and habitat value; it is characterized with the active topographical structure; the traditional rural life shows a structure that is merged with the natural life in the area.	
11	Meydancık Stream		Historical, natural and cultural properties: The area shows characteristics of traditional structures together with forest cover, and forms the landscape of the area; the agricultural areas are formed in the plains along the MeydancıkStream; HEPP and environmental pollution have a pressure on natural landscape areas.	
12	Yamaclı Rural Settlement Area		Natural and Cultural properties: Rural life is merged with the forest area; the existence of the forest is important for the variety of the species and habitat; human pressure comes to the forefront on forest cover; agricultural activities are made in the open areas in the forest.	
13	Demirkapı Rural Settlement Area		Natural and Cultural properties: It is characterized with sharp slopes and hills; agricultural production is performed in the plains, the settlement areas show a structure merged with topography and forest cover; traditional settlement pattern is dominant.	

Each landscape character areas are naturally, ecologically and culturally unique, and each represents a particular landscape. Assessment of landscape character types in Savsat revealed that the study area can be represented by 854 distinct characters. When the landscape character types analyzed based on locations, different landscape character type is dominant in each location, and the number of area (hectares) for each landscape character type is given in Table 2.

When data which taken into consideration are examined there are four different climate types in the transition zone. In the same way there is also a diversity in terms of location and topography. When all these data are evaluated, it is seen that the region has an important landscape diversity.

Table 2. Total area for each LCT

Location No	Landscape Character Area	Dominant Landscape Character Type	Area (ha)
1	Arsiyan Mountains	Ph-Msp-Y-_3-Me	528
2	Papart Valley	Ph-Ssm-M_6-A	602
3	Sahara Mountains	Ph-Msp-Y_3-Me	10359
4	Karagol Area	Ph-Msm-M_6-Nf	474
5	Karcal Mountains	Ph-Sshm-x_6-G	1340
6	Duzenli Rural Settlement Area	Ph-Ssm-M_6-P	540
7	Cevizli Rural Settlement Area	Sh-Ssh-M_6-Df	842
8	Kocabey Rural Settlement Area	Ph-Msm-M_6-Nf	321
9	Savsat Stream	Sh-Ssh-M_9-Df	774
10	Sarı cayır Mountains	Ph-Sshm-Y_6-G	2685
11	Meydancık Stream	Sh-Ssh-M_9-Df	1755
12	Yamaclı Rural Settlement Area	Sh-Ssh-M_6-Df	1045
13	Demirkapı Rural Settlement Area	Ph-Ssm-M_6-A	1488

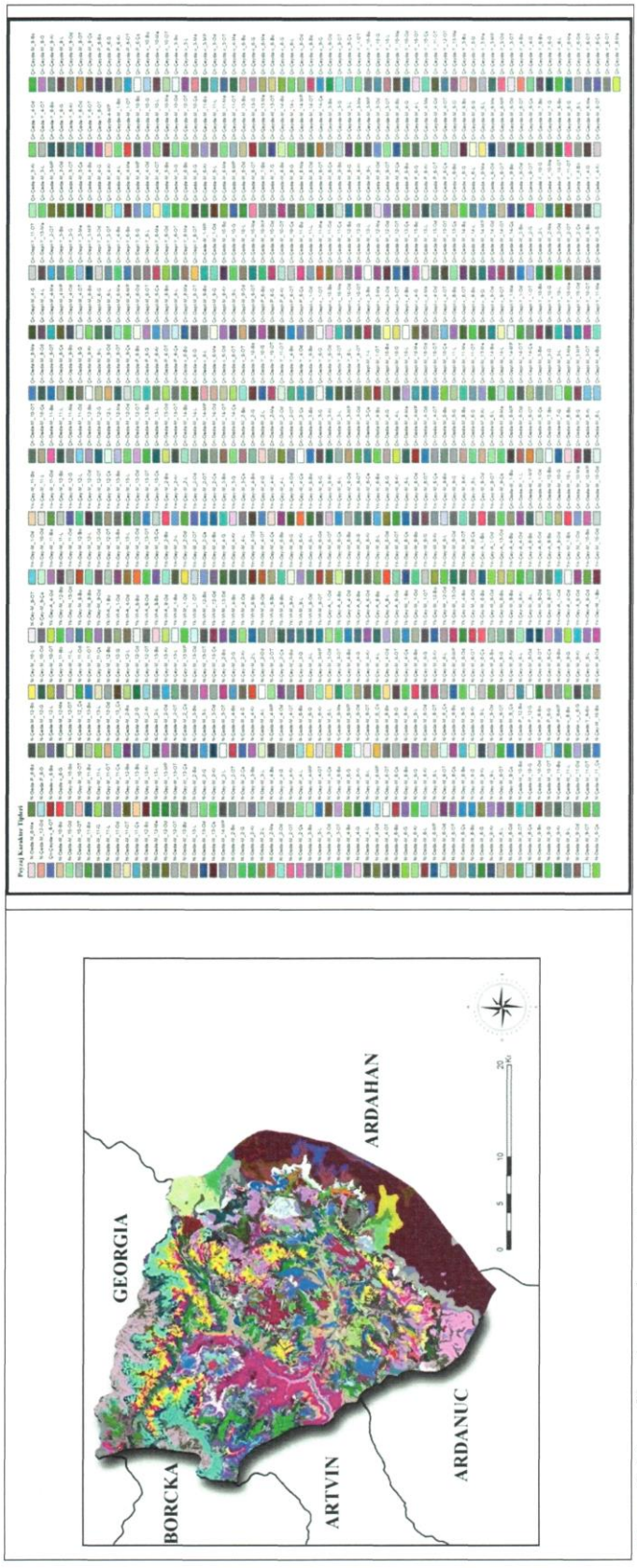


Figure5. Map of Landscape character types of Savsat

DISCUSSION and CONCLUSION

Landscape Character Analysis, which is the process of determining and explaining the properties that distinguish local and regional landscape from the surrounding areas, (James and Gittins 2007) reveals the differences of the physical and cultural environment (Chuman and Romportl 2010). Previous examples of LCA application showed that basic data sets vary according to spatial scale and that, therefore, either one or a combination of multiple factors and different sources of information were required to integrate studies from one level to another. It was applied at regional and local level in European countries like France and Belgium, and at national level in some countries like England, Norway, Austria and Germany (Luginbühl 2002). And this study was applied on a local scale like other studies (Uzun et al.2011, Atik et al. 2015) in our country.

Swanwick (2002and 2006) defined the landscape character according to the character properties that constituted the landscape, while Jessel (2006),on the other hand, made his definitions by using the element-character properties and the character trilogy that constituted the landscape in his study. In the scope of the study, the landscape character areas and the landscape character types that constituted these areas were defined according to the character properties that constituted the landscape.

Different databases may be used in landscape character analysis studies. Brabyan (2005), Van Eetvelde and Antrop (2009), Wascher (2005) and Müncheret al. (2006, 2010) cared for climate, geology, land type, vegetation, soil properties in their studies, while Swanwick (2002 and2006) used the variables like geology, geomorphology, climate, hydrology, soil, vegetation, area use, history, and culture in his studies. In this context, when the landscape is considered as an area that is formed as a result of the interaction and activity of human and/or natural factors, the landscape character evaluation has some missing points. In the study, the landscape classification was made mostly depending on natural landscape properties. Cultural landscape properties were not used as distinguishing variable, but were evaluated as definitive landscape elements.

The analyses techniques vary according to the databases and personal skills. In landscape character analysis studies, GIS analysis and techniques have been used successfully in different areas of the world (Swanvick 2002; Wascher2005;Jessel 2006; Uzun et al.2011).Uzun et al. (2010) conducted a study and did not define clearly which data to be used in landscape classification works to be conducted on a local scale. The reason for this is the fact that some data on the study area may come to the forefront. Swanwick (2002, 2006) emphasized in his studies that landscape classifications showed variations according to the country, region and area in which they were performed. Therefore, this may change according to the region where the study area is located. According to the source value of the area, sometimes topography comes to the forefront, and sometimes vegetation comes to the forefront. When landscape character types were defined in the study area, the topographical structure and vegetation came to the forefront in our study. The active topography of the study area has caused that it presented a variety that had important sources in biological, hydrological and cultural aspects. This situation emphasizes the importance of the study area.

Many classifications still lack cultural, historical, archaeological and architectural properties due to a fact, that these data are fragmented, very much local and have no consistent coverage of the entire country in sufficient details (Anonymous 2008). The reason for this is the fact that there are no data on current historical, cultural and architectural variables. In this context, the study area constitutes the intersection point of 3 different cultures because of having borders to Georgia, Artvin and Ardahan.The lack of the historical and cultural dimensions in LCA resulted in development of new approaches such as Historical and Cultural Characterisation (HCL, CLC) (Fairclough et al. 2002a,b; Fairclough and Macinnes 2003; Van Eetvelde and Antrop 2009).In this context, more information is needed to characterise the historical and cultural dimensions of a landscape such as historic landmarks, cultural and heritage buildings.

Throughout the long human history of Savsat, landscapes have developed by mutual interaction of natural and human forces that resulted in landscapes with distinctive patterns of settlements and agricultural land uses. Landscape characters which clearly differ in terms of their natural and human features could be distinguished in the region of Turkey. But these unique landscapes are facing strong pressures, in particular from urbanization, dams and hydroelectric power plants and wrong land use decisions. Studies in the Europe, UK and elsewhere have shown how landscape character assessment can inform landscape planning and design to address these challenges (Swanwick 2004). Results from these researches suggest that the approach can be equally applied in the Savsat.

In this study, the aim was to define the Landscape Character types that constitute the Landscape Character areas and the landscape character types that form these areas by using the "Landscape Character Analysis Method", which is applied by many countries that are the parties of European Landscape Agreement. "European Landscape Character Analysis Landscape Types

Encoding System" was revised according to the study are, and the Landscape Character Types for Savsat were defined by using climate, topography, soil, vegetation and geology bases. In addition, the Landscape Character areas were analyzed with on-site analyses by using the "Landscape Character Analysis Field Observation Form". The applicability of the Landscape Character Analysis Method was tested at a local scale in a rural landscape area.

We identified unique landscape character areas in the Turkish Eastern Black Sea Region. According to the evaluations, it was determined that the study area had important natural sources in terms of biological, topographical and hydrological terms. For this reason, the Landscape Character areas of Savsat consist mainly of natural landscape characteristics. With the Landscape Character Analysis, the smallest homogenous landscape types were determined in the study area. By doing so, accurate decisions may be made during the physical planning process for the purpose of using the natural sources. In addition, outputs of this study can fit into broader decisions tools such as Environmental Conservation Plans, strategies such as woodland, ecological networks (Therivel and Paridario 1996, Kim and Pauleit 2007). It can be used to assess the specific capacity for land use change, including urbanization, in the landscape character units and types (Martin 2004).

The landscape character assessment may therefore help to convert potential land use and conservation problems into the development of valued future landscapes. LCA can make a valuable contribution to the solution of sustainable land use planning policies, to the enhancement and conservation of landscape character and to biodiversity conservation in Savsat.

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