Chapter 1

Inventory and Analysis of the Landscape

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Additional information is available at the end of the chapter

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1. Introduction

Landscape planning, often referred to as 'environmental planning' or 'ecological planning', is a way of directing or managing changes in the landscape so that human actions are in tune with nature and environment (Zaucer and Golobic, 2010).

Landscape planning is undergoing change due to new requirements. Its previous main task of controlling spatial uses and the development of nature and the landscape has extended. Implementation of the European requirements for the Natura 2000 network, for the Water Framework Directive (WFD), the Floods Directive as well as the Strategic Environmental Assessment (SEA) can be made considerably easier and can be coordinated with the help of landscape planning. It is ideally suited, for example, as the basis of the Strategic Environmental Assessment or as an extensive information base for river basin planning covering all natural resources. In addition, landscape planning increasingly supports the tasks of providing members of the public with environmental information and their participation in sustainable local community and landscape planning (Haaren, et al., 2008).

Landscape planning can be better used as a versatilely usable information basis for overall spatial planning, impact mitigation regulation or environmental assessments if the information is presented according to the requirements of this planning and these instruments. Spatial planning has always been regarded as an activity that, in seeking solutions for a certain social problem, brings a change into the territory. It primarily looks after social needs, the economical use of the resource and its fertility. Because spatial planning is essentially economic in orientation, it is generally characterized as developmental planning (Zaucer and Golobic, 2010). The basic distinction between spatial planning and landscape planning is that the former is essentially economic and developmental in orientation, while the latter is more concerned with environmental and landscape qualities and thus protective in orientation. It must be noted that landscape planning does not represent a substitute for spatial planning. With developed approaches and methods, it may complement a set of spatial planning approaches and methods and contribute to larger efficiency of bottom-up comprehensive planning (Zaucer and Golobic, 2010). The aim of landscape planning is thus to prevent or at least limit the degradation of the environment to a minimum while increasing, as far as possible, 'creativity' in order to meet the developmental needs. By combining approaches from the natural sciences and the planning disciplines landscape planning has developed a range of different methods and tools for integration of environmental objectives into the process of analysis and the development of planning proposals. Landscape planning approaches and methods are transparent and systematic, which makes them useful for participatory and comprehensive spatial planning (Zaucer and Golobic, 2010).

Landscape planning is currently developing away from rigid planning to a generally accessible and easy to update information base and a basis for action. By using new data processing and transfer technologies, landscape planning can be developed into an information and communication platform, which also communicates data and knowledge about nature and the landscape to the public and makes simple consultation and participation possibilities available via the internet. This development is borne by a new understanding of government action which is characterised by more proximity to citizens and transparency in politics and the administration. Landscape planning therefore supports implementation of Agenda 21 as well as the objectives of the Aarhus Convention and the associated EU Directives and federal laws for the introduction of more democracy in environmental issues. It promotes the enlightenment of members of the public and businesses as well as their commitment to their environment and homeland. Because landscape planning creates fundamentals, competence and incentives for own initiatives, resourcefulness and commitment to the integration of environmental aspects in landscape usage (Haaren, et al., 2008).

Landscape planning is also a way to effectively include the environmental requirements of different sectors into planning process. One of the most valuable approaches is vulnerability analysis, where environmental qualities are assessed from the viewpoint of potential threat resulting from planned actions. It functions as an integrating and conflict-solving tool, since it (Zaucer and Golobic, 2010):

- includes a whole territory (of a chosen administrative / planning unit),
- considers a whole range of diverse environmental components,
- supports active dialog between stakeholders,
- may embrace all interests (natural, social, economic, and political) and evaluate their consequences and thus supports crosssectoral or comprehensive planning, and
- supports search for an optimal solution.

Landscape planning today should not be viewed as a static plan but as a dynamic, continuously or modularly changeable information and working basis. Landscape planning is expected to be need- and problem-oriented. Against the background of fast changes in use of nature and landscape, these requirements are becoming increasingly important (Haaren, et al., 2008). Landscape planning, design and management are practised directly or indirectly by many others and in many sectors, including land use planning, agriculture, forestry, nature conservation, amenity land management, and so on, and we include all these in our approach. The term 'landscape' used here is also broad and includes much more than 'the appearance of the area of land which the eye can see at once' (Chambers, 1993). Landscape is an evolving cross-disciplinary area, which draws contributions from art, literature, ecology, geography and much more (Benson and London, 2000). As the legal basis of the various planning and instruments partly name natural resources as sensitive receptors, partly landscape functions, it should be possible to access landscape planning information structured both by natural resources and landscape functions.

Landscape-ecological planning is a specialization within landscape planning that focuses on spatial planning, the organization of uses and relationships of land uses to achieve explicit goals (e.g. habitat improvement, sustainability). While the landscapeecological planning approach is characterized by a focus on the linkage of ecological patterns and processes, it also includes the actions and values of humans, and social and economic dimensions (Hersperger 1994). Finally, landscape-ecological planning adopts the landscape as the principle spatial unit of research and planning recommendations (Ahern, 2006).

Landscape analysis has a significant function in the process of decision making for the future land use, organization of the space, nature protection, and rational use of the nature resources. Basic problems and tasks of the landscape analysis and planning are located in discovering and solving the conflicts among the development of the society and very complex task in nature assignment. The development covers more intensive engagement of space and more intensive land use, organization and arrangement. The features of the land and space with their entire natural and produced substratum are the significant categories for determination of future development. In this context, landscape analysis and planning appear as an activity of primary task to connect developing possibilities and tendencies for certain space (Pecova, 2000). These strategies, in essence, define the planning context with respect to the macro-drivers of change in a given landscape and the strategic nature of the planners' response. Defining these strategies also helps to place the planning activity within a broader context, which is particularly important when planning methods are transferred or adopted for use in different locations, contexts or for different applications (Ahern, 2006). Landscape planning methods can also be classified and understood according to their strategic orientation: protective, defensive, offensive or opportunistic (Ahern 1995). Planning methods can also be understood and classified according to their resource or goal orientation. The abiotic–biotic–cultural (ABC) model is useful to describe the specific goals addressed in planning and the level of integration between these goals (Ahern, 1995) (Figure 1). In this model, abiotic goals include water resources, soil and air quality. Biotic goals focus on biodiversity in general, including individual species and habitat protection and ecological restoration. Cultural goals are human-based and include: transportation, land use, recreation, historic preservation and economic goals (Ahern, 2006).

Figure 1. presents an array of planning types graphically organized within a triangle that represents the ABC model. In this diagram a number of planning sectors or themes are located according to their emphasis and level of integration within the ABC resources. The

figure shows that an evolution is occurring towards a more integrated planning perspective as represented by the central circle (Ahern, 2006).

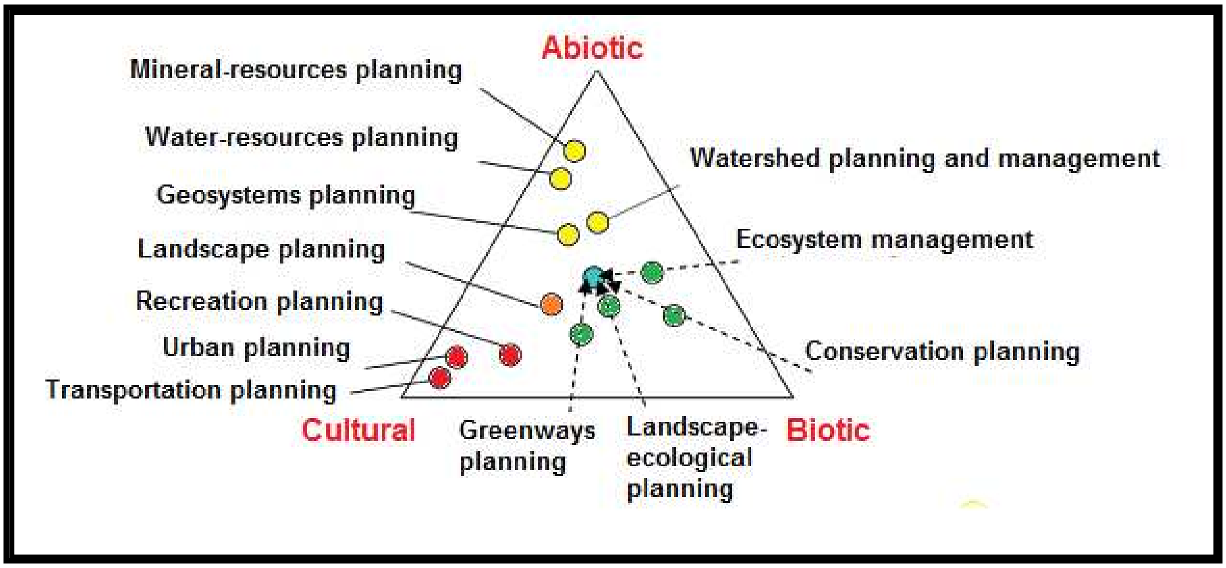

Figure 1. The abiotic, biotic and cultural resource-planning continuum (Ahern, 2006).

The combination of different landscape factors and the interactions between the natural resources are also significant for performance and ability to function. Apart from the description and assessment of the landscape functions (current condition and development potential), statements for specific areas are made on the sensitivity of distinct (sub)landscapes to impacts as well as on the ability to restore their performance and functional capability (Haaren, et al., 2008). This can be achieved by appropriate linking of standard text units in digital landscape plans. It is also advisable not only to be able to select specific individual cartographic areas but also to easily find and collate text statements on special landscape units. This service will assist the administrations or project sponsors in consolidating the respective relevant area descriptions for comments or environmental assessments. The effort spent on these preparations pay off because the information is so conveniently accessible and is easier to integrate in other planning and instruments (Haaren, et al., 2008). In landscape planning the existing condition of nature and the landscape is determined and assessed on the basis of legal and functional objectives and standards, which also include landscape planning objectives at a higher level. To this end the available data and information is collated and, where necessary, it is supplemented and updated by additional surveys. The fundamental information on the soils, geology, bodies of water, air and climate, fauna and flora is used to deduce statements regarding the performance and functions of the individual natural resources and/or the balance of nature and the landscape overall (Haaren, et al., 2008).

2. Inventory and analysis of the landscape

2.1. Terrain analysis

Topographical maps of Greek origin Topos (place) and graphics (lines formed figure) is formed from the word, used for lines shows created in the forms. These are the natural and cultural aspects of the land, the horizontal and vertical cases, show a horizontal plane and under a certain scale. Soil maps and other maps are used in making topographic maps as a base map (Figure 2). Soil experts determine the elevation and slope curves, positions the most benefit from relief. . *Physiography* deals with the physical conditions of the surface of the land. The broad physiography of an area can be determined by the knowledge of the physiographic region in which it lies. The important aspects of physiography are elevation and slope. Slope, soils, geology, hydrology, microclimate, plants, and animals may be strongly related to elevation. This means that elevation is an important feature in analyzing landscapes. Topographic contour shape on the map, the location, frequency, taking into account in an area of alluvial fans, colluvial skirt lands, valleys, mountainous-hilly areas, old terraces, alluvial flood plains, river paths, meanders, lagoons and sand dunes landforms such as defined. (Figure) Any contour of the land surface structure identifies the most understandable form. Contour curves, in order to produce a realistic and reliable planning decisions important.

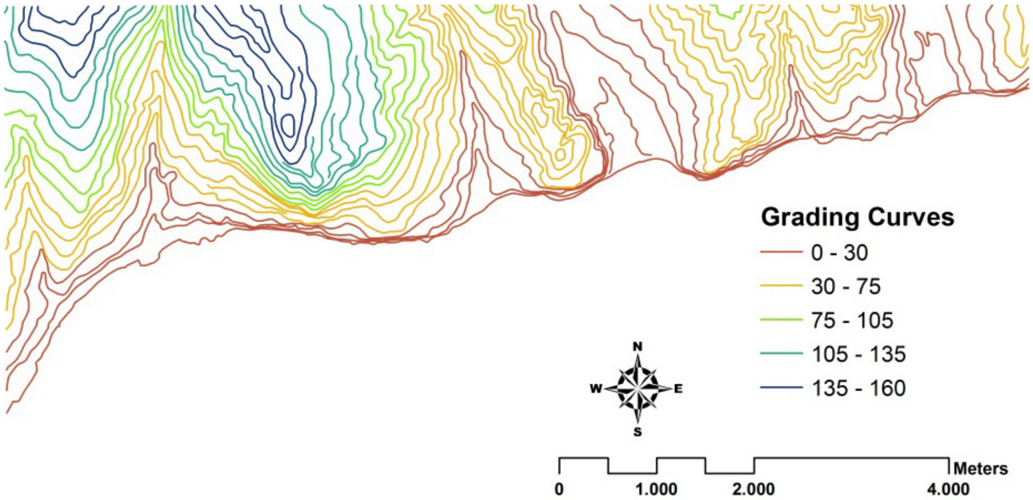

Figure 2. Grading curves for an example area

First of all, check whether the map is up to date. If the current deficiencies detected during the observations, can be added to the map. Or new information obtained from different sources (water sources, wells, dams, ponds, bridges, new uses, etc.) can be placed on the map. Horizontal and vertical cross-section for the map to be more easily interpreted. Thus, the difference in level between the high and low parts of the land surface structure and can be detected (hills, peaks, valleys, valley bottoms, slopes) (Figure 3). This is due to differences in harmful situations, measures to prevent them must be determined. The base terrain, steep slopes, private entities, such as delta, flood deposits, flood areas identified as sensitive areas. The cross sections obtained terrain, concave (depressions, valleys, depressions and so on.) And convex (ridges, hills) allows to perceive how it has developed to take shape. It is also important heights, large and small valleys, flood beds and borders determined and displayed. Accordingly, both precipitation and drainage of surface water streams flow distribution to be determined. Surface water flow intensive - is less dense areas should be considered.

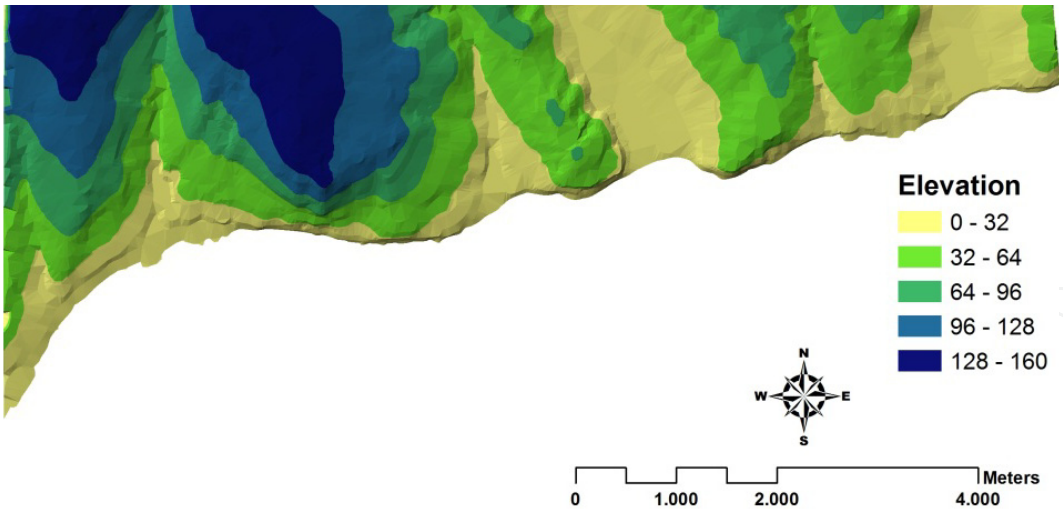

Figure 3. Elevation for an area

According to Kienast, 1993; for many countries topographic maps in the scale of 1:20’000 to 1:30’000 provide reliable monitoring data over the last 100 to 150 yrs (Hodgson and Alexander, 1990). Additionally, there are often rich collections of detailed plans in larger scales (1 :5000 to 1500) that date back to the late 18th and the early 19th century (Di.int, 1990; Miiller, 1990). For the present study the main data sources are two series of topographic maps in the scale of 1:25 ’000 dating back to the 1880’s (Figure 4). Since topographic maps are perceptions of the environment and often rather a ‘text than a mirror of reality’ (Harley, 1989), definition of specific landscape elements or habitat types may vary considerably over time and the location of features is often less accurate in earlier map editions compared with today’s standards (Hodgson and Alexander, 1990). Some of these misinterpretations are impossible to correct. However with a strict crossdating and a comparison of the historic maps with data from independent sources, most incompatibilities were eliminated. This was accomplished by consulting the written protocols and field notes of the topographers.

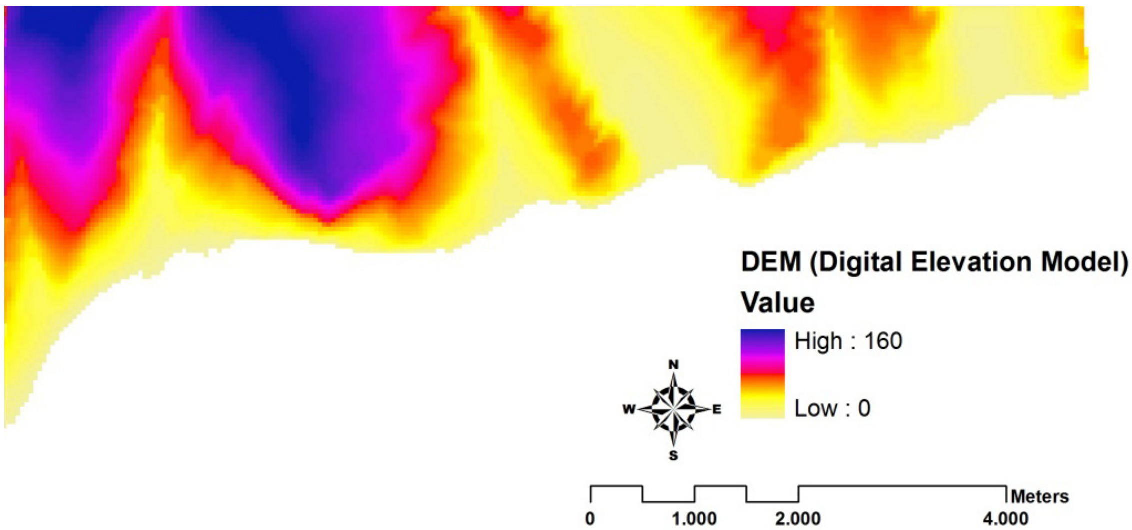

Figure 4. Dijital elevation model (for spatial analyst)

Elevation maps are easily constructed by selecting intervals from the base maps. Altitudes can be represented by coloring spaces between topographic intervals. Elevation changes are depicted in shades of browns, yellows, or grays with felt markers, colored pencils, crayons, or through the use of computer technology, becoming lighter or darker as elevation increases

In addition, topographic maps allow visibility analysis is made from.Visibility analysis based on viewsheds is one of the most frequently used GIS analysis. This analyst ise used. This analysis is used in many studies of landscape architecture (Figure 5).

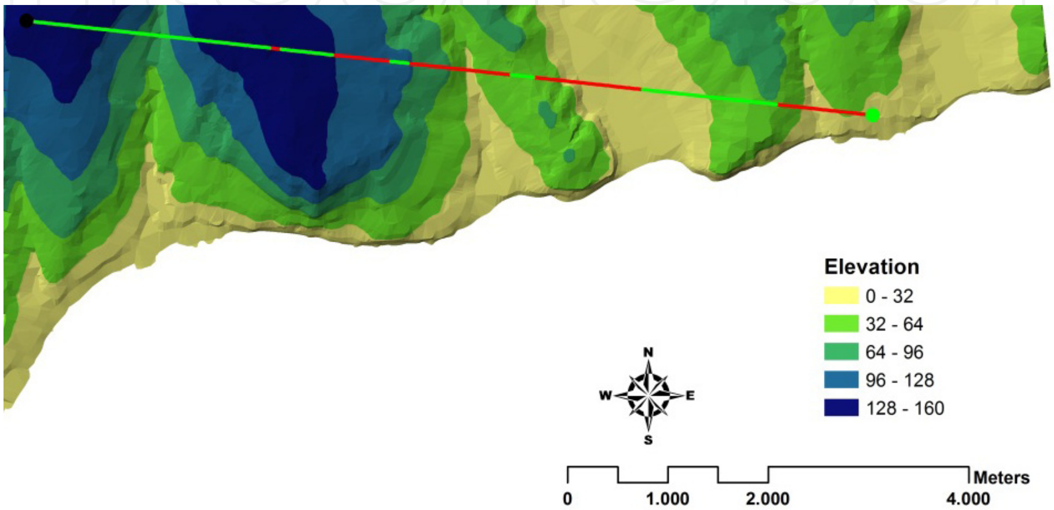

Figure 5. Visibility analysis (observer offset:120 m. and target offset:100 m.)

Contour curves are some of the features (Karadeniz, 2010):

- All points on a contour curve above are the same height above sea level,
- Each contour curve closes in on itself. Even with the edge of the map, the map will continue and close neighbors,
- A closed contour curve shows the peak or pit.
- Contour curves do not cut each other.
- The slope increases, the contour lines pass as close to each other
- In the cross-sections in order to compare the characteristic profile shapes with each other is possible to make topographic maps. (Figure
- Contour maps of curves that can be obtained; Height groups, slope, aspect maps (except that 3-D images);
- Height Groups
- Curved contour map is obtained by the separation of certain groups heights (Figure 6).

2.2. Slope

Slopes may be subdivided according to steepness and direction. Slope direction is referred to as *aspect*, or orientation (Figure 7). Steepness may be important for such activities as agriculture or the construction of buildings, while the direction of slopes is an important factor for such activities as siting housing for solar energy collection. Slope composition and related *lithology* needs to be determined. Lithology is "the soil and rock material that comprise a slope" (Marsh 1998, 80) or the physical characteristics of sedimentary materials. As with the elevation map, the division of slope categories will depend on the study.On the map using the horizontal and vertical distances are obtained and analyzed in separate groups of different units (Kienast, 1993).

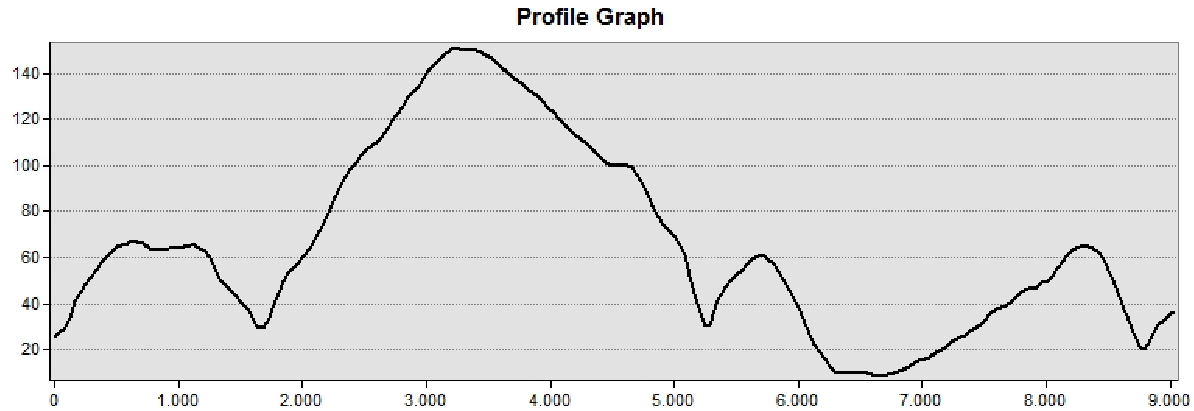

Figure 6. Land profile graph (made by DEM)

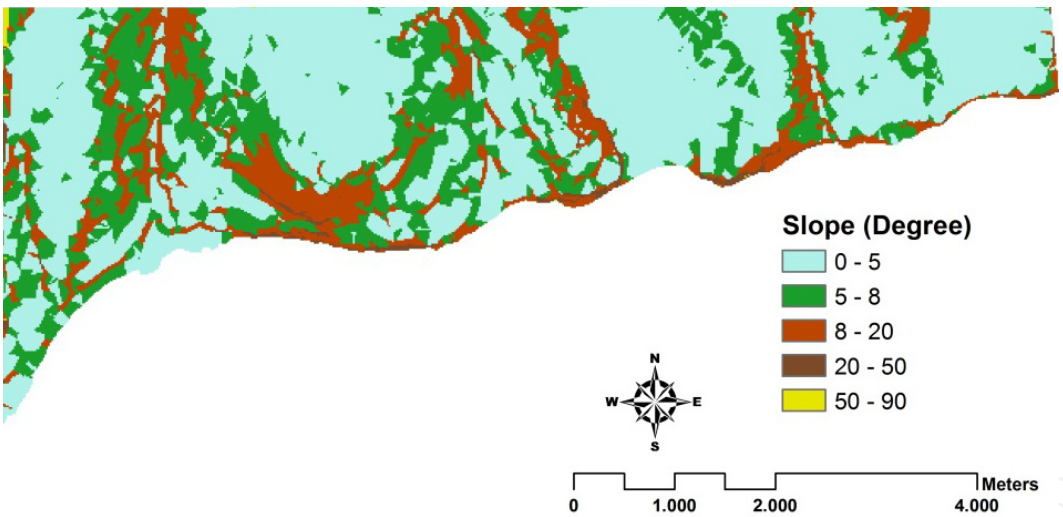

Figure 7. Slope analysis

2.3. Aspect

Aspect map, facing at the surface indicates in which direction. Aspect of a landscape, the climate, especially temperature and rainfall affect the amount of that place. In general, the S, SE, SW, and W aspect "sunny aspects,» is called. N, NE, NW, E aspects, "the shady aspects,» has been described as (Figure 8). The shaded look still water evaporation from the soil temperature is less than would be even less. Therefore, the shady aspects, the same rainfall conditions, sunny look still have a more favorable water economy

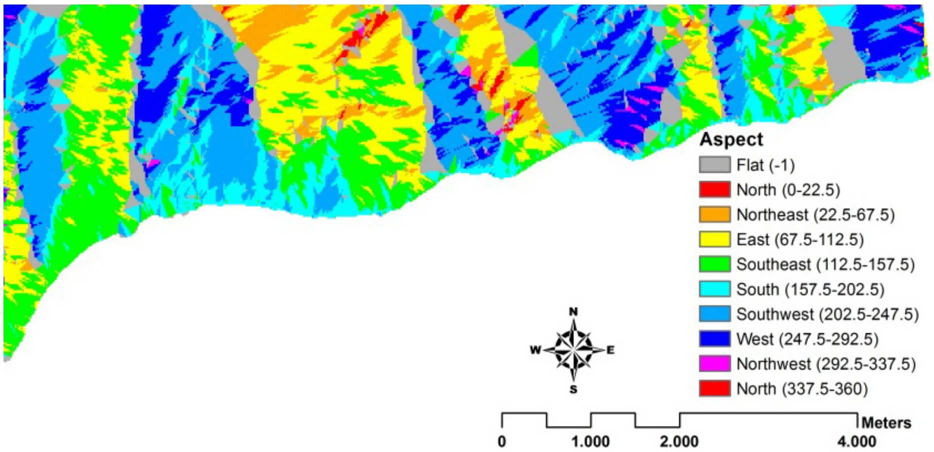

Figure 8. Aspect analysis

2.4. Climate analysis

Climate is the set of meteorological conditions characteristic of an area over a given length of time. It is defined as the study of extremes and long-term means of weather. The regional (or macro) climate is the big picture, the meteorological conditions and patterns over a large area. Macroclimate is affected by physical conditions such as mountains, ocean currents, prevailing winds, and latitude. It in turn affects the formation of the physiographic region through the weathering of the terrain and the amounts of precipitation that fall on the landscape. Climate states the average of the air for a long time in a specific place. Macro, meso and micro are the 3 types of climate. Long-term measurements, temperature, precipitation, air humidity and air movement and extreme values determined for the average for the region, which is characterized by a wide range of climate macroclimate is called. Climate characteristics of macro-states of different characteristics of land in the air near the surface have been described as microclimate. Shape of the face of the land, such as elevation and aspect Relief for small spaces created by the characteristics of the type of climate is called the mesoclimate. This is located between the macro and microclimate. Plant growth and biological analyzes to people about the climate are crucial in terms of comfort, they are temperature and precipitation analysis. Relative humidity, time of sun and cloud cover, wind direction and nature, frost days, and etc. factors have a significant effect on the bioclimatic comfort. Precipitation is the most important factor limiting regeneration of vegetation. The total annual rainfall is 600 mm but not enough for the formation of a local forest as a result of research that indicated

Heat and temperature are very different concepts. Despite the potential value of objects based on the heat, the temperature of this value emerged as a kinetic form. Therefore, the air temperature is not heat.

Bioclimatic limits of comfort with the body temperature of 15 ° C between 37 ° C ambient unless otherwise stated. Temperature of 20-24 C in the summer, optimum indoor temperature of 21 C values of the optimal bioclimatic comfort. At night, the relative humidity of 40-70% and 18-24 C temperature limit values.

Climatic elements in preparing the vegetation ecological environment, climate, type of vegetation and animals living in the rural and urban areas are the limiting factor.

Analysis, planning to put up a field of plant breeding the human race in the comfort of home to learn about the conditions to create a suitable environment is important for people in planning will be done.

Therefore, the climatic comfort of people trying to manifestation of the analysis depending on the season. Bioclimatic comfort level and the amount of which should be of climatic elements allowing research on human beings endure as a medium between the lowest and highest temperatures bioclimatic comfort limits.

Meteorological elements change vertically and horizontally within short distances. Small-scale variations are brought about by changes in slope and orientation of the ground surface; soil type and moisture; variations in rock, vegetation type and height; and human-made features. These different climates found within a small space are grouped together under the general description of *microclimate.* The term *topoclimate* is used when the effects of topographic variations of the land on the microclimate are considered. Generally, topoclimate is an extension of microclimate into the higher layers of the atmosphere and over landscapes, depending on the relief of the land. Therefore, topoclimate can be considered to occupy an intermediate level between macroclimate and microclimate. It is important to understand microclimate and topoclimate for many of the same reasons that macro, or regional, climate is important. These finer layers, however, relate more directly to building and open space design (Kienast, 1993).

2.5. Geology

Geology is the study of the earth. This study involves both what has happened in the past, or geological history, and what is happening on and in the earth today.

This analysis was prepared by institutions engaged in geological studies consists of the interpretation of maps and reports. As a result of this review maps and reports, forms the bedrock of physical and chemical state of the soil, water retention properties of the mass due to the hydrogeological characteristics of sedimentary or igneous efficiency, earthquake status (seismicity), the main rock formations are learned.

The inventory of a place requires an understanding of the geological history and processes of the region. Such understanding can begin with a *geological map,* which is "a graphic representation of the rock units and geological features that are exposed on the surface of the Earth. Accordance with the determination of the geological structure of the area in which such use is put forward. Functional characteristics of a field analysis of geological bedrock exhibits the aesthetic features can be evaluated. Underground long and wide fissures (fault lines) goes on and on. These lines are extremely sensitive to the occurrence of the earthquake areas. These areas should be on residential areas, more use should be included in nature conservation purposes. In addition to showing different types and ages of rocks, most geo- logical maps depict geologic features, such as faults, folds, and volcanoes. The relative timing of events can usually be determined from a geologic map, usually by the application of these principles: superposition (younger layers are above older ones); original horizontality (layers formed from deposition of sediment were originally flat); crosscutting relationships (younger features crosscut older ones; a fault will be younger than the layers or contacts it cuts); and inclusions (a rock unit is younger than the layers from which the inclusions it contains came).

Summary of geologic inventory elements; regional geographic history, depth to bedrock, outcrops, bedrock types and characteristics, cross sections, columnar sections, surficial deposits (regolith): kames, kettles, eskers, moraines, drift and till, mineral resources, major fault lines, earthquake zones, and seismic activity, rock slides and mud slides (Kienast, 1993)

2.6. Geomorphological analysis

Geomorphological structure, depending on the geological structure of different geological times (Era), composed of the structure of the land. Geological times, the base of the valley bottom and the plain plains, alluvial cones, low and high benches, low, medium, and high plateaus, hills, hilly and mountainous areas and etc. geomorphological formations emerge. Generally, plains, hills, high hills and highlands plateaus are around. Maps, brown hills, valleys, yellow and green, and etc.. are shown in colors. Geomorphological structure studies, microclimate, ground water, agriculture, transport, housing and construction issues during the elections helps. For example, the hills are areas that allow private construction. Dense urban developments planned, slope and valleys, parks and woods considered. Relief: mountains, hills, plains, valleys and plateaus of the surface forms of the earth's crust. Soil formation processes such as erosion and drainage efficiency of distribution and orientation plays a significant role in relief.

The following information can be produced as a result of an examination of relief

- the height above sea level
- according to an altitude of objects around the comparison and detection of patterns,
- certain areas, and the average slope inclination
- lands texture local formations (rocks, steep cliffs, sand dunes, karstic, etc.)

Relief, the shape of the land belonging to a landscape on a flat, recessed - ribbed, curved, is a phrase that allows the introduction of phrases such as low or high. Relief characteristics of a landscape, "altitude", "examination", "slope of the land", "shape of the earth» factors are introduced. Relief of a place, climate, vegetation and soil characteristics have a significant impact on.

2.7. Hydrological analysis

According to (Kienast, 1993); Water is essential for all forms of life. It is also a finite resource. Most water in the hydrosphere is salt water (97.20 percent). Water in the polar icecaps and other frozen areas accounts for 2.15 percent of the resource. This means only 0.65 percent of the water in the world is fresh, and its distribution and quality is uneven (Tarjuelo and de Juan 1999). As a result, water is an essential factor to consider in planning Water resources in conjunction with the natural function of the aquatic ecosystem at every stage of life, are needed by all living beings. Hydrological characteristics of the structure is damaged in any way connected to it will affect the life of the living.

The hydrologic cycle expresses the balance of water in its various forms in the air, on land, and in the sea. As the hydrologic cycle and water budget illustrate, *hydrology* deals with the movement of water through the landscape both on the surface and in the ground. *Groundwater* is water that fills all the unblocked pores of materials lying beneath the surface. *Surface water* is water that flows above the ground. Depth to water table, water quality, aquifer yields, direction of movement, and the location of wells are important groundwater factors.

Hydrological survey planned in the field;

- surface drainage analysis
- analysis of groundwater
- surface water analysis
- bottom water analyses can be performed in four different fields.

Types of Utilization of Water Resources (Karadeniz, 2008);

- Drinking water (surface + underground - wells)
- Agricultural activities (surface + underground - wells)
- Industrial activities
- commercial activities
- transportation
- Recreation / tourism activities

2.8. Soils

The skeleton of the geological structure formed by elements of the vitality of plants and animals, which have gained ground, first of all exhaustible not protected, there is no place, no longer works in the life of human nutrition, accommodation, and so on. a substance that has taken over the function of many. Soil, the water and items such as a living source. Soils occupy a unique position in the lithosphere and atmosphere. Sustainable soil use is indispensable for the development of a country. They are a transition zone that links the biotic and abiotic environments. *Soil* is a natural three-dimensional body on the surface of the earth that is capable of supporting plants. Its properties result from the integrated effect of climate and living matter acting upon parent material, as conditioned by relief over periods of time. Many processes are linked within the soil zone, so soils often can reveal more about an area than any other natural factor. The soil survey includes the information necessary:

- To determine the important characteristics of soils

- To classify soils into defined types and other classificational units
- To establish and to plot on maps the boundaries among kinds of soils
- To correlate and to predict the adaptability of soils to various crops, grasses, and trees, their behavior and productivity under different management systems, and the yields of adapted crops under defined sets of management practices

The principal purposes of the soil survey are:

- To make available all the specific information about each kind of soil that is significant to its use and behavior to those who must decide how to manage it
- To provide descriptions of the mapping units so the survey can be interpreted for land uses that require the fundamental facts about soil

Summary of soils inventory elements: Soil series, permeabilit,texture, profiles, erosion potential, drainage potential, soil associations and catenas, cation and anion exchange, acidity–alkalinity

Soil maps, land capability classes and these classes determine the soil physical, chemical and biological properties of soils, as well as training courses are available. In addition, usage patterns according to these properties are stated and symbols are shown on the map.

Soil landslide, fluidity, displacement characteristics of survey plans or maps are very important in terms of processing uses reach a decision on the erroneous.

Soil, landscape planner is one of the important ecological factors affecting the decision. Should not be the decision of any plan without understanding the properties of the soil as it should be.

Soil, landscape planner is one of the important ecological factors affecting the decision. Different climatic conditions, a wide range of rocks of different plant designs at different elevations formed land, water and air, one of the indispensable elements of life. Soil is a limited natural resource. In Turkey, most of the worlds to represent the soil types have different soil types.

2.9. Vegetation

Plants are important to study for many reasons. They may have economic and medicinal value. They provide habitat for wildlife. They have significant influence on natural events like fires and floods and may reduce the human consequences of such events. Plants are beautiful and contribute to the scenic quality of landscapes. Plants are the source of oxygen, which humans need to survive.

Survey analysis of landscape vegetation is one of the most important works. Flora and vegetation survey done by several methods. The flora of an area of all plant species, surveying, site observations and collected in the form of plants can be identified.

Flora cannot work without knowing the vegetation. Stratification, vitality (naturalness) and the other based on qualitative and quantitative characteristics of the plants are grouped and named all of the vegetation. Vegetation surveys, in the form of detailed investigation, Braun /Blanquet's method and the values determined by the quality and quantity of work done with the vegetation maps we developed this method in many countries.

The vegetation plots will be determined by dividing the area of the study of flora as simple as possible. Sample plots can be created in various sizes. For example, a plot of 20x20 m in size of all trees, shrubs, herbaceous plants is determined by the type and size. Plots more detailed surveys, 4x4 m and 1x1 m in size by dividing the sub-plots of plant species can be detected. These plots are given numerical values are determined by density of plant species.

Vegetation, vegetation can be classified as natural and cultural. In vegetation surveys should be examined in both studies. Vegetation can be determined by aerial photographs. Vegetation remote sensing system is also an important method used in the search. The vegetation surveys, and maps are used in planning the elections of most plant material.

Summary of vegetation inventory elements; Plant associations and communities, vegetative units, species list, species composition and distribution, physiognomic profiles, ecotone and edge profiles, rare, endangered, and threatened species, fire history (Kienast, 1993).

2.10. Fauna

Fauna, terrestrial and aquatic fauna can be studied in two groups. Land fauna of mammals, birds, frogs and reptiles, insects and invertebrates. These populations, habitats, and is determined in terms of activities. Results are reported with a map of a state of wild life. Within the scope of this report, the general condition of the fauna (endemic, rare, endangered, extinction, etc.). Indicated. Broadly, *wildlife* is considered to be animals that are neither human nor domesticated. Insects, fish, amphibians, birds, and mammals are more mobile than plants. While closely linked to vegetative units for food and shelter, wildlife often use different areas to reproduce, eat, and sleep. Like vegetation, wildlife have not been extensively inventoried except where the animals have some commercial value. Because animals are mobile, they are even more difficult to inventory than vegetation. Planners are paying increased attention to wildlife. They observe that in addition to enhancing the quality of life, wildlife protection is important for ethical and moral reasons, for recreational benefits, and for economic and tourist values.

Summary of wildlife inventory elements; Species list, species-habitat matrix, animal populations, habitat value map, habitat of rare, endangered, and threatened species

Animal migration is connected to both the ecological and genetic factors need to be taken into consideration surveying point. Migration event, both vertically and horizontally maintained. Regular vertical migration by plankton, the night side of the sea or lakes go deep into the water again in the morning takes the form of strokes. Horizontal migration of many invertebrate and vertebrate animals conducted by the immigration. Vertebrate animals are more regular migrations. Some animals are effective spread plant species. For example, birds, fruits, taking them to various places after eating the seeds of these plants are to help them develop those areas. In addition, the fauna that need to fertilize plants.

In addition, creating a major impact on hunting fauna. Hunting generating stations was established, hunting periods, must be done regularly. Effects on fauna, there are cultural practices, improper applications, the reductions in fauna, migration, and etc. causes problems.

2.11. Analysis of socio-culturel resources

Landscape architecture, planning activities, as well as natural resources, cultural resources present in the area is important in the determination of planning decisions to be taken for these resources. Planning was done by the people for the people by the people are the most important criterion in planning.

In the selection of a cultural use of natural resources in an area to determine the effects of this field, if necessary, the effects on natural resources, cultural resources, and these effects should be known to be determined.

Surveys, social situation, demographics, migration and urbanization, communication and transportation, education, health and nutritional status, settlement and housing status, issues such as public-state relations under investigation. In surveys, the economic situation, land ownership, party products, credit facilities, cooperatives, marketing and market relations, forms of business power, the income levels of the families studied.

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3. References

Ahern, J., 1995. Greenways as a planning strategy. *In:* Fabos, J. and Ahern, J. eds. *Greenways: the beginning of an international movement*. Elsevier, Amsterdam, 131-155.

Ahern, J., 2006., "Theories, methods and strategies for sustainable landscape planning". In From Landscape Research to landscape Planning: Aspects of Integration, Education and Application. B. Tress, G. Tress, G. Fry, and P. Opdam, Editors. Springer. Pp. 119-131.

Benson, J.F., London, M.H.R. 2000. Landscape are complex systems that require a multiscale approach to fully understand, manage, and predict their behavior. ISBN 0-419-25080-8 (Print Edition).

Haaren, C.V., Galler, C., Ott, S. 2008.Landscape planning: *The basis of sustainable landscape development,* Federal Agency for Nature Conservation, Hannover.

Karadeniz, N. 2008. Kaynak Envanter ve Analizi, Ankara Üniversitesi, Peyzaj Mimarlığı Bölümü, Ankara, Türkiye.

Kienast, F. 1993. Analysis of historic landscape patterns with a Geographical Information System - a methodological outline, Landscape Ecology vol. 8 no. 2 pp 103-118.

Pecova, H.S., 2000. Landscape Analysis in Spatial Planning, Landscape Ecology: theory and applications for practical purposes, The Problems of Landscape Ecology Vol VI., 93-101.

Zaucer, L.B. and Golobic, M. 2010. Landscape plannıng and vulnerabılıty assessment ın the medıterranean, Croatia.