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Research Article

Thematic Park Congruence Analysis with Ecological Threshold Analysis Method, Case Study Çanakkale

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Abstract

Thematic Parks are defined as open or closed spaces located in urban open green spaces, enabling people to live and work in a healthy way in urban life, reunification with nature, to get away from mental disorders and to do recreational activities. The most important difference of Thematic Parks from other recreational areas can be defined as the benefits they provide to the country's economy. Within the framework of planning criteria for Çanakkale-Center Thematic Park, which was chosen as the study area, a Thematic Park congruence analysis was carried out for Çanakkale with the Ecological Threshold Analysis Method using Geographic Information Systems (GIS). Land capability map, land use map, aspect map, slope map, elevation map, groundwater map and transportation map were created by classifying them in 1/25.000 scale from the maps to be used as a base in the analysis study. The maps used to determine the potential theme park area were divided into 1x1 km^2 grids and scored with a criterion value of 4 for each grid. As a result of the scoring, one each I. and II. degree potential area and three III. degree potential area has been determined. As a result, within the scope of this study, suitable site selection for a Thematic Park that can be applied in Çanakkale has been determined.

Keywords: Threshold Analysis, Thematic Park, Ecological Planning, GIS, Çanakkale

Çanakkale Örneğinde Ekolojik Eşik Analizi Yöntemiyle Tematik Park Uygunluk Analizi

Öz

Tematik Parklar, kentsel açık yeşil alanlar içerisinde yer alan, insanın kent hayatında sağlıklı yaşayabilmesini ve çalışabilmesini, bozulan bütünlüğüne yeniden erişebilmesini, ruhsal bozukluklardan uzaklaşıp rekreasyonel aktiviteler yapmasını sağlayan açık veya kapalı mekânlar olarak tanımlanmaktadırlar. Tematik Parkların diğer rekreatif alanlardan en önemli farkı ülke ekonomisine sağladığı yararlar olarak tanımlanabilir. Çalışma alanı olarak seçilen Çanakkale-Merkezin Tematik Parkı için planlama kıstasları çerçevesinde Coğrafi Bilgi Sistemleri (CBS) kullanılarak Ekolojik Eşik Analizi Yöntemiyle Çanakkale için Tematik Park uygunluk analizi yapılmıştır. Analiz çalışmasında kullanılacak arazi kabiliyet haritası, arazi kullanım haritası, bakı haritası, eğim haritası, yükseklik haritası, yeraltı suyu haritası ve ulaşım haritası ilgili kurumlardan alınan veriler doğrultusunda 1/25.000 ölçeğinde sınıflandırmaları yapılarak oluşturulmuştur. Potansiyel tematik park alanının belirlenmesi için kullanılan haritalar 1x1 km^2'lik gridlere bölünerek her bir grid için ölçüt değeri 4 üzerinden puanlandırılmıştır. Yapılan puanlama sonucunda birer tane I. ve II. derece potansiyel alan, üç tane III. derece potansiyel alan belirlenmiştir. Sonuç olarak bu çalışma kapsamında Çanakkale'de uygulanabilecek bir Tematik Park için uygun yer seçimi tespit edilmiştir.

Anahtar Kelimeler: Eşik Analizi, Tematik Park, Ekolojik Planlama, GIS, Çanakkale

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1. Introduction

The origin of thematic gardens dates back to medieval Europe and they were considered as gardens of happiness. There were functions such as fire games, playgrounds with toys, and trains (Gök and Bingöl, 2017). The widespread use of theme parks started in the 19th century in America was influenced by the industrial revolution. Founded in 1955, Disneyland pioneered the theme park to become an industry (Dalkılıç, 2007). Theme parks, which are the focus of attention all over the world, have become valuable areas in terms of tourism and the country's economy today (Gök and Bingöl, 2017).

Thematic parks are classified according to their size, diversity and sphere of influence. According to Braun, the classification of theme parks should be based on the characteristic and economic hierarchical order of the parks in the region (Braun, 2000). According to Gök and Bingöl, when thematic parks are evaluated in terms of their target audience, entertainment type and basic application points, they are divided into 5 basic classes (Gök and Bingöl, 2017).

1. Historical and cultural theme parks.
2. Education themed parks.
3. Story, fairy tale, mythology based parks.
4. Art themed parks.
5. Age themed parks.

Theme parks need special tourism planning and land use (Büyükşalvarcı and other, 2019). Investment services require multidisciplinary cooperation for services such as catering and entertainment. It should be planned within the framework of sustainable development in order to benefit from thematic parks and reduce their negative effects (Öztürk and Işınkaralar, 2019). Thematic parks can develop when planned according to three basic criteria (Gülhan, 2019). The first is to have a large land required for investment resources, the second is to have structural materials and special equipment, and the third is to have a planned business management.

It should also have three levels (national, regional and local) spatial planning as well as Tourism Planning, taking into account the risk factors (Kučinskienė, 2012).

Thematic park planning principles may differ according to its type and function. Considering user requests and satisfaction, the planning criteria should be as follows.

1- Feasibility reports should be taken into account in site selection.
2- It should be preferred that the park is on the main roads of the city in order to ensure accessibility in the selection of the location.
3- To integrate the historical, touristic and entertainment venues of the thematic park and to ensure sustainability by including it in the existing tourism route.
4- Determining usage needs and designing shopping areas for long-term use.
5- Consideration of natural, cultural, demographic, social and economic factors in order to increase the national and international tourist potential.
6- The defined spaces, activities and equipment should be open to development.
7- The curiosity of the users and the competitiveness between the functions should be increased (Deniz, 2002).

While planning and designing theme parks, a system open to everyone should be created (Uysal and Sun, 1994). Theme parks, which are built with a high investment cost, are organizations with high economic income, so they should have functions that will invite all visitors (İnce and Küçük, 2018).

Although Çanakkale has the potential of many theme parks with different themes, Aqualand is the only theme park with a water theme (Yanmaz, 2018). Çanakkale has a thematic park user potential in its internal dynamics (student potential presence, large number of retired people, presence of children and parents) (Özel, 2004). Its historical areas, natural potential and tourism destinations are important for the external dynamics of the city (Atalay and etc., 2019). The potential mass in both internal and external dynamics makes the formation of different thematic parks powerful: amusement park, health gardens, horticultural gardens etc. (Ertürk, 2017). In this study, potential Thematic Park suitable areas were determined in the city of Çanakkale by taking this potential mass as a driving force.

2. Material and Method

2.1. Material

The research area was chosen as the center of Çanakkale Province, which is located within the borders of the Marmara Region (Figure 1).

Figure 1. The location of the study (produced by the authors using Maphill, Google Earth and ArcGIS).

The main material of the research consists of the Land Use Capability (LUC) map and Major Soil Groups (MSG) map obtained from the Ministry of Agriculture and Forestry, the Çanakkale 1/5000 Master Plan obtained from the Çanakkale Municipality and documents obtained from Earthdata (earthdata, 2022). In the creation of Land Use Capability (Table 1), Large Soil Part and Land Use Maps, vector data in numerical shapefile (*.shp) format obtained from the Ministry of Agriculture and Forestry were used.

Table 1. Canakkale areal sizes (ha) of land use capability class by districts. (created by the authors)

LUC	Esenler District (ha)	Cevatpaşa District (ha)	İsmetpaşa District (ha)	Barbaros District (ha)	Boğazkent District (ha)	Hamidiye District (ha)	Cumhuriyet District (ha)
I. and II. degree	30	2	63	58	1	1	134
III. degree	68	-	-	41	4	140	19
IV. degree	-	9	-	54	9	25	-
V. degree	46	30	12	180	4	33	46
VI, VII and VIII degree	6	-	1	59	-	8	2
TOTAL	150	41	76	392	18	207	201

On the 1x1 km^2 grid system created within the scope of Kiemtedt's Method (Çelikyay, 2005), the base at the borders determined in the shapefile files was overlapped and maps were created by coloring on each area feature. Aspect, Slope and Relief

maps were created using 10x10 digital elevation model (DEM) data obtained from Eartdata. For this, "processing-clip" was performed by selecting our own area boundary over Image Analysis Tools via Geographical Information Systems (ArcGIS). Thus, after the DEM data was matured within the field boundary, the DEM data in raster format was converted into vector data. Aspect, Hillshade, Slope maps in ArcGIS (via 3D Analyst Tools-Raster Surface) are placed on a 1x1 km^2 grid system located on the WGS 1984 UTM Zone 35N coordinate system within the specified qualities. The scale of all maps created was determined as 1/25.000.

2.2. Method

For the Thematic Park, which will be examined in this study, the degree of congruence of ecological factors, that is, the potential value of ecological factors for use, has been determined. The following formula was used for the value analysis of the natural potential for sectoral uses (Çelikyay, 2005).

$$SAK_{PD}=Factor1_{PD}+ Factor2_{PD}+ Factor3_{PD}\ldots Factor(n)_{PD} \quad (2.1)$$

SAK=Sectoral Land Use (Sektörel Arazi Kullanımı)

PD= Potential value (Potansiyel Değer)

The potential value of an area for sectoral land use is the sum of the potential values of ecological factors in that land use.

$$SAK_{PD}=\Sigma PD=g_1.e_1.v_1+\ldots+ g_n.e_n.v_n \quad (2.2)$$

$$PD=_{g.e.v} \quad (2.3)$$

$SAK_{PD=}$ Potential value for land use.

PD= The potential value of the ecological factor in relation to land use.

g= The criterion weight rating.

e= Function value.

v= Priority value for land use.

This mathematical formula forms the basis of the "value analysis of natural potential for sectoral uses" method (Çelikyay, 2005).

3. Results and Discussion

3.1. Results

The maps prepared in the Geographic Information System (ArcGIS) and used as a base for the Thematic Park location selection of the city of Çanakkale are given the number value (1, 2, 3….18) to the rows and the letter value (A, B, C…..L) to the columns. As a result of this division, 31 grids of 1x1 km^2 were created (Fadel, 2016).

3.1.1. Use Land Capability

Points are given according to the proper of the area within the scope of the criteria determined in each grid. The lands on which irrigated farming is carried out on the area border are those that have I. class land use capability and have soil properties suitable for agricultural production. Sloping lands consisting of forest areas in the eastern and south-eastern parts of the research area, VI. and VII. are the lands that have the class of land use capability. Within the scope of these features determined for Land Use Capability, I-II-III in the grid. Class lands and VII-VIII. Class lands are given 1 point. For VI. class land was given 2 points, for IV. class land was given 3 points, and for V. class land was given 4 points (Figure 2).

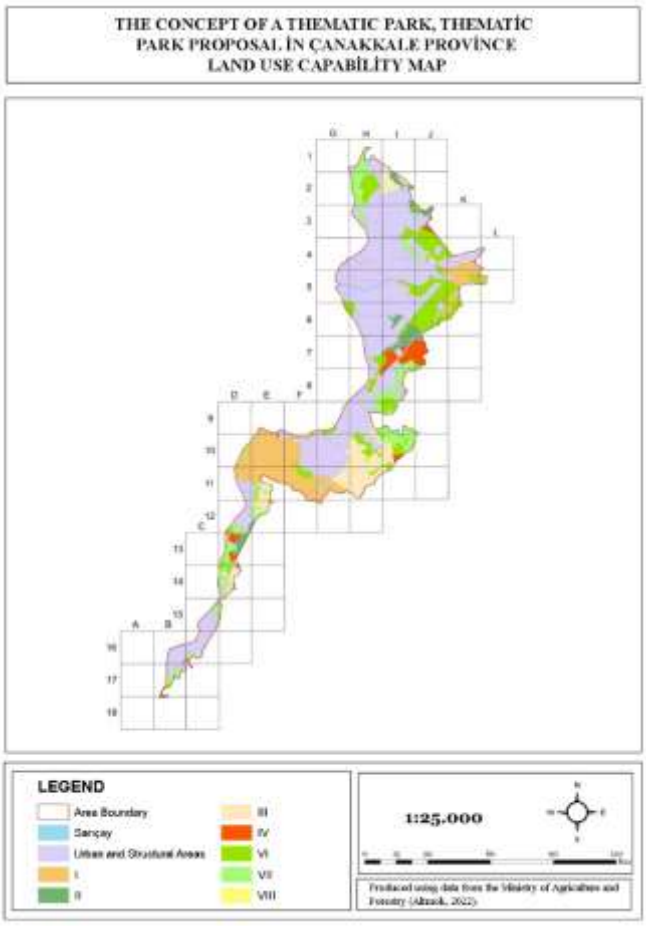

Figure 2. Canakkale-Central Land Use Capability Map

3.1.2. Land Use

The land uses in the research area, which includes the residential area and development areas of the Çanakkale central district, industrial zones, the coastal town of Kepez and the Dardanos coast along the coastline, as well as the village settlements, are shown in Figure 3. The agricultural lands in the study area are 140,138 ha, irrigated agriculture 48,853 ha, fallow dry agriculture 49,935 ha and a total of 237,926 ha agriculture is done in the area. Forest assets in the research area cover an area of 130,691 ha. In addition, the total area of heathland is 56,885

ha. The amount of areas under meadow-pasture use is 64,488 ha, which is quite insufficient.

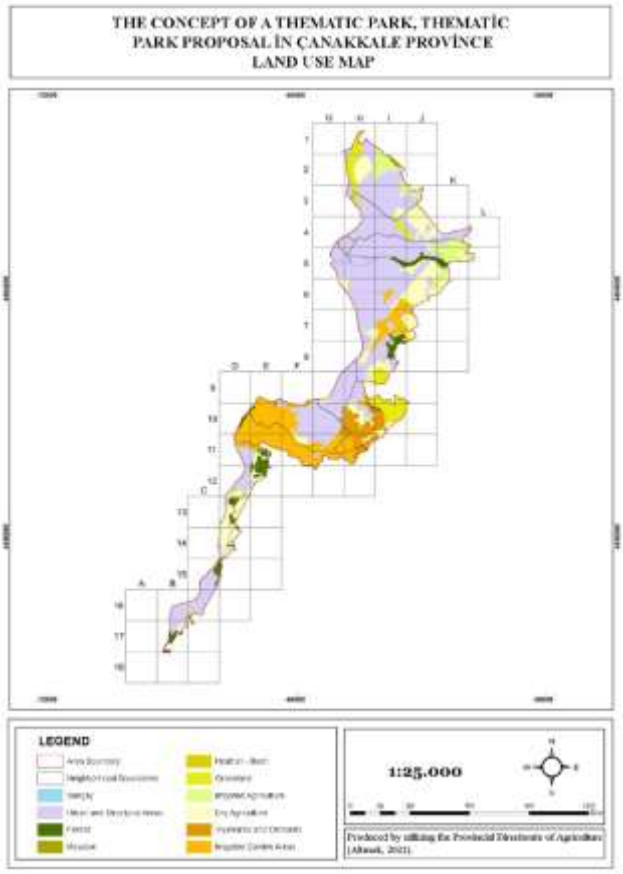

Figure 3. Canakkale-Center Land Use Map.

The points given for the use of land in the grid in the Land Use are as follows; 1 point for airport, military and natural sites, 2 points for residential areas and recreation, 3 points for higher education, 4 points for industry and trade. Destroyed areas were taken into consideration in the location selection of the thematic park. Thus, in the design dimension of the park, it was aimed to repair ecologically, increase the frequency of use and create livable environments.

3.1.3. Aspect

Since the "south, southeast, southwest and west" aspects are generally warmer in the geography of Turkey, these are called sunny aspects. On the contrary, since the "north, northeast, northwest and east" aspects are cooler, they are also called shaded aspects. The sunbathing times of these two groups are significantly different from each other (Çepel, 1988). The aspect of the research area is shown in Figure 4.

A high degree of score was given to the aspects of the idle area, where the wind is strong and in need of maintenance. The regions that receive the northeastern wind are important in terms of gaining the existing working area that may require maintenance in the area. Aspect directions with southerly winds received low scores. The South aspect received 1 point, the East-Southeast aspect received 2 points, the West-Southwest aspect received 3 points, and the North-Northwest aspect received 4 points.

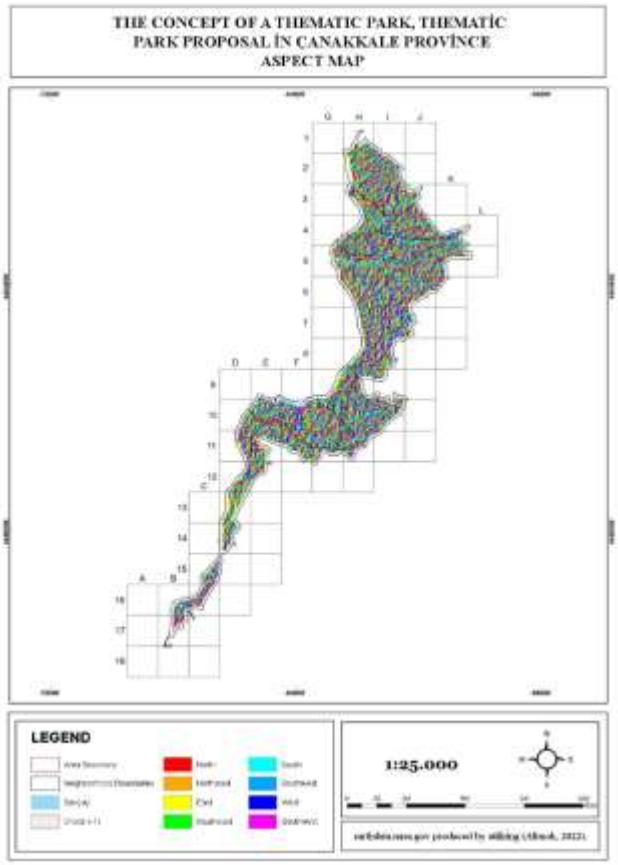

Figure 4. Çanakkale-Center aspect map.

3.1.4. Major Soil Groups

The needle leaves and vegetable wastes found on the soils of the Aegean Region decompose with the effect of heat and precipitation and mix with the soil. For this reason, there are alluvial soils in places with an altitude below 100 meter. However, as a result of low temperatures in high places, organic materials decompose late and remain on the soil for a long time (Şahin and etc.,2007). The major soil groups in the study area are seen on the map in Figure 5.

Scoring assessment of species among major soil groups is given based on permeability and ability to sustain existing vegetation. While making this scoring, factors such as landslide and erosion were also evaluated. Brown forest soils, red brown Mediterranean soils, limeless brown forest soils received the lowest score. Alluvial soils, colluvial soils and vertisols were given the highest scores.

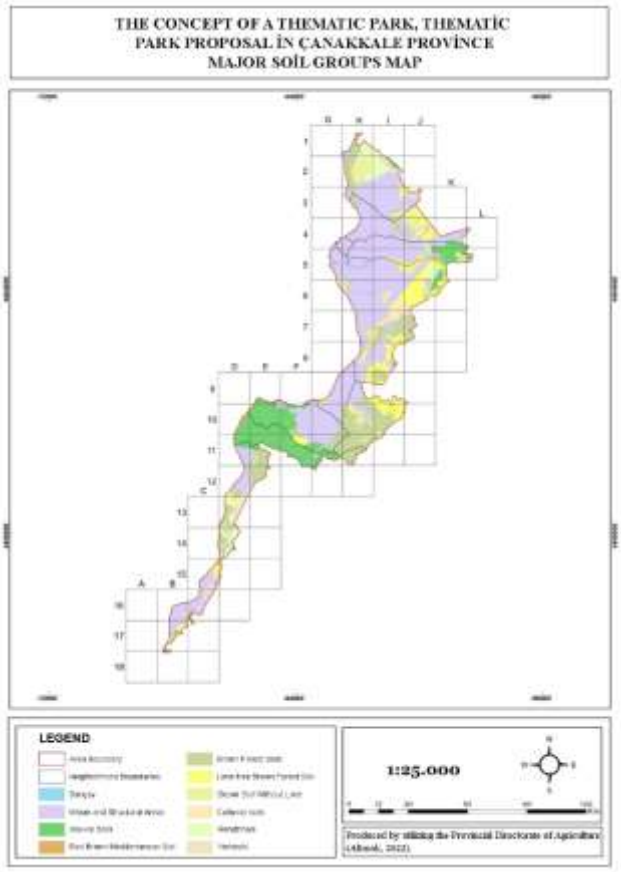

Figure 5. Çanakkale-Center major soil groups map.

3.1.5. Slope

The slope percentage of the areas around Sarı Stream and its tributaries in the research area is 0-2%. The slope percentage on the slopes of the irrigated farming areas, which are in the II and III class land capability class within the study area, is 2-6%, and the slope percentage in the other part is between 6-12%. In general, the study area consists of areas in the 4-7% slope group. We can classify the land cover in these areas as forest and dry agriculture. The slope map of the research area is shown in Figure 6.

According to the Thematic Park application criteria, the lowest value, 1 point, was given because the land slope is not suitable for flat and very rough areas. In addition, areas with a slope of 20-32% are known as lands unsuitable for the use of theme parks. As the degree of slope increases, the surface flow of precipitation waters also increases. In parallel with this, the severity of erosion increases and the soil depth decreases. Very sloping lands are unsuitable places in terms of nutrient and water economy. As a result, it is defined as arid and poor soils. Therefore, the highest value of 4 points is given to areas with a slope of 2-6%.

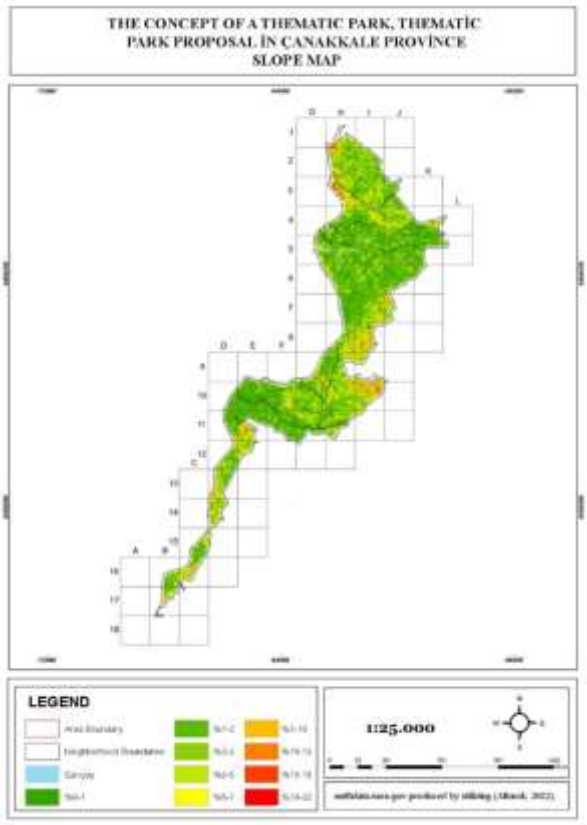

Figure 6. Çanakkale-Center slope map.

3.1.6. Elevation

The land around the Sarı Stream in the research area consists of sloping ridges and hills (Figure 7). While the settled area of Çanakkale Center is flat, the area where Esenler District and University Campus is located is surrounded by hills.

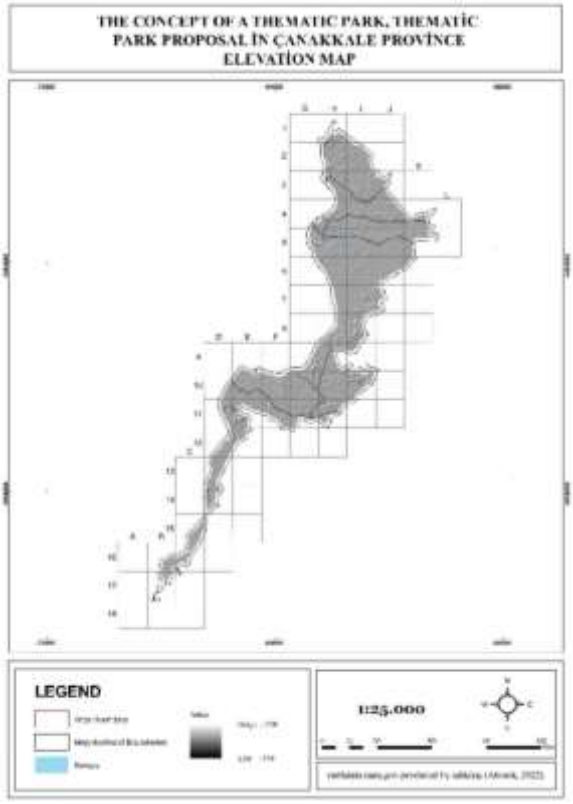

Figure 7. Çanakkale-Center elevation map.

3.1.7. Underground water

The research area, which has the temperate climate characteristics of the Aegean Region, generally receives precipitation in all seasons. Therefore, it is rich in surface and underground water resources (Figure 8). The most important stream of Çanakkale is Sarı Stream. Thanks to the sufficient water level of the Sarı Çay, which flows into the Dardanelles, ships of 500 tons can enter within 15 km of the city. With this feature, it is an important area of Turkey.

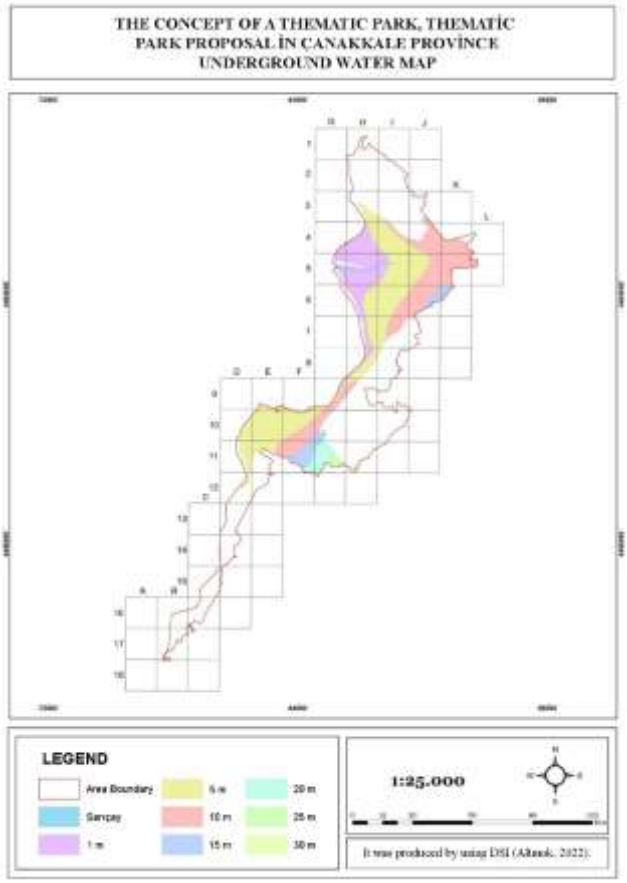

Figure 8. Çanakkale-Center underground water map.

3.1.8. Transportation

The main road of the city passes over lands where there is no or very little slope. Çanakkale is important in that it is located on the East-West, North-South corridor of global goods and services movement routes. Sea transportation on the study area also provides significant advantages in terms of logistics. The map of the existing transportation axes and the road grading in the research area is shown in Figure 9.

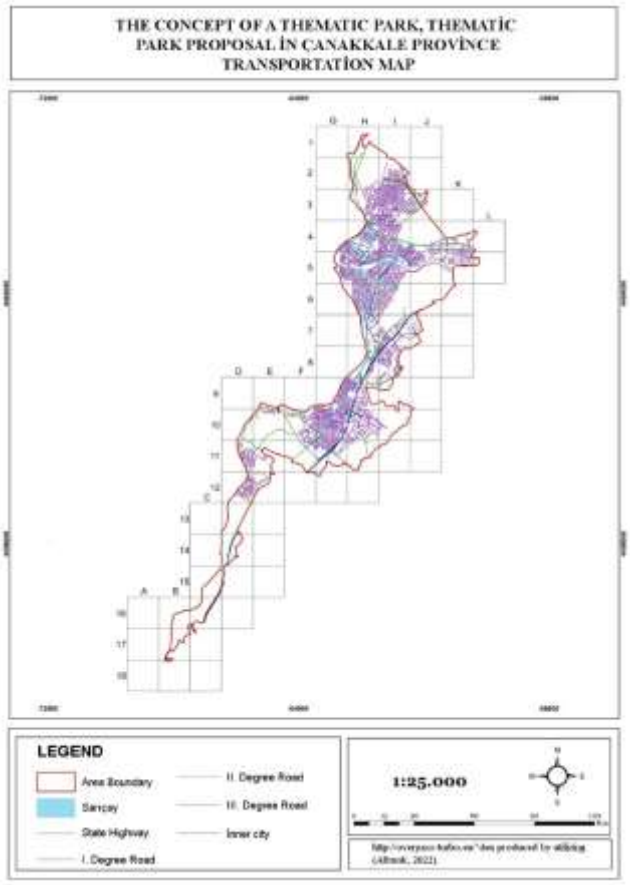

Figure 9. Çanakkale-Center transportation map.

3.1.8. Assessment of Natural Factor

The potential value was developed by determining the sub-factors that constitute the ecological threshold for the use of thematic parks and was formed by giving the function values. The main ones of these selected sub-factors are; land uses, major soil groups, slope, groundwater, aspect, land capability, road networks. Class of I., II. and III. lands are suitable for growing all kinds of plants growing in the region, the slopes are flat, well-drained, easily cultivated, deep and fertile. For this reason, lands with I., II. and III. land use capability classes were given 1 point because they were not suitable for thematic park use. 3 points are given to IV class lands that have very severe limiting features in terms of soil depth, stoniness, wetness and inclination and can only be cultivated with appropriate plowing for a few specific plant species. These areas have been given such high points because the areas that have been made ready for use again by repairing the destroyed and abandoned areas are suitable for thematic park. Since the flattest and roughest areas of the land slope are not suitable for thematic park, these areas are given 1 point. In areas where the slope is 20-32%, the surface flow of precipitation waters increases, erosion becomes severe and soil depth decreases. Therefore, these areas are defined as arid and poor places that are unfavorable in terms of nutrient and water economy. Therefore, areas with a 2-6% slope were given the highest value of 4 points. The ecological factors described above, the ecological sub-factors constituting the threshold for agricultural use, and their criterion weights and function values were produced by using Çelikyay (2005). The slope and land use capability criteria values are shown in Table 2.

Table 2. Natural factor evaluation table for areas with Thematic Park potential (Slope-LUC)

Criteria	Slope					Land Use Capability							
Criteria Weight	3					1							
Sub-Criteria	% 0-2	% 2-6	% 6-12	% 12-20	% 20-32	I	II	III	IV	V	VI	VII	VIII
Function Values	1	4	3	2	1	1	1	1	1	4	2	1	1
Potential Values of Metrics	$Slope_{PV}$					LUC_{PV}							
PV=TPV	THE POTENTİAL VALUE of THEMATİC PARKİNG												
Average TPV	Average Thematic PV=(Max. ThematicPV+MinThematic)/2= (12+3)/2=7,5												
Evaluation													
Result	Not available			II. Degree Potential					I. Degree Potential				

Source: Produced by using the data of the Ministry of Agriculture and Forestry.

When the land uses are examined, the lowest value of 1 is given to the areas where thematic parks cannot be built. Military Area, Airport and Natural Protected Area can be given as examples of land uses of this value. High points have been given to areas such as higher education, industrial zone and commercial area, which can be shown as examples of suitable areas in land use. The scores given in this section were evaluated according to the applicability of the fields, and the ecological sub-factors and their related criterion weights and function values are shown in Table 3.

Scoring criteria for species among major soil groups is given based on the presence of existing vegetation and base permeability. The criterion evaluation scores of large soil groups are shown in Table 3.

Table 3. Land use and natural factor evaluation table of large soil groups for areas with Thematic Park potential.

Criteria	Land Use							Major Soil Groups							
Criteria Weight	1							1							
Sub-Criteria	Forest	Meadow	Heather-Bush	Grassland	Irr. Agriculture	Dry Agriculture	Viyenards	Irr. Garden	Alluvial Soils	Red Bro. Med	Brown Forest	L. brow Bro. For	Bro. Wit. Li.	Colluvial	Rendzinals	Vertisols
Function Values	1	4	1	3	4	1	2	2	1	1	1	1	2	3	2	4
Potential Values of Metrics	LU_{PV}							MSG_{PV}							
PV=TPV	THE POTENTİAL VALUE of THEMATİC PARKİNG														
Average TPV	Average Thematic PV=(Max. ThematicPV+MinThematic)/2= (18+4)/2=10														
Evaluation															
Result	Not available				II. Degree Potential							I. Degree Potential			

Source: It was produced by using Çanakkale Construction Plan data.

In determining the potential values of the road masters, the areas far from the city but on the main road were evaluated as having high appropriate for thematic park. For this, high points were given to the state highway and first degree roads. Areas with structural densities in or near the city were given low scores. Evaluation scores related to transportation are shown in Table 4.

Aspect directions with strong winds and idle areas were given high scores. It is very important to acquire the regions that are under the influence of the northeast wind and the neglected areas in need of renewal. These areas are given high mark. Some aspects of southerly winds were given low scores. This situational assessment is clearly illustrated in Table 4.

Table 4. Aspect and transportation natural factor evaluation table for areas with Thematic Park potential.

Criteria	Transportation					Aspect								
Criteria Weight	1					1								
Sub-Criteria	State Highway	I. Degree Road	II. Degree Road	III. Degree Road	Inner City	North	Northeast	East	Southeast	South	Southwest	West	Northwest	North
Function Values	4	3	2	1	1	4	3	2	2	1	3	3	4	4
Potential Values of Metrics	TP_{PV}					$Aspect_{PV}$								
PV=TPV	THE POTENTİAL VALUE of THEMATİC PARKİNG													
Average TPV	Average Thematic PV=(Max. ThematicPV+MinThematic)/2= (16+4)/2=10													
Evaluation														
Result	Not available			II. Degree Potential					I. Degree Potential					

Source: Produced using earthdata.nasa.tr.

In the groundwater potential evaluation, high points were given to the waters at this depth since the depths where water access is easiest show that the most appropriate irrigation method will be in that region. The part that includes the evaluation criteria can be seen in Table 5.

Table 5. Groundwater natural factor evaluation table for areas with Thematic Park potential.

Criteria	Underground Water						
Criteria Weight	1						
Sub-Criteria	1 m	5 m	10 m	15 m	20 m	25 m	30 m
Function Values	4	3	2	1	1	1	1
Potential Values of Metrics	UW_{PV}						
PV=TPV	THE POTENTİAL VALUE of THEMATİC PARKİNG						
Average TPV	Average Thematic PV=(Max. ThematicPV+MinThematic)/2= (4+1)/2=2,5						
Evaluation							
Result	Not available		II. Degree Potential			I. Degree Potential	

Source: It was produced by using the data of the State Hydraulic Works.

3.2. Discussion

In the thematic park appropriate analysis, the scores obtained for each criterion of the grids divided into 1 km squares were written (Table 6). As a result of the sum of the written scores, the grids with the highest score were determined. For this purpose, the grids with the highest scores were marked on the map and appropriate areas were determined.

In determining the working method, research and evaluation of many sources, the analysis of the plan and design studies of the sample theme parks, the use of criteria were created and comparisons were made with the areas to be selected in Çanakkale.

The main theme of the method in the study was determined by the standards of the theme parks and the places where the need is highest in terms of economic development.

By evaluating the findings obtained as a result of the study, it was aimed to proceed to the design stage after the selection of the proposed venue.

Table 6. Grid values of natural factors related to areas with Thematic Park potential.

District	B16	B17	C15	C16	D10	D11	D12	D13	D14	E10	E11	E12
Underground	0	0	0	0	3	3	3	0	0	3	3	3
Major soil groups	0	0	0	0	1	1	0	1	2	3	3	1
Land use capability	0	1	0	0	1	1	0	1	1	1	1	1
Slope	4	3	3	3	1	1	4	3	3	1	1	3
Land use	0	0	0	0	0	0	0	0	0	1	0	0
Transportation	0	0	0	4	1	1	1	3	3	1	1	1
TOTAL	4	4	3	7	7	7	8	8	9	10	9	9
District	F10	F11	G5	G9	G10	G11	H1	H2	H3	H4	H5	H6
Underground	3	1	4	2	2	1	0	0	3	4	4	3
Major soil groups	0	3	0	0	0	3	2	3	0	0	0	0
Land use capability	1	1	0	0	0	1	1	3	0	0	0	0
Slope	3	1	3	2	4	3	3	4	3	1	1	2
Land use	1	4	1	1	1	1	0	1	2	2	1	1
Transportation	2	3	1	2	2	3	3	3	2	2	2	2
TOTAL	10	13	9	7	9	12	9	14	10	9	8	8

District	H7	H8	H9	H10	H11	I2	I3	I4	I5	I6	I7	I8
Underground	3	3	2	0	1	0	3	3	3	3	2	0
Major soil groups	0	0	0	1	1	2	0	0	0	0	1	1
Land use capability	0	0	0	1	1	1	0	0	0	1	3	1
Slope	1	4	3	4	4	2	4	3	3	2	3	3
Land use	0	2	1	1	1	2	1	2	1	1	3	2
Transportation	2	4	3	3	3	1	1	3	3	2	4	3
Aspect												
TOTAL	6	13	9	10	11	8	9	11	10	9	16	10

District	I10	J3	J4	J5	J6	K4	K5
Underground	0	2	2	2	2	2	2
Major soil groups	1	1	1	1	1	3	3
Land use capability	2	3	3	3	4	1	1
Slope	2	1	4	1	1	2	1
Land use	1	2	2	1	0	3	2
Transportation	1	1	1	2	3	1	1
Aspect							
TOTAL	7	10	13	10	11	12	10

As seen in Table 6, J4, H8, F11, H2, I7 grids stand out as a result of the scoring in the grids. Grids with low scores were named "low congruence places", places with a moderately high sum of values were called "moderate congruence places", and grids with the highest value totals were called "high congruence places".

H8, F11, J4 grids with close scores were re-evaluated according to other parameters. As a result of this evaluation, the appropriate place was determined as J4. Because although the J4 grid is far from the city, in terms of the development of the city and being on the main road, it is easy for the users who will come to the park to access the city and outside the city.

As a result of the grid score, H2, which was determined as "moderately congruence area" and I7, which was determined as "highly congruence area", were not recommended due to the difficulty of access.

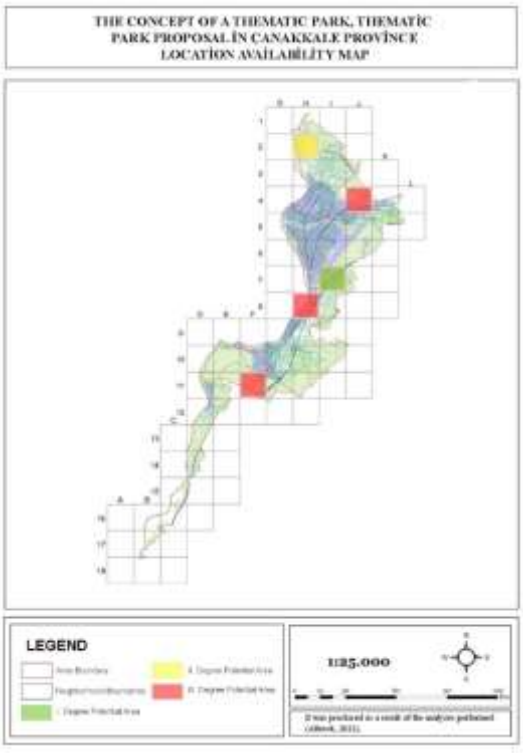

Figure 10. Thematic Park congruence map for Canakkale-Central

One of the important criteria for choosing the Thematic Park in the region called Tekzen is transportation, and it has been effective that an idle area provides ecological benefits with landscape restoration. Finally, in order to proceed to the design phase of the areas congruence for the Thematic Park determined as a result of the Threshold Analysis, the island, layout and parcels were examined (Figure 11).

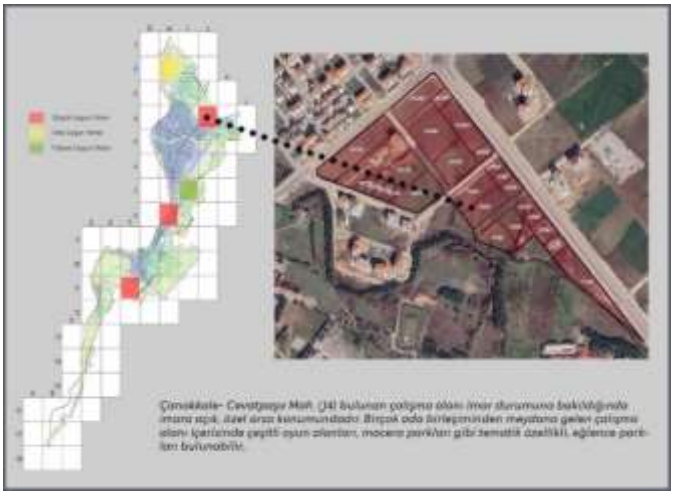

Figure 11. Study area of theme park.

4. Conclusions and Recommendations

In order to provide an ecological environment for living creatures, it is necessary to rehabilitate the destroyed areas and meet the needs of the places that need care. Many different concepts are being developed in landscape areas in order to create healthy and livable environments and at the same time to ensure the mental and physical tranquility of people. The theme that helps shape these concept ideas within the scope of a certain subject is the theme park (Figure 10).

Industrialization and migration wave cause population density in cities. Urban density causes deterioration of social balance and mental depression in cities. In addition, the development of social welfare in the city is in question with the presence of green areas.

Theme parks, which will meet this social need of people in line with the needs in the field, can help meet the recreational needs as well as their ecological contribution. From hobby gardens to amusement parks, from therapy gardens to sports fields, it can be mentioned that there are recreational green areas in many subjects.

Within the scope of this study, it is aimed to choose the appropriate place for the Thematic Park, which can be studied in Çanakkale, and to find the most suitable place with the Ecological Threshold Analysis method within the appropriate criteria grid system, which type of theme park can be built in this region.

Although there are many area assets and potential for thematic parks in Çanakkale, there are very few Thematic Parks. One of them is Aqualand, which has a water theme, and is the only thematic park in Çanakkale.

The potential presence of students, the large number of retired people, the presence of children and parents, and the fact that there is a rich audience that can create a theme for each generation, makes the concept of thematic park strong for Çanakkale.

Themes consisting of subjects such as an amusement park, health gardens, horticulture gardens that can meet the current potential of Çanakkale can be covered.

As a result, it is observed that the Thematic Park principle is actually a phenomenon that the city of Çanakkale needs. This shows us that the work done will be of high quality in all aspects if the situation is made in the most appropriate place, with the appropriate subject and place selection.

Suggestions; Considering the city of Çanakkale, there is a shortage of activities other than cafes, etc., which are mostly used by students. A stronger Çanakkale City Model will emerge with the amusement park work to be carried out on the selected area to prevent this shortage.

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