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Kargılı Recreation Area Landscape Design Process

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Abstract

Recreation areas are open areas where urban people spend their free time. There is a lack of areas where residents of Büyükkabaca sub-district can establish social togetherness, spend their free time and engage in recreational activities. Within the scope of this study, Kargılı Recreation Area Landscape Design Project was prepared by the academic staff of Süleyman Demirel University Faculty of Architecture Department of Landscape Architecture upon the request of Büyükkabaca Municipality. The recreation project included cafes, picnic areas, observation terraces, car parking lots, prayer areas, restrooms, children's playgrounds, and controlled entry and exit gates. In the planting design process of the project, native species of the region that use water more effectively or exotic species adapted to the region were used. The problems encountered during the project design process were stated and solutions to these problems were suggested. Additionally, detailed information is given about the usage areas and facilities in the project.

Keywords: *Büyükkabaca, Isparta, Landscape Project, Public Space Design, Recreational Facilities.*

Kargılı Rekreasyon Alanı Peyzaj Tasarım Süreci

Öz

Rekreasyon alanları kent insanının serbest zamanlarını değerlendirdikleri açık alanlardır. Büyükkabaca beldesi sakinlerinin sosyal birliktelik kurabilecekleri, serbest zamanlarını değerlendirebilecekleri, rekreasyonel faaliyetlerde bulunabilecekleri alanların eksikliği hissedilmektedir. Bu çalışma kapsamında Büyükkabaca Belediyesi'nin talebi üzerine Süleyman Demirel Üniversitesi Mimarlık Fakültesi Peyzaj Mimarlığı Bölümü akademik personeli tarafından Kargılı Rekreasyon Alanı Peyzaj Tasarım Projesi hazırlanmıştır. Rekreasyon projesinde kafe, piknik alanları, seyir terasları, otoparklar, ibadet alanlar, tuvaletler, çocuk oyun alanları, kontrollü giriş çıkış kapılarına yer verilmiştir. Projenin bitkisel tasarım sürecinde suyu daha etkin kullanan bölgenin doğal türleri veya bölgeye adapte olmuş egzotik türler kullanışmıştır. Proje tasarım sürecinde karşılaşılan sorunlar belirtilmiş ve bu sorunlara çözüm önerileri getirilmiştir. Ayrıca, projedeki kullanım alanları ve tesisler hakkında detaylı bilgi verilmiştir.

Anahtar kelimeler: *Büyükkabaca, Isparta, Peyzaj Projesi, Kamusal Alan Tasarımı, Rekreasyon Tesisleri.*

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1. Introduction

As urbanization continues to surge globally, understanding the demand for recreational areas becomes increasingly vital for landscape architects, urban planners, policymakers, and researchers. The rapid urbanization of the 21st century has led to various challenges, including increased stress levels, decreased physical activity, and reduced access to natural environments. Recreation areas are oases of leisure and relaxation, where people escape the hustle and bustle of daily life to connect with nature, engage in physical activities, and unwind (Baklien, Ytterhus & Bongaardt, 2016). Recreation areas play a pivotal role in our modern urban landscapes, offering spaces where individuals and communities can relax, socialize, and engage in various leisure activities (Aksoy & Arslan, 2019). Recreation areas are far more than just places to have fun; they are integral to the well-being of individuals and communities. They promote physical health, improve mental well-being, strengthen social bonds, and provide economic and environmental benefits to urban areas (Puhakka, Pitkänen & Siikamäki, 2017). As we continue to urbanize, it is essential to recognize the value of these spaces and invest in their development and maintenance to ensure a healthier, happier, and more connected society. These spaces encompass a variety of components that work together to create an inviting and functional environment by providing a built environment suitable for people's choices (Dinç & Gül, 2022). Understanding the key components of recreational areas is essential for both designers and policymakers to create spaces that promote community engagement, physical health, and overall well-being.

1.1. Design Principles of Recreation Areas

Designing recreational areas requires careful consideration of various principles to create spaces that are safe, enjoyable, and functional for their intended purposes (Vaezi Nejad, Ghelichipour & Armin, 2023). Effective design is the cornerstone of a successful recreational area. Design principles play a critical role in ensuring that these spaces are visually appealing, functional, and accessible to all. While the specific design principles may vary depending on the type and size of the recreational area, there are some common design principles for recreational areas. Proper zoning of recreational areas ensures that different activities can coexist harmoniously. Spaces for active recreation, such as sports fields and playgrounds, should be separated from quieter areas, like picnic spots or contemplative gardens. The recreation area needs to be accessible to people of all ages and abilities, including people with disabilities (Jian, Luo & Chan, 2020). Ramps, roads, and entrances that comply with accessibility standards should be provided in recreation areas. Recreation areas should include amenities such as accessible restrooms, seating, and playground equipment. Incorporating natural elements, such as trees, plants, shrubs, turfgrasses, and water features, enhances the aesthetic appeal and provides opportunities for relaxation and connection with nature. Adequate lighting, signage, and surveillance systems contribute to a safe environment that encourages community use (Veltri, Miller & Scott, 2001). Safety should be prioritized by designing areas that minimize potential hazards and risks in recreation areas. Appropriate signage and fencing should be used to clearly define safe play zones and boundaries. Materials and equipment that meet safety standards and are well maintained should be selected. Appropriate lighting, surveillance, and visibility should be implemented to enhance safety during both daytime and nighttime use. Layout and landscaping should be considered to reduce hiding spots and increase visibility for security. It should be ensured that the recreation area serves its purpose effectively. Various activities, such as sports, picnics, playgrounds, and recreation, should be planned, and designated areas should be provided for each.

The needs of different user groups, including children, adults, and the elderly, should be taken into account (Hasani, Sakieh, & Khammar, 2017). Design should be done with sustainability in mind, using environmentally friendly materials, local plants, and energy-efficient lighting (Roe, Hrymak, & Dimanche, 2014). Water conservation measures such as rain gardens or permeable surfaces should be implemented (Sharma & Malaviya, 2021). Green spaces should be created that support local wildlife and biodiversity.

By following these design principles, planners and designers can create recreational areas that meet the diverse needs of communities while promoting safety, sustainability, and inclusivity.

1.2. Functional Components of Recreational Areas

Recreational areas typically consist of various functional components designed to provide a range of leisure and recreational activities for visitors. These components may vary depending on the type and purpose of the recreation area, but recreation areas have basic common functional components. Open spaces are the primary areas where visitors can engage in various activities such as picnicking, sunbathing, playing sports, or simply enjoying the outdoors (Faragallah, 2018). Playgrounds are essential for families with children, providing a safe and stimulating environment for play and physical activity. Playgrounds are designed for children and often include swings, slides, climbing structures, and other play equipment (Tinsworth, 2001). Facilities for sports such as football, basketball, tennis, and baseball are crucial for promoting physical fitness and community engagement (Cavnar, Kirtland, Evans, Wilson, Williams, Mixon & Henderson, 2004). Walkways, jogging trails, and bike paths encourage physical activity and serve as a means of transportation within the community (Metcalf & Nickerson, 2013). Picnic areas typically include picnic tables, benches, and sometimes barbecues or fire pits for outdoor dining and socializing (Kara, Tuncay & Deniz, 2011). Recreational areas near bodies of water may offer swimming areas, fishing spots, or opportunities for boating, canoeing, or kayaking (Lloret, Gómez, Rocher, Carreño, San, & Inglés, 2023). Natural parks and reserves may have designated areas for observing native flora and fauna, including birdwatching (Cole & Scott, 1999). Shelters and restrooms are places that provide protection from the elements and toilet facilities for the comfort and convenience of visitors (McLemore & Dunbar, 2000). Information and visitor centers often have maps, brochures, and knowledgeable staff to provide information about the area's features, history, and rules (MacLennan, 2000). In larger recreational areas, there may be campgrounds with designated camping sites, fire rings, and amenities such as showers and toilets (McFarlane, 2004). Some recreational areas incorporate exercise stations or outdoor fitness equipment for visitors to use (Akpınar, 2019). Gazebos and pergolas offer shaded areas for relaxation, picnics, and gatherings, especially in hot weather (Kristi & Simanjuntak, 2018). Some recreational areas include public art installations to enhance the aesthetic experience (Pidlisna, Simonova, Ivanova, Bondarenko & Yesipov, 2023). Specifically designated areas where people can bring their dogs to play off-leash safely (Lee, Shepley, & Huang, 2009). Safety and Security Measures include signage, emergency call boxes, and sometimes park rangers or security personnel to ensure visitors' safety (Wesely & Gaarder, 2004). Some recreational areas have spaces designed for hosting events, such as concerts, festivals, or community gatherings (Chiang, Xu, Kim, Tang, & Manthiou, 2017).

1.3. Community Impacts of Recreational Areas

Recreation areas, such as parks, playgrounds, hiking trails, and sports facilities, have a significant impact on communities in various ways. Recreation areas have some community impacts on society. Recreational areas promote healthier lifestyles and combat sedentary behavior by offering opportunities for exercise and physical activity, (Thomsen, Powell & Monz, 2018). These areas foster social interactions, strengthen community bonds, and provide a sense of belonging. Recreation areas serve as gathering places for people of all ages and backgrounds. They promote social interaction, community cohesion, and the formation of social bonds (Jennings & Bamkole, 2019). Well-designed recreational areas can boost property values and attract businesses, contributing to economic growth. Recreation areas can attract tourists and visitors, leading to increased economic activity for local businesses, such as restaurants, hotels, and shops (Rosenthal, Loomis, & Peterson, 1984). Access to green spaces and outdoor activities has been linked to reduced stress, improved mental health, and enhanced overall well-being (Riediker & Koren, 2004). Recreational areas often host community events, festivals, and cultural activities, creating a sense of belonging and shared identity among residents (Irshad, 2011). Recreational areas can serve as outdoor classrooms, teaching about nature, wildlife, and conservation. Educational programs in recreation areas can enhance community knowledge (Stein, Denny & Pennisi, 2003). Proximity to well-maintained recreation areas can increase property values in a community, which can benefit homeowners and the local tax base (Crompton, 2001). Recreation areas help preserve green spaces, conserve biodiversity, and improve air quality. They can also mitigate the urban heat island effect (Panagopoulos, Duque, & Dan, 2016). Well-maintained recreation areas can discourage criminal activity and promote community safety by

providing spaces for positive activities and social surveillance (Reeder & Brown, 2005). Recreation areas often become symbols of community pride and identity (Shafer, Lee & Turner, 2000). People take ownership of and feel a sense of responsibility for their local parks. Access to recreation areas and recreational facilities enhances the overall quality of life for residents by providing leisure opportunities and a connection to nature (Baker & Palmer, 2006).

Designing appropriate, ecology-based, functional, and aesthetic green spaces in cities is only possible with correct planning and design. In this process, action should be taken, taking into account the realities of the relevant discipline.

In light of all this information, Büyükkabaca Municipality requested technical support from the Süleyman Demirel University Faculty of Architecture for the preparation of the "Kargılı Recreation Area" project, where the people of the district can spend their free time. Then, a commission was established within the Department of Landscape Architecture of the Süleyman Demirel University Faculty of Architecture to prepare the above-mentioned landscape project. As a result of the correspondence between the Faculty of Architecture and Büyükkabaca Municipality, the landscape application project, which brings solutions and suggestions to the problems and demands, taking into account the landscape design process and landscape design principles, was prepared by Gül, Küçük, Eraslan, Evci & Çakır (2016). In the area planned to serve various recreational activities in touch with nature in Büyükkabaca, there are different land uses in line with the request of the municipality. The design process of this project, the facilities included in this process, and the structural and plant materials used in the project were explained, respectively.

2. Material and Method

Büyükkabaca is a sub-district in the Senirkent district of Isparta province (Altan, Kerman, Aktel, Metin, & Erdal, 2013). It is 81 kilometers away from Isparta city center and 13 kilometers away from Senirkent district center. According to 2021 data, its population is 3621 (Büyükkabaca Municipality, 2023). Kargılı Recreation Area is within the borders of the municipality's adjacent area and is located in the west of the sub-district (Figure 1). The project area is 35.000 m^2 in size. The area, which has an altitude of 1130 m, is located on the slope of a hill and has a slope of approximately 28%. The area is south-east-facing.

Figure 1. The location of Kargılı Recreation Area (Google Earth, 2023)

The site plan, topographic maps and plans obtained from the relevant municipality, photographs taken in the area, and information obtained from interviews with authorized persons of the municipality were used as materials. Autodesk AutoCAD 2015 program was used when drawing the projects.

The methods followed in the study, in order, are as follows:

Boundaries were determined from the existing situation plan of the area. Observations and measurements were made, and photographs were taken to obtain environmental data. Before starting

the design and data collection process, as a result of the interviews with the municipal authorities, the facilities expected to be located in the area and the functions expected from the area were determined, and a requirements program was created. Legal regulations regarding the area, strengths and weaknesses, opportunities and threats, and limitations on financial issues were determined. Then, the contour lines of the area were digitized, and the topographic structure was determined. Elements such as water tanks, observation terraces, electrical transformers, plants, etc. that are located within the area but are not shown on the existing situation plan are marked on the plan. In addition, the roads resulting from pedestrian and vehicle circulation on the land were marked on the plan. A project was prepared in line with the data obtained, the requirements program, and various possibilities and limitations.

3. Findings and Discussion

The project process specified in the study method is explained as follows:

Upon the request of Ali İhsan Temurçin, who was the Mayor of Büyükkabaca in 2016, a recreation project was requested to be prepared in an area allocated in Büyükkabaca. This recreation area was requested to include cafes, picnic areas, sitting-resting areas, parking areas, masjids, children's playgrounds, WCs, and controlled entry and exit doors. First of all, in the study aiming to design a recreation area in line with the request of the municipality, authorized people were interviewed, the area was examined, the current situation and problems were identified, and solutions were proposed.

- The area is less than 1 kilometer from the city center. Thanks to its easy access, an inviting space can be created.
- In certain parts of the area, it was requested to create service roads that reach uses such as gazebos, picnic areas, and cafes. There are pathways created by vehicle and pedestrian traffic within the area. These traces can be informative for vehicle and pedestrian circulation.
- Since the area has a high slope, roads parallel to the slope should be preferred instead of roads perpendicular to the slope. If it is necessary to design roads perpendicular to the slope, stairs and landings should definitely be included.
- Since it is anticipated that there will be cafes and picnic areas in the area, the need for parking will be high. However, the slope of the area and the lack of a nearly flat area are the factors that make the construction of the parking areas difficult. To achieve this at minimum cost, nearly flat areas should be designated for parking. Pedestrian and vehicle traffic should be clearly separated in the area.
- The fact that the area is in a position overlooking the sub-district offers various opportunities for design. Observation terraces can be designed at some points.
- Municipal authorities requested that secure entry and exit gates be designed. For this reason, fence-like limitation elements should be installed at the area borders to prevent uncontrolled entries. To ensure security, security booths should be designed at the entrance.
- Since the area is in a rural area and has a feature close to nature, natural materials should be used.
- Due to the slope of the area, in some cases, the roads may remain below the land level. In order to avoid high costs, the construction of retaining walls that prevent the road from slipping should be minimized in excess lengths. The slope of the area may cause drainage problems during rain. This issue should be given special attention.
- The area is expected to serve users of all ages. For this reason, praying areas, restrooms, picnic areas, playgrounds etc. should be designed.
- To ensure 24-hour usability of the area, low and high lighting should be provided in and around the area.

Structural and plantation projects were created within the scope of the application project prepared in light of all this information (Figure 2 and Figure 3). The following facilities, uses, and equipment are included within the scope of the design project:

Figure 2. The plantation project of Kargılı Recreation Area

Figure 3. The structural project of Kargılı Recreation Area

In order to understand the project more clearly, it has been divided into two sheets and various sections have been taken from the regions specified on the project. Figure 4 shows the A-A1 and B-B1 sections of the first sheet, and Figure 5 shows A-A1 and B-B1 sections of the second sheet.

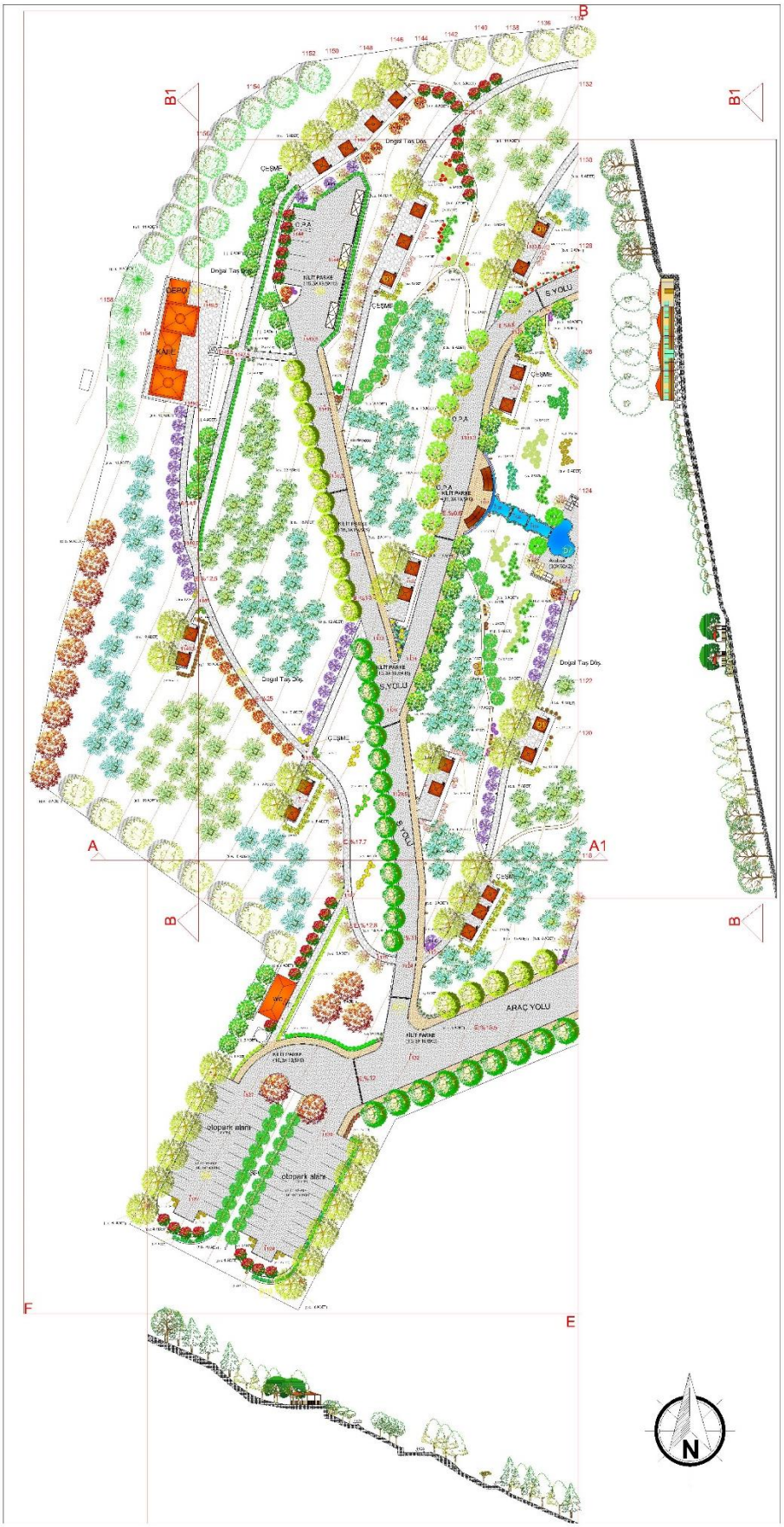

Figure 4. The A-A1 and B-B1 sections of the first sheet

Figure 5. The A-A1 and B-B1 sections of the second sheet

3.1. Entrances

Of the two roads coming from Büyükkabaca and reaching the area, one is located in the north of the area and the other is in the east. Entrances to the recreation area will be provided through these roads. The recreation area is at a point overlooking the sub-district, and it is very easy to reach the district by vehicle or on foot. Two security booths welcome visitors at the entrances. The area of each security booth is 11 m^2. Vehicles can reach the area by passing through collapsible barriers with the signaling system. Two arched doors were designed at the entrances of the area, containing signs containing information such as the municipality's logo, the name of the municipality, and the name of the recreation area. The height of the doors is 4 m.

3.2. Circulation System

Circulation systems generally refer to infrastructure and roads designed for the movement of pedestrians or vehicles in urban or built environments. These systems are necessary to create safe and efficient routes for people to walk and drive and to enable them to access various points such as home, workplace, school, park, shopping mall, and public transportation centers. Effective planning and design of pedestrian circulation systems contribute to more walkable and livable cities. Well-designed pedestrian systems improve the overall urban experience by making it easier and safer for people to walk or drive to essential services and amenities.

The main goal when creating the circulation system was to ensure accessibility. The circulation system of this project includes vehicle roads and pedestrian paths. Since the project area is very sloping, bicycle paths are not included. Again, the slope of the site emerged as a challenging factor in circulatory system design. Pedestrian and vehicle roads were designed parallel to the slope in accordance with the natural form of the land. A hierarchical system has been created in which the main line travels from the eastern borders of the area and passes through the middle, serving facilities such as picnic areas, children's playgrounds, masjids, toilets, and observation decks. In addition, as a continuation of this system, a circulation system was designed to provide access to the cafe located in the west of the area and at the highest altitude. In this regard, the main vehicle road was designed as a first-degree vehicle road that travels around the perimeter of the area and can reach all facilities. Most of the roads outside these roads have been pedestrianized, preventing vehicle and pedestrian encounters as much as possible. Designed as a main vehicle road, this system also forms the basis of pedestrian circulation. Pedestrian circulation along the main route is solved by a sidewalk system parallel to vehicle circulation. Other second-degree pedestrian axes are distributed through this circulation. Pedestrian paths and vehicle paths are clearly separated from each other by curb stones. Vehicle roads are two-way and 6 meters wide. A straight pedestrian axis has been created that goes directly from the pedestrian entrance to the west of the area. At the end of this axis, pedestrians are greeted by a cascading pool. Direction signs for the facilities in the region, signs showing the distance, and warning signs for vehicle and pedestrian traffic were placed at suitable points in the region. Within the scope of this design, the circulation system is designed with a system that considers open areas and facilities as a whole.

3.3. Parking Areas

The need for parking lots has been determined according to the size of the spatial uses in the area, and a total of 94 parking lots with dimensions of 2.5 by 5 m have been designed: 40 along the main road on the right side of the east entrance of the area, 48 on the left of the east entrance of the area, and 6 in front of the cafe. When locating the parking lots, first of all, it was taken into consideration that they chose flat areas, and then care was taken to ensure easy access to the facilities. Delineators have been placed in the middle of two-way roads to prevent vehicles from being parked on the roadside.

3.4. Cafe

A cafe has been created within the area where users can meet their eating and drinking needs. The cafe has a total area of 360 m^2, approximately 180 m^2 indoors and 180 m^2 outdoors. The cafe is located at the highest altitude in the area and also functions as an observation terrace. The cafe has kitchens, toilets, sitting areas, and an outdoor terrace area. Natural stone, glass, and wooden materials were

preferred in the design of the cafe. The part of the cafe overlooking the city is made of glass to allow viewing of the view. The cafe area can be reached in stages from the parking lot in front of it and from second-degree pedestrian paths. The paths leading towards the cafe create terraces between the slopes, offering resting and viewing areas. The cafe is completely oriented towards the landscape and city view. It serves flamboyant open-space settings with its stone terraces and gardens.

3.5. Cascading Pool

A cascading pool water element was also used, taking advantage of the existing slope of the area in an economical and environmentally friendly way. The pool is not designed to require constant water. Thanks to this design, the existing water is circulated, and a continuous flow is ensured. The cascade pool has a height of 6 meters and consists of 3 levels. A stationary water surface was used below the last stage of the cascade pool. In this way, both the acoustic properties and reflective properties of water were utilized. Water elements were used in two ways: moving and still, in the area. Still water surfaces were used to make users feel comfortable and peaceful through their reflection properties. The use of moving water was used to provide dynamism to the space. There are many relaxation areas in the area where the pool is located, and at the lowest level there is a hard ground of approximately 150 m^2 and seating elements such as benches, pergolas, and gazebos on this ground.

3.6. Masjid

To meet the needs of prayer and worship, men's and women's masjids, including ablution areas and toilets, were designed just to the left of the northern entrance. Each masjid is 250 m^2 in size. The masjid was designed in a form and configuration that were not far from traditional masjid architecture. The main building material of the masjids is traditional stone texture. Hygiene, aesthetics, and comfort principles were taken into consideration in the design of ablution facilities and toilets. For this reason, the toilet and ablution room are physically separated from each other.

3.7. Observation Terraces

Two different types of observation terraces have been designed in the project area. The first type includes viewing terraces, gazebos, and picnic areas, while the second type includes only benches as vista points. When designing the terraces, the retaining walls formed at the bottom were covered with stone and surrounded by vine plants. The flooring of the terraces is slate, and the railings are made of wood. Since the terraces can also be used as picnic areas, barbecues are designed next to each gazebo. In addition, drinking water fountains have been designed in each picnic area to meet the drinking water needs of users. Terraces were oriented towards the sub-district.

3.8. Children's Play Area

A children's play area has been designed to enable children to develop physically, cognitively, socially, and emotionally. The children's play area was designed considering the potential for families with children to use the recreational area. The children's playground is located in the northern part of the area, near the observation terraces. The children's playground includes swings, slides, seesaws, climbing stairs, and seating areas for parents. The floor of the playground is covered with rubber material. A large grass surface has been established right next to the children's playground, where children can play freely.

3.9. Reinforcement Elements

At many points within the area, equipment such as benches, pergolas, gazebos, garbage bins, water features, toilets, fountains, plastic objects, low and high lighting units, flooring materials, and retaining walls are included to meet the needs of the users. These reinforcement elements are designed using natural or near-natural materials to reflect the architectural language used throughout the area. Thus, the space was made more serene and easier to read.

3.10. Planting Design

There are currently a few naturally distributed short maquis plants within the project area. The prepared structural design study was overlapped with the existing plant tissue in a computer

environment. A significant portion of these plants were preserved in the area during the application. As a result of the overlapping process, it was suggested that the very small number of shrubs that restrict the project design should be transplanted to different areas within the project. In the planting design, plants suitable for the region and easy to maintain (trees, shrubs, ground cover, and grass) were used, taking into account the climatic characteristics of the area. Aesthetics and functionality are prioritized in planting design. A design has been created in the area that will present different views in every season. Within the scope of plantation design, plant compositions have been created. The plants used in the design were selected from plants naturally found in the flora of the region and exotic plants that have adapted to this region. 708 trees belonging to 26 tree species and varieties, 1888 shrubs belonging to 30 shrub species or varieties and 5 different bulbous plant species were used in the plant design. Figure 6 includes the plant species used in the project area.

TREES

Symbol	Abbr.	Plant Latin Name	Pieces
	a.n.	*Acer negundo*	37
	a.p.	*Acer platanoides*	27
	a.h.	*Aesculus hippocastanum*	9
	b.a.	*Betula alba*	29
	c.b.	*Catalpa bignonioides*	32
	s.l.	*Cedrus libani*	50
	s.a.	*Cedrus atlantica* 'Glauca'	44
	c.a.	*Cupressus arizonica*	87
	c.s.	*Cupressus sempervirens* 'Pyramidalis'	66
	c.l.	*Cupressocyparis leylandii*	10
	f.o.	*Fraxinus ornus*	25
	f.e.	*Fraxinus excelsior*	23
	j.r.	*Juglans regia*	2
	l.j.	*Ligustrum japonicum*	23
	m.d.	*Malus domestica*	4
	m.f.	*Malus floribunda*	44
	p.o.	*Platanus orientalis*	14
	p.c.	*Prunus cerasifera*	71
	p.d.	*Prunus domestica*	3
	r.p.	*Robinia pseudoacasia*	28
	p.p.	*Picea pungens*	4
	p.n.	*Pinus nigra* subsp. *pallasiana*	13
	s.b.	Salix bobylonica	2
	t.c.	*Tilia cordata*	42
	q.l.	*Quercus libani*	11
	q.r.	*Quercus rubra*	8

SHRUBS

Symbol	Abbr.	Plant Latin Name	Pieces
	a.g.	*Abelia grandiflora*	45
	b.t.	*Berberis thunbergii* 'Atropurpurea'	20
	b.o.	*Brutia orientalis*	22
	j.h.	*Juniperus horizantalis*	102
	c.d.	*Cotoneaster dammerii*	35
	c.h.	*Cotoneaster horizontalis*	26
	c.m.	*Cotoneaster microphyllus*	27
	c.o.	*Crataegus axyacanha*	89
	e.f.	*Euonymus fortuneii*	76
	h.h.	*Hydrangea hortensis*	30
	q.r.	*Hydrangea macrophylla*	15
	h.m.	*Hibiscus syriacus*	61
	l.o.	*Ligustrum japonica* 'Aurea'	48
	l.j.	*Ligustrum japonicum*	156
	q.r.	*Juniperus sabina*	77
	l.o.	*Lavandula oficinalis*	196
	o.i.	*Osmanthus ilexifolium*	19
	p.c.	*Pyracantha coccinea*	6
	p.t.n.	*Pittosporum tobira* 'Nana'	39
	p.t.	*Pittosporum tobira*	54
	r.c.	*Rubus canescens*	55
	ro.c.	*Rosa canina*	46
	s.v.	*Syringa vulgaris*	48
	t.b.	*Taxus baccata* 'Fastigiata'	9
	t.b.a.	*Taxus baccata* 'Fastigiata Aurea'	15
	t.o.	*Thuja occidentalis*	151
	r.o.	*Rosmarinus officinalis*	205
	v.t.	*Viburnum tinus*	48
	v.o.	*Viburnum opulus*	15
	s.o.	*Salvia officinalis*	75

BULBOUS PLANTS

Symbol	Plant Latin Name
	Hyacinthus orientalis
	Tulipa gemeirana
	Crocus ancyrensis
	Lilium ciliatum
	Narcissus pseudonarcissus

Figure 6. Plant species and varieties used in the project area

4. Results

Within the scope of this study, a team consisting of faculty academic members (Atila Gül, Volkan Küçük, Şehriban Eraslan, Anıl Evci, and Mert Çakır) of Süleyman Demirel University, Faculty of Architecture, Department of Landscape Architecture, designed a recreation area where the people of Büyükkabaca sub-district can engage in recreational activities. A recreation area design has been designed. While designing the recreation area, care was taken to ensure that it was regularly planned and that design principles were taken into consideration. During the design process of this area, factors such as the wishes and demands of the project owner, the problems experienced, legal boundaries, relevant legislation, the natural structure of the area, maintenance and management possibilities, and financial limitations were also taken into consideration.

Within the scope of the project, design principles were determined to preserve the natural structure of the area. A rich variety of uses are included to enable area users to interact with all spaces and users of the area. Within the scope of ecological sustainability, natural systems were primarily protected, and care was taken to prevent intensive use and construction of these areas. It is planned to create shaded areas by selecting tree species that can create shade in afforested areas, thus reducing the ambient temperature and providing spatial comfort.

Kargılı Recreation Area Landscape Design Project, prepared taking into account landscape design principles, was completed in February 2016. The landscape design project, which was highly appreciated by the Büyükkabaca Municipality officials of the specified period, was delivered to the authorized persons for the application.

Acknowledgements and Information Note

The article complies with national and international research and publication ethics, and ethics committee approval is not required for the study. The author would like to thank the Büyükkabaca Municipality staff for their contributions to the project process.

Author Contribution and Conflict of Interest Declaration Information

The article has a single author and there is no conflict of interest.

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