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***Research Article***
*(Araştırma Makalesi)*

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**Anahtar sözcükler:** Gösteri bahçeleri, deneyim, Kapias Bahçeleri, evrensel tasarım, iyi oluş

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# The impact of inclusive landscape spaces on well-being: The case of Kapias Gardens (Poland)

## Kapsayıcı peyzaj mekânlarının iyi oluş üzerindeki etkisi: Kapias Bahçeleri (Polonya) örneği

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## ABSTRACT

**Objective:** This study aims to examine the physical, sensory, and social dimensions of design, revealing how universal design in demonstration gardens provides accessible and multi-sensory experiences for diverse user groups.

**Material and Methods:** The sub-spaces and user profiles of Kapias Gardens were observed, and the functions, universal design approaches, and effects on well-being were analyzed using a monographic method. Spaces were evaluated according to universal design principles, with user experiences supported through qualitative observation and spatial assessment.

**Results:** Inclusive landscape design ensures equal opportunities for diverse users through physical accessibility, orientation, circulation, and sensory features. Spaces are effective when they provide comfort and functionality; spaces that encourage social interaction enhance user satisfaction and social integration.

**Conclusion:** This study shows that inclusive landscape design enhances spatial quality and user experience. Approaches supporting accessibility, sensory diversity, and social interaction facilitate usage and positively affect psychological and social well-being. Thus, landscapes integrated with universal design serve as exemplary models for inclusivity and spatial quality, guiding contemporary space production.

## ÖZ

**Amaç:** Araştırma, tasarımın fiziksel, duyusal ve sosyal boyutlarını inceleyerek, gösteri bahçelerinde evrensel tasarımın farklı kullanıcılar için erişilebilir ve çok duyulu deneyimler sunma yollarını ortaya koymayı amaçlamaktadır.

**Materyal ve Yöntem:** Araştırma alanı olan Kapias Bahçeleri'nin alt mekânları ve kullanıcı profilleri gözlemlenmiş; mekânların işlevleri, evrensel tasarım yaklaşımları ve bireylerin iyi oluşuna etkileri monografik yöntemle incelenmiştir. Mekânlar, evrensel tasarım ilkeleri doğrultusunda analiz edilmiş; kullanıcı deneyimleri nitel gözlem ve mekânsal değerlendirme yöntemleriyle desteklenmiştir.

**Araştırma Bulguları:** Analizler, kapsayıcı peyzaj tasarımının fiziksel erişilebilirlik, yönlendirme ve dolaşım imkânları ile duyusal deneyim unsurları aracılığıyla farklı kullanıcı gruplarına eşit fırsatlar sunduğunu göstermektedir. Mekânlar, tüm kullanıcılar için konforlu ve işlevsel kullanım olanakları sağladığında, tasarım amaçlarını etkin biçimde gerçekleştirmiş olmaktadır. Bunun yanı sıra, sosyal etkileşimi teşvik eden alanların varlığı, mekânların toplumsal bütünleşme ve kullanıcı memnuniyeti açısından taşıdığı önemi artırmaktadır.

**Sonuç:** Bu çalışma, kapsayıcı peyzaj tasarımının mekân kalitesini ve kullanıcı deneyimini artırıcı etkilerini ortaya koymaktadır. Erişilebilirlik, duyusal çeşitlilik ve sosyal etkileşimi destekleyen tasarım yaklaşımları, mekânların yalnızca fiziksel kullanımını değil, aynı zamanda bireylerin psikolojik ve sosyal iyi oluşunu da olumlu yönde etkilemektedir. Bu bağlamda, evrensel tasarım ilkeleriyle bütünleşen peyzaj uygulamaları hem kapsayıcılık hem de mekânsal kalite açısından örnek teşkil eden bir yaklaşım sunmakta ve çağdaş mekân üretimi için rehber niteliği taşımaktadır.

## INTRODUCTION

According to the Constitution of the World Health Organization, health is not merely the absence of disease or infirmity, but a state of complete physical, mental, and social well-being (WHO, 2025). In this definition, physical and mental well-being represent the known dimensions of health, while social well-being requires that an individual's social life be healthy and balanced; this highlights that health is not only an individual matter but also a societal phenomenon (Fişek, 2025). Green spaces serve functions such as providing economic and social benefits, shaping the character of the city, and reducing air pollution (Onay & Bayazıt Solak, 2024).

Research in environmental psychology has shown that individuals' well-being is closely linked to the physical environment. Kaplan & Kaplan (1989) suggested that interaction with nature reduces mental fatigue and helps restore attention (Ackerman, 2018). Similarly, Ulrich et al. (1991) demonstrated that spending time in natural settings alleviates stress; in their study, individuals in natural environments became calm and relaxed more quickly and experienced faster recovery compared to those in urban areas. These findings indicate that nature-based spaces support not only physical but also mental and emotional restoration.

Throughout history, gardens have served as important spaces that enhance individuals' interaction with nature and support physical, mental, and social well-being. By providing opportunities for rest, retreat, and nature experiences, these areas contribute to users' psychological and physical health while also strengthening social bonds (American Society of Landscape Architects, 2025). Alamio et al. (2010) similarly note that gardening socially reinforces connections among individuals, increases community capacity, and enhances knowledge levels (Gregis et al., 2021). Likewise, Thompson (2018) emphasizes that the diverse emotional and social processes offered by garden activities positively impact individuals' well-being (Gregis et al., 2021). These findings indicate that gardening not only supports physical and mental health but also fosters community interaction.

The multifaceted effects of gardens are manifested today in designed spaces such as display gardens, which are planned and themed environments. In this context, display gardens planned as special areas according to specific design and functional criteria serve as tangible examples that embody the aesthetic, educational, and recreational dimensions of gardening. Hansen et al. (2012) define display gardens as plant collections arranged in a way that allows visitors to directly access and examine the plants. These gardens are typically designed around a specific theme, incorporating plant species that align with the garden's overall purpose and support its educational content. Display gardens are created with an approach aimed at maximizing visitors' spatial experiences and learning processes. In this regard, the visitor profile is a key determinant in the design process; demographic and behavioral characteristics guide the planning of arrangements and informational content that are consistent with the garden's educational objectives.

Display gardens should be designed not only to ensure physical access but also as universal spaces that can be equally enjoyed by individuals of varying abilities, ages, and cultural backgrounds. The universal design approach aims to make spaces both accessible and functional by considering user diversity; it envisions a design philosophy that provides safer, more comfortable, and aesthetically pleasing experiences for everyone, not just for people with disabilities (Steinfeld & Maisel, 2012). Within this framework, when display gardens are planned according to universal design principles, they support not only physical accessibility but also sensory, cognitive, and social interaction, enabling all members of society to benefit equally from the space. Design for all seeks to facilitate sensory, cognitive, and social participation in addition to physical access; thus, inclusivity in contemporary spatial production is regarded not merely as a design strategy but also as an ethical responsibility (Özkaraca & İnceoğlu, 2021). For

example, age and educational level necessitate that signage and exhibition texts be prepared in clear, understandable language, while accessibility of pathways, and garden elements must be ensured for visitors with varying mobility. Furthermore, the spatial and facility needs of individual versus group visitors differ, requiring planning that accommodates both types of users. Other demographic characteristics, such as gender, occupation, and interests, also guide the determination of specialized design areas and educational activities. These factors collectively contribute to the effective achievement by display gardens of both their educational and experiential objectives (Hansen et al., 2012).

Research indicates that the multifunctionality of a space can have direct effects on individuals' quality of life, and that this impact can be made visible and experienced through appropriate design (Chang et al., 2020).

This study aims to analyze the physical, sensory, and social dimensions of disability-inclusive landscape design through the example of Kapias Gardens in Poland. The primary objective of the research is to examine how different user groups benefit from the garden and how universal design principles are integrated into its spatial organization. Furthermore, the study contributes to evaluating gardens not only for their aesthetic and recreational functions but also within the framework of inclusive design approaches that support individual well-being. In this context, the spatial organization, diversity of sub-areas, and accessibility principles of Kapias Gardens have been systematically examined, identifying its potential as a disability-inclusive public landscape model. The research seeks to address the following questions.

1. What features does the spatial organization of Kapias Gardens exhibit within the framework of universal design principles?

2. How do the garden's sub-area layout and functional diversity support users' physical, psychological, and social well-being?

3. How do sensory and participatory design elements shape the spatial experiences of different age and ability groups?

4. In what ways does Kapias Gardens serve as a practical example of design for all, and what contributions does it offer for the planning of similar urban green spaces?

Within this framework, the study aims to highlight the role of inclusive landscape design in the creation of public spaces and to examine the relationship between universal design, social integration, and well-being from a multidimensional perspective.

## MATERIALS AND METHODS

### Materials

The research material was collected from the Kapias Gardens, located in Pszczyna, a district in the Silesian Voivodeship of southern Poland. Established in 1979 (Ogrody Kapias, 2025a), Kapias Gardens consists of two model gardens, the Old Garden and the New Garden, offering a rich diversity of ornamental plants. The Old Garden features numerous thematic corners and niches, enriched with small-scale architectural elements. Similarly, the New Garden comprises various thematic areas and includes artificially elevated viewing terraces that allow visitors to enjoy the landscape (Pisarek et al., 2015).

Kapias Gardens are classified as demonstration gardens (Kuśmierski, 2020), providing visitors with inspiration regarding landscape design and plant arrangements. At the same time, the gardens serve multiple spatial functions, including educational and inspirational areas, sensory spaces, social and inclusive zones recreational and contemplative areas.

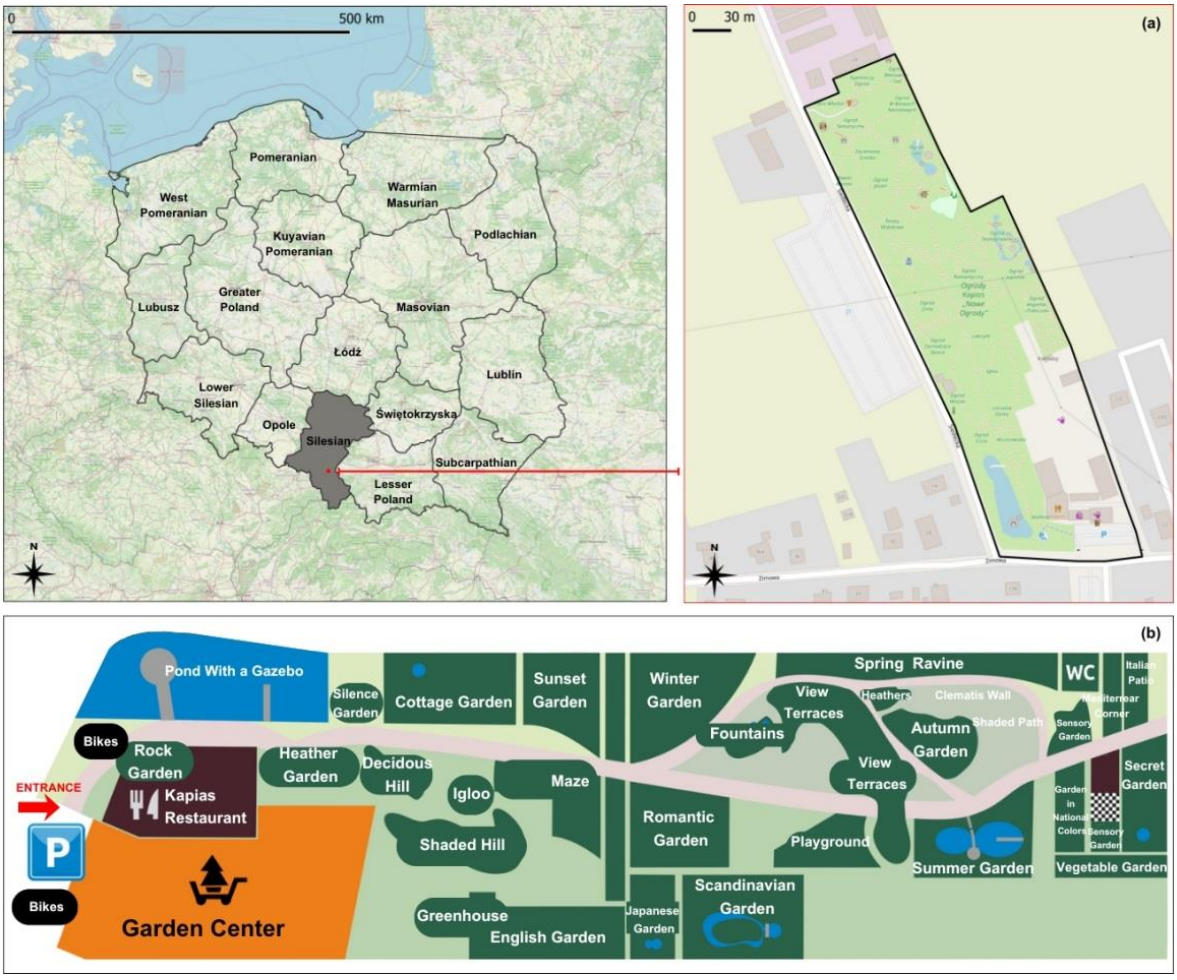



**Figure 1.** Definition of the research area (a) Location maps (Orijinal)(b) Detail from Kapias Gardens (adapted from Ogrody Kapias, 2025b).

***Şekil 1.*** *Araştırma alanının tanımlanması (a) Konum haritaları (Özgün)(b) Kapias Bahçeleri detayı (Ogrody Kapias, 2025b'den uyarlanmıştır).*

Kapias Gardens, although initially developed through planting activities conducted on a limited area, has physically expanded over the years, accompanied by a significant increase in visitor numbers (Ogrody Kapias, 2025a). Today, the garden holds an advanced position in terms of brand development and ranks among the country's leading demonstration gardens. In addition, digital information dissemination is supported in eight different languages (Pisarek et al., 2015), providing comprehensive guidance for both domestic and international visitors.

## Methods

The conceptual foundation of the study is based on the principles of universal design, user-centered spatial perception, and well-being theories. This theoretical framework guided the development of data collection tools and the establishment of evaluation criteria. Within the scope of the research, the overall structure of the gardens was examined, user profiles were identified, and the functions of sub-areas, levels of accessibility, and universal design applications were evaluated. The study was conducted using a qualitative case study approach, following the methodology proposed by Yin (2014). This method aims to examine a specific space or phenomenon holistically within its context, revealing its unique characteristics through in-depth observation, description, and analysis. The data collection process was based on direct

observation and document review; within this scope, on-site spatial observations were conducted, and existing documents related to the design and use of the space within the framework of universal design principles were systematically analyzed. Through this approach, the spatial organization of Kapias Gardens, its inclusive design features, and its contributions to users' well-being were comprehensively assessed.

## RESULTS

### Sub-areas and their functions

Kapias Gardens features a comprehensive landscape comprising approximately 6,600 plant species, 3.753 points of interest, and a total of 10.760 meters of walking paths (Ogrody Kapias, 2025b). Supported by a rich array of amenities, this area offers visitors various activities and experiences throughout the year, making it a recreational space suitable for enjoyable all-day visits (Ogrody Kapias, 2025a). In addition to aesthetic experiences and recreational opportunities, it serves as an inclusive public space catering to diverse user profiles through universal design approaches.

Open to visitors year-round, Kapias Gardens provides a tangible example of user-centered landscape design by combining accessibility, relaxation, and learning opportunities for families, older adults, and individuals with disabilities. Areas supporting shared rest, walking, nature education, and play activities for families with children are complemented by easily accessible paths, resting points, and well-equipped facilities, ensuring a safe and comfortable experience. Wheelchair users and individuals with varying levels of mobility can benefit equally from the space thanks to wide walking paths, clear and comprehensible directional signage, and accessible restrooms and accessible guidance systems. For tourists, organized groups, schools, and kindergartens, Kapias Gardens offers more than a recreational destination; it provides a suitable environment for environmental education, social interaction, and group activities. Older visitors can spend time in a safe setting that promotes physical relaxation as well as mental and emotional well-being through peaceful walking paths, seating areas, and quiet gazebos. Additionally, the rich plant arrangements and landscape examples create an inspiring learning environment for garden enthusiasts and landscape designers for educational visits, professional development visits, and hobby-related visits. The restaurant and market at the Kapias Garden Center further reinforce the garden's multifunctionality by providing shopping, dining, and relaxation opportunities in one location. Considering all these features, Kapias Gardens can be regarded as an accessible, inclusive, and multifunctional public landscape that holistically meets the needs of diverse user groups.

Within the scope of this study, the spaces in Kapias Gardens were classified into five categories based on their thematic characteristics, spatial organization, and functional purposes. These categories are defined as experiential and thematic gardens, seasonal gardens, infrastructure and visitor services, and activity and relaxation areas. This classification aims to holistically illustrate the garden's multifaceted structure, the diversity of user profiles, and the varying levels of experience offered by spaces, providing a fundamental framework to guide the analysis section of the study. Moreover, the gardens are evaluated not only in terms of their aesthetic or botanical compositions but also in terms of user experience, accessibility levels, and spatial functionality.

Experiential and thematic gardens prioritize sensory awareness and aesthetic interaction, offering visitors opportunities for exploration, learning, and visual enjoyment through different themes and plant compositions. These areas support users in engaging with plants, interpreting nature, and experiencing aesthetic encounters individually or in groups. Information regarding the experiential and thematic gardens is presented in Table 1.

**Table 1.** Experiential and thematic gardens at Kapias Gardens

***Çizelge 1.*** *Kapias Bahçeleri'nde deneyimsel ve tematik bahçeler*

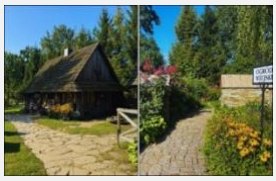
| Sub Areas | Area Images | Descriptions |
|---|---|---|
| Cottage Garden |  | It is a space that provides peace and inspiration through the harmony of nature and rural aesthetics, offering visitors a visually and emotionally rich experience with its rustic design and natural plants (Ogrody Kapias, 2025c). |
| Secret Garden |  | It has gained a unique character under the influence of semi-wild nature and unusual climatic conditions. Located adjacent to the Italian Veranda, the area offers a natural and mysterious atmosphere, distinct from traditional formal gardens. The experience begins with a plane tree and continues along a gravel path featuring lilac, viburnum, jasmine, wild rose, and birch trees; the lawn-free area emphasizes its semi-wild character. A small natural pond and wood and stone benches provide opportunities for rest and enjoyment of the view. In autumn, the red leaves of Japanese and American maples add a warm and striking color palette to the space (Ogrody Kapias, 2025d). |
| Romantic Garden |  | It offers a thematic landscape experience and creates a visual and contemplative focal point centered around the Temple of Contemplation. Enriched with roses, perennials, and deciduous shrubs, the area provides a continuously renewing visual experience through seasonal color changes. The garden offers an aesthetic, peaceful, and meditative atmosphere for couples and those seeking to connect with nature (Ogrody Kapias, 2025e). |
| Clematis Wall | No Data Available | The space is a prominent example of vertical landscape design in Kapias Gardens, creating a striking visual element with climbers (Clematis spp.). The wooden walls along the Shade Path provide climbing support for various Clematis species, offering diversity and morphological richness from spring to autumn. The climbers, in both climbing and ground-covering forms, enhance the landscape's coherence. With its plant diversity and balanced composition, the area reinforces Kapias Gardens' artistic and inviting identity (Ogrody Kapias, 2025f). |
| Igloo |  | Located near the labyrinth, this is a rest area surrounded by nature rest area designed for children. The space, enhanced with climbers (Clematis spp.) to create a natural and harmonious aesthetic, provides opportunities for short-term relaxation and imaginative play. Enriched with plants and vines, the environment offers visitors inspiration to create similar touches in their own gardens (Ogrody Kapias, 2025g). |
| Garden of silence |  | This is a focal area designed for individual tranquility, introspection, and sensory relaxation. With its circular form and natural stone flooring, the space offers an organic character and invites reflection through its seating elements. Surrounding Miscanthus plants function as visual and acoustic filters to ensure privacy, while birdsong and the sound of the wind enhance the psychological effect. Harmonious with nature, this area serves as an ideal setting for mental restoration and sensory awareness (Ogrody Kapias, 2025h). |

**Table 1.** Continued

***Çizelge 1.*** *Devamı*

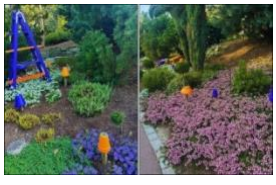
| Sub Areas | Area Images | Descriptions |
|---|---|---|
| Sensory Gardens |  | It is a specialized landscape area that emphasizes accessibility and sensory experience. Designed for visually impaired visitors and wheelchair users, the garden allows plants to be experienced through touch and smell. Varied textures and strongly scented plants make the aesthetic and emotional experience accessible. The Sensory Garden provides an inclusive, nature-integrated environment suitable for both relaxation and meditation (Ogrody Kapias, 2025i). |
| Maze |  | It is a discovery-focused landscape designed for children and adults, surrounded by dense green walls. Western fences and labyrinth pathways allow play, relaxation, and exploration to occur simultaneously. The observation hill at the labyrinth's exit provides an opportunity to watch children play and observe the surroundings, reinforcing the area's recreational and resting functions. It offers outdoor entertainment and nature interaction opportunities for the entire family (Ogrody Kapias, 2025j). |
| Vegetable Garden |  | It is a thematic area that combines traditional agriculture with modern landscape design. Seasonal vegetables, aromatic plants, and fruit species create aesthetic and functional compositions, offering a rich sensory experience. Wooden beds, natural pathways, and rustic details emphasize the rural character, while organic farming practices and educational panels provide information on sustainable gardening. The Vegetable Garden is a well-designed space that offers opportunities for relaxation, contemplation, and connection with nature (Ogrody Kapias, 2025k). |
| Shaded Path |  | It is one of the main walking routes offering natural comfort and aesthetic harmony. Deciduous trees and large shrubs provide natural shading, and the route offers panoramic views of the Autumn Garden, Clematis Wall, and Spring Valley. Plant diversity and the play of light and shadow create a calm and meditative atmosphere. The wooden bench under the large elm tree is ideal for short breaks accompanied by the scenery and sounds of nature. The Shaded Path is a well-designed landscape area that integrates the themes of tranquility, aesthetics, and exploration (Ogrody Kapias, 2025l). |
| Rock Garden |  | Located next to Kapias Restaurant, it is a landscaped area highlighted by natural materials and carefully selected plants. The travertine stone paving harmonizes with the surroundings; Sedum spp., Helianthus annuus, Callistemon citrinus, and miniature Pinus spp. on the rocks add color and texture diversity to the garden. Lavandula spp. and coastal plants provide visual appeal throughout the year with seasonal changes, showcasing the natural harmony between rocks and plants (Ogrody Kapias, 2025m). |
| Heather Garden |  | **The First Heath:** A west-facing hill in Kapias Gardens is densely planted with Calluna vulgaris and Erica spp. Plant compositions including Pinus spp., Betula spp., and Picea abies enhance the area's unique character and visual appeal. Thriving in sunny and acidic soils, the plants provide striking visuals, particularly with the flowering heathers in late August and September. Two pathways allow visitors to experience the landscape from different perspectives, while the warm tones of the sunset enchant the atmosphere (Ogrody Kapias, 2025n). |

**Table 1.** Continued

***Çizelge 1.*** *Devamı*

| Sub Areas | Area Images | Descriptions |
|---|---|---|
| Heather Garden (continued) |  | **Second Heath:** Situated on a steep slope, this heather area is densely planted with Calluna vulgaris and Erica spp. Various heather species and miniature pines create a colorful and textural composition, giving the space a unique character. Thriving in sunny, acidic soils, the plants can be viewed from different perspectives via two pathways. The heathers that bloom in late August and September enhance the area's aesthetic appeal with their pastel and rich color tones (Ogrody Kapias, 2025o). |
| Shady Hill |  | This landscape area is designed for visitors seeking coolness and tranquility on hot summer days. Fast-growing trees provide shade, while species such as dogwood, bumblebee-friendly plants, juniper, and rowan, along with groundcovers, create a peaceful composition with varied colors and textures. Natural observation points along the Shaded Path offer opportunities to enjoy the scenery and the quiet of nature. Shady Hill, with its carefully selected plant cover and natural shade, provides a calm corner for rest and cooling (Ogrody Kapias, 2025p). |
| Leafy Hill |  | It is a small hill covered with deciduous shrubs. Plants such as Rosa spp., Sorbus spp., and Potentilla spp. offer different colors and textures through seasonal changes, allowing visitors to experience the diverse facets of nature. Enriched with lush greenery and flowers in spring and summer, the area takes on a picturesque appearance with yellow, orange, and red tones in autumn. Leafy Hill stands out as a space for relaxation, sightseeing, and inspiration, thanks to its natural beauty and tranquil atmosphere (Ogrody Kapias, 2025q). |
| Sunset Garden |  | It is a thematic landscape characterized by a warm and energetic color palette. The central metal dome, covered with bees (Apis sp.) symbolizing the "setting sun," creates a warm atmosphere with shades of red, orange, yellow, and burgundy. Cloud-shaped paths and red gravel add character to the area, while blue chairs provide opportunities for rest and viewing the scenery. The plant arrangements, with their warm tones inspired by the aesthetics of the sunset, offer visitors an energetic and striking experience (Ogrody Kapias, 2025v). |

Seasonal gardens emphasize the cyclical nature of the environment and ecological continuity. Through seasonal changes in plants, including flowering and color transitions, they raise visitors' awareness of the transformations occurring in nature. These gardens provide opportunities to observe ecosystem cycles and establish a temporal connection with the natural world. Information regarding the seasonal gardens is presented in Table 2.

**Table 2.** Seasonal gardens at Kapias Gardens

***Çizelge 2.*** *Kapias Bahçeleri'nde mevsimsel bahçeler*

| Sub Areas | Area Images | Descriptions |
|---|---|---|
| Spring Garden |  | It is a thematic landscape that highlights the visual effects of seasonal changes. Forest roses (Rosa sylvestris) and heather plants (Calluna vulgaris) along the narrow path give the area depth and character. In spring, the plants come alive with shades of pink, purple, white, and red, while in autumn they turn yellow, orange, and red, creating a romantic atmosphere. Wiosna Canyon is ideal for experiencing the diversity of colors and textures in nature, and for walking (Ogrody Kapias, 2025r). |
| Summer Gardeen |  | It is an aesthetic and functional summer garden designed around a natural pond. The ornamental plant collection adds lightness and dynamism to the area. The pond edges are adorned with water lilies and irises, and a stone bridge connects them to the fairytale 'Smurfs' structure. A pebble beach, wooden platform, and boat provide opportunities for relaxation and exploration. Seasonal changes give the garden a dynamic character, and the rustling of the grass creates a peaceful soundscape (Ogrody Kapias, 2025s). |
| Autumn Garden |  | It is a thematic landscape area that transforms nature's seasonal changes into an aesthetic experience. Reflecting the warm tones of autumn, beech trees (Fagus sylvatica), along with oak (Quercus spp.), anemone, thyme, and snakeweed in the understory, provide ecological diversity and visual richness. Limestone rocks offer an aesthetically pleasing structure, while the central wooden seating element allows visitors to integrate with nature and experience the season. The Autumn Garden is a rest and observation area that combines physical, sensory, and emotional dimensions (Ogrody Kapias, 2025t). |
| Winter Garden |  | It is a thematic landscape reflecting the tranquility and aesthetic values of the winter season. White gravel evokes the texture of snow, creating a unique atmosphere. White flowers, silvery-toned plants, and coniferous trees emphasize the cool color palette of winter. White wooden sleds and structures covered with climbers support the thematic character of the area. Decorative reindeer and children's activities reinforce the garden's fairytale charm. The Winter Garden is a unique landscape that offers an opportunity to experience different aspects of nature, providing peace and visual harmony, regardless of the season (Ogrody Kapias, 2025u). |

Gardens by cultural and geographical style include elements such as directional signs, seating areas, shelters, educational panels, and rest zones. These spaces enable users to experience the garden comfortably and consciously while also providing an educational and informative experience. Information on gardens by cultural and geographical style is presented in Table 3.

**Table 3.** Gardens by cultural and geographical style

***Çizelge 3.*** *Kültürel ve coğrafi tarzlara göre bahçeler*

| Sub Areas | Area Images | Descriptions |
|---|---|---|
| Scandinavian Garden |  | It is a thematic landscape area that highlights simplicity and the authentic texture of nature. Compositions created with birch trees, ornamental grasses, and anemones reflect the natural aesthetics of northern landscapes. Natural stone and wooden elements blend with minimalist lines, reinforcing the authentic character of the space. The Scandinavian Garden offers a unique landscape experience that invites calm walks and relaxation (Ogrody Kapias, 2025w). |
| English Garden |  | It is a romantic landscape of twelve thematic green rooms, each with unique colors and architectural elements. The central corridor leads to symbolic points like the Moon Gate, Rosa Tunnel, sundial, and fountain. Boxwood hedges, roses, flowering shrubs, and climbers form the garden's botanical texture. Each room conveys different emotions through its colors and plant selection, allowing visitors to sit on benches and experience the garden's aesthetic and emotional diversity (Ogrody Kapias, 2025x). |
| Italian Patio |  | This unique landscape reflects the sunny atmosphere of Tuscany and the southern lifestyle. Located at the end of the New Gardens, the courtyard with its central well and brick-stone walls evokes Italian patio charm. Terracotta pots, Tuscan paintings, and aromatic plants enhance aesthetics and sensory richness. Connected to the restaurant and garden center, it offers visitors both individual and social experiences, making the Italian Patio a fulfilling landscape area (Ogrody Kapias, 2025y). |
| Japanese Garden |  | It is a minimalist and symbolic landscape area inspired by the Karesansui style. The gravel arrangements represent ocean waves, while the large rocks symbolize ships at sea. The red entrance gate and tea pavilion reference traditional Japanese aesthetics, and the stone lanterns and orderly paths add direction and mystery to the space. The central pond and waterfall symbolize life and balance, while the gentle murmur of water enhances the garden's meditative character. The Japanese Garden is a refined landscape area offering both aesthetic and psychological tranquility (Ogrody Kapias, 2025z). |
| Mediterranean Corner |  | It is a thematic area reflecting the aesthetics and climatic character of Southern Europe. Located on the sunny southern façade next to the Italian Veranda, the street offers a simple and elegant composition dominated by lavender (Lavandula spp.) and other Provence-inspired plants. The brick walls provide a warm backdrop, while the strongly aromatic plants create a rich sensory experience. The Mediterranean Street is a distinctive landscape that offers visitors peace and tranquility through its visual and olfactory appeal (Ogrody Kapias, 2025z-a). |
| Garden in National Colors |  | It is a thematic landscape area based on Poland's national colors. Visual balance is achieved through red and white flowers, while Doorenbos birch trees add depth and symbolic meaning to the space. Combining simplicity with aesthetic harmony, the area offers visitors a tranquil and contemplative experience (Ogrody Kapias, 2025z-b). |

Activity and relaxation areas include playgrounds, sports and exercise areas, and outdoor activity zones. These spaces encourage socialization, physical activity, and community interaction among different age groups, transforming the garden into an active living environment. Information regarding the activity and relaxation areas is presented in Table 4.

**Table 4.** Activity and relaxation areas in Kapias Gardens

***Çizelge 4.*** *Kapias Bahçeleri'nde etkinlik ve dinlenme alanları*

| Sub Areas | Area Images | Descriptions |
|---|---|---|
| Playground |  | These are family-oriented landscape areas that offer safe and enjoyable play opportunities for different age groups. Slides, swings, and thematic play elements encourage physical activity, while rest areas for parents provide the opportunity to experience the aesthetics of nature. These areas reflect the functional, accessible, and user-centered design approach of Kapias Gardens (Ogrody Kapias, 2025z-c). |
| View Terraces |  | These are areas that offer opportunities for panoramic viewing and relaxation. Their location on the hills allows visitors to observe different parts of the garden, while the shaded benches below provide a cool resting spot. The nearby conifer slope and 'Doorenbos' birch trees create visual richness through plant diversity and color contrast (Ogrody Kapias, 2025z-d). |
| Fountains |  | This area provides an aesthetic landscape experience with greenery and the soothing sound of water. Two fountains in front of the viewing terraces offer places to rest, while benches shaded by 'Camperdownii' mountain elms provide a pleasant break from the summer sun. The Picea abies collection creates a balanced composition in harmony with the water's movement (Ogrody Kapias, 2025z-e). |
| Linden Avenue |  | It is one of the main axes that ensure spatial continuity. The path, defined by regularly pruned linden trees (Tilia spp.) and cotoneaster shrubs (Cotoneaster spp.), offers seasonal color and texture diversity. Seating elements, shaded areas, and access to thematic gardens provide opportunities for rest and visual continuity (Ogrody Kapias, 2025z-f). |
| Pond With a Gazebo |  | It stands out as an area providing aesthetic value and tranquility. The wooden pergola and stone pier at its center create a visual focal point, while the seasonal plant diversity — azaleas, forest roses, deciduous trees, and perennial herbaceous plants — adds color and dynamism to the space. The pond functions as a resting area and visual focal point integrated with nature (Ogrody Kapias, 2025z-g). |

Infrastructure and visitor services support the garden's daily operations and visitors' needs. Restaurants, cafés, and food services offer relaxation and socialization, while the garden center and greenhouses provide educational and hands-on experiences. Facilities such as restrooms, bicycle parking, and car parks ensure comfortable and accessible use. These elements are essential for both the garden's aesthetic and functional coherence, maintaining a seamless visitor experience.

Kapias Restaurant comprises two functional sections. The first is designed for family meals, afternoon coffee, or private celebrations, featuring a formal, comfort-oriented interior suitable for birthdays, anniversaries, and small social events. The second operates as a buffet for short meal breaks. Both the interior and spacious veranda offer seating oriented toward the landscape, supporting relaxation, socialization, and gastronomic experiences while complementing the garden's recreational and social functions (Ogrody Kapias, 2025z-h). The Garden Center serves as a comprehensive landscape supply

area, offering plants and gardening products that vary seasonally. Perennial trees, shrubs, climbers, and indoor plants are available year-round. Spring highlights balcony and terrace plants as well as rhizomes and bulbs of Dahlia, Gladiolus, and Begonia. Summer focuses on perennial species, late summer on bulbous plants like Tulipa, Hyacinthus, and Chrysanthemum. From mid-November, Abies (Christmas trees) are featured. The center also provides substrates, soil, fertilizers, agrotextiles, pots, and support elements, along with seasonal decorative and Christmas-themed items, enhancing both its recreational and commercial functions (Ogrody Kapias, 2025z-i).

In Kapias Gardens, spatial amenities are designed for all visitors. Four restrooms are strategically located: in the Old Gardens, an accessible one in the New Gardens, a diaper-changing restroom at Kapias Restaurant, and additional accessible facilities at the Garden Center. This reflects an inclusive approach prioritizing accessibility and user comfort (Ogrody Kapias, 2025z-j).

**Universal design approaches and some applications for users**

Kapias Gardens has been designed with an inclusive approach that aims for all visitors to access the natural and aesthetic values of the space without barriers. In this context, accessibility features such as wide paths, ramps, vehicle routes, and step-free entrances have been planned to facilitate access for individuals with disabilities to thematic areas. This allows visitors to experience the diversity of the gardens' landscapes without encountering physical obstacles (Ogrody Kapias, 2025z-k).

At this stage, Kapias Gardens has been evaluated based on the seven core principles of the Center for Universal Design (2025): equitable use, flexibility, simple and intuitive use, perceptible information, tolerance for error, low physical effort, and appropriate size and space.

In line with equitable use, wide pathways, ramps, and step-free entrances ensure barrier-free access for all, while free admission and accessible terraces, gazebos, and restaurant areas allow visitors of all abilities to enjoy an equal experience. Under the flexibility in use principle, playgrounds offer experiences suitable for different abilities through both standard and specialized arrangements, and the Sensory Garden creates an accommodating environment for visitors with neurodiversity or sensory differences. The maze, with its easy-to-navigate design, allows flexibility for users of varying speeds and abilities. According to the principle of simple and intuitive use, strategically placed, clear signage, contrasting materials, and color-coded plant arrangements help visitors understand the space easily and navigate independently. According to the principle of perceptible information, tactile surfaces, fragrant plants, water features, and diverse textures in the Sensory Garden make it easier for visually impaired individuals and those with sensory differences to perceive the environment. To enhance error tolerance, rounded corners and uninterrupted circulation loops prevent accidents and dead ends, while natural lighting in shaded areas reinforces safe navigation. Low physical effort, flat, non-slip, and wide pathways, along with ramps and step-free transitions, enable barrier-free access to areas at different levels. Benches, shaded areas, and gazebos reduce physical fatigue and provide opportunities for regular rest. Finally, in accordance with the "size and space for approach and use" principle, wide pathways and gazebos, as well as the garden center, restaurant, and viewing terraces, allow users who use wheelchairs or mobility devices to move comfortably and use the spaces with ease. The needs of individuals with mobility restrictions have been prioritized: pedestrian paths are wide, smooth, and level, with non-slip materials applied to surfaces. Ramps and step-free transitions allow wheelchair users to access all sections of the garden independently, while seating units, positioned at varying heights and short intervals, enable visitors to circulate without experiencing fatigue.

In Kapias Gardens, special attention has been given to certain applications, with consideration of potential obstacles that different user groups may encounter; the aim is not only to overcome physical barriers but also to provide a safe and comfortable spatial experience for everyone.

In this context, the needs of individuals with mobility limitations have been prioritized. Pedestrian paths are wide, smooth, and level, with slip-resistant surface materials. Ramps and step-free passages

allow wheelchair users to access all areas of the garden independently. Rest areas and seating units are placed at varying heights and short intervals, enabling visitors to move around without fatigue. For visually impaired or low-vision users, variations in floor textures, contrasting colors, and clear signage provide multi-sensory cues. Fragrant plants and water features enrich the spatial experience through sensory enrichment, while natural soundscapes aid orientation. Users with cognitive or sensory sensitivities can access a safe and calm environment thanks to a simple and predictable spatial layout. Quiet rest areas, secluded gazebos, and shaded spots offer opportunities for retreat or relaxation away from social interaction. Plant density and color contrasts are balanced to reduce visual clutter and emphasize spatial coherence. Wide paths, step-free transitions, and uninterrupted floor surfaces ensure mobility for individuals with limited movement. Frequently placed benches, shaded areas, and resting terraces support physical comfort and social interaction. These arrangements allow users to experience the space freely without constant assistance.

Consequently, Kapias Gardens can be regarded as an exemplary universal design environment that offers equal access and experiences through a holistic design approach encompassing various age groups, types of disabilities, and sensory needs. The garden is not only physically accessible but also creates a psychologically inclusive and supportive environment, enabling all individuals to engage with nature in a safe, meaningful, and multi-sensory manner.

## CONCLUSIONS

Kapias Gardens presents an inclusive landscape that goes beyond serving merely as a demonstration garden, encompassing aesthetic, recreational, educational, ecological, and social dimensions. Spatial arrangements, including wide pathways, ramps, non-slip surfaces, contrasting colors, tactile and olfactory elements, and clear signage, ensure an accessible and comfortable experience for people with mobility, visual, cognitive, or sensory limitations, older adults, and families with children. These features make the garden an equitable, safe, and barrier-free space for all users, offering a holistic experience in terms of physical access, social participation, and psychological comfort.

The garden's sub-spaces, comprising thematic and seasonal gardens, activity and relaxation areas, and infrastructure and support areas, address individuals' physical, mental, and social needs. Experiential and seasonal gardens enhance interaction with nature and ecological awareness, supporting mental rejuvenation and sensory richness, while play and recreational areas promote intergenerational interaction and encourage physical activity. The Garden Center and Restaurant support the economic dimension, while the free entry policy reinforces social inclusivity.

From an educational and cultural perspective, Kapias Gardens promotes knowledge sharing and environmental awareness through diverse landscape design styles, plant variety, and showcased sustainable practices. Social events and intergenerational spaces strengthen social cohesion. Aesthetically, visual compositions enriched by seasonal changes inspire visitors to design and maintain their own green spaces, and the therapeutic atmosphere supports mental and emotional rejuvenation.

In conclusion, Kapias Gardens, with its multidimensional functionality and user-centered design, offers a model that holistically supports individuals' physical, mental, and social well-being. Through its inclusive landscape approach, the garden provides equal access and experiences for individuals of different ages, abilities, and sensory sensitivities. Moreover, its potential to foster meaningful connections with nature, enhance social interaction, and promote environmental awareness makes Kapias Gardens a tangible and inspiring example of universal design in contemporary landscape architecture. The future integration of digital wayfinding panels, interactive educational applications, and innovative sensory experience elements could further strengthen cognitive, educational, and social accessibility, establishing a model that may serve as a reference for the design of inclusive public spaces.

**Data Availability**

Data will be made available upon reasonable request.

**Author Contributions**

Conception and design of the study: DK, LC, EMK; sample collection: DK, LC; analysis and interpretation of data: DK, LC, EMK; statistical analysis: DK, LC, EMK; visualization: DK; writing manuscript: DK, EMK.

**Conflict of Interest**

There is no conflict of interest between the authors in this study.

**Ethical Statement**

We declare that there is no need for an ethics committee for this research.

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## REFERENCES

Ackerman, C. E., 2018. What is kaplan's attention restoration theory? (Web page: https://positivepsychology.com/attention-restoration-theory/) (Date accessed: October 2025).

American Society of Landscape Architects, 2025. Universal design: gardens. (Web page: https://www.asla.org/universalgardens.aspx) (Date accessed: September 2025).

Center for Universal Design, 2025. The 7 principles. (Web page: https://universaldesign.ie/about-universal-design/the-7-principles) (Date accessed: October 2025).

Chang, K. K. P., F. K. Y. Wong, K.L. Chan, F. Wong, H.C. Ho, H. M.S. Wong, Y.S. Ho, J. W. M. Yuen, J.Y. Siu & L. Yang, 2020. The impact of the environment on the quality of life and the mediating effects of sleep and stress. International Journal of Environmental Research and Public Health, 17 (22): 2-17.

Edward Steinfeld, E. & J. Maisel, 2012. Universal Design: Creating Inclusive Environments. John Wiley & Sons. New York, 410 pp.

Fişek, N. 2025. Ealth services and the health problems of families in worker health. (Web page: https://ttb.org.tr/n_fisek/kitap_1/33.html?ysclid=mgph8anb3171113367) (Date accessed: October 2025) (in Turkish).

Gregis, A., C. Ghisalberti, S. Sciascia, F. Sottile & C. Peano, 2021. Community garden initiatives addressing health and well-being outcomes: A systematic review of infodemiology aspects, outcomes, and target populations. International Journal of Environmental Research and Public Health, 18 (4): 1943 (1-12).

Hansen, G., J. Sewards, R. Almeida & A. Dunn, 2012. Design and implementation of edible plant demonstration gardens: A case study of the Putnam County Extension Edible Garden, ENH1205/EP466, 11/2012. EDIS 2012 (12): 1-15. https://journals.flvc.org/edis/article/view/120361

Kuśmierski, J., 2020. Hortuseum Musealisation of the European Gardens in the Twenty-First Century. Creative Commons Attribution, Poland, 67 pp.

Ogrody Kapias, 2025a. Ogrodydo zwiedza-nia. (Web page: https://ogrodykapias.pl/o-nas/) (Date accessed: September 2025).

Ogrody Kapias, 2025b. Piękno ogrodów od ponad 45 lat. (Web page: https://ogrodykapias.pl/#atrakcje) (Date accessed: September 2025).

Ogrody Kapias, 2025c. Ogród wiejski. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-wiejski/) (Date accessed: September 2025).

Ogrody Kapias, 2025d. Zakątek tajemniczy ogród. (Web page: https://ogrodykapias.pl/atrakcje/zakatek-tajemniczy-ogrod/) (Date accessed: September 2025).

Ogrody Kapias, 2025e. Ogród romantyczny. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-romantyczny/) (Date accessed: September 2025).

Ogrody Kapias, 2025f. Ściana powojników. (Web page: https://ogrodykapias.pl/atrakcje/sciana-powojnikow/)( Date accessed: September 2025).

Ogrody Kapias, 2025g. Igloo. (Web page: https://ogrodykapias.pl/atrakcje/igloo/) (Date accessed: September 2025).

Ogrody Kapias, 2025h. Ogród ciszy (Web page: https://ogrodykapias.pl/atrakcje/ogrod-cisza/) (Date accessed: September 2025).

Ogrody Kapias, 2025i. Ogród zmysłów. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-sensoryczny/) (Date accessed: September 2025).

Ogrody Kapias, 2025j. Labirynt (Web page: https://ogrodykapias.pl/atrakcje/labirynt/) (Date accessed: September 2025).

Ogrody Kapias, 2025k. Warzywnik. (Web page: https://ogrodykapias.pl/atrakcje/warzywnik/) (Date accessed: September 2025).

Ogrody Kapias, 2025l. Zacieniona ścieżka. (Web page: https://ogrodykapias.pl/atrakcje/zacieniona-sciezka/) (Date accessed: September 2025).

Ogrody Kapias, 2025m. Skalniak. (Web page: https://ogrodykapias.pl/atrakcje/skalniak/) (Date accessed: September 2025).

Ogrody Kapias, 2025n. Wrzosowisko pierwsze. (Web page: https://ogrodykapias.pl/atrakcje/wrzosowisko-pierwsze/) (Date accessed: September 2025).

Ogrody Kapias, 2025o. Wrzosowisko drugie. (Web page: https://ogrodykapias.pl/atrakcje/wrzosowisko-drugie/) (Date accessed: September 2025).

Ogrody Kapias, 2025p. Cieniste wzgórze. (Web page: https://ogrodykapias.pl/atrakcje/cieniste-wzgorze/) (Date accessed: September 2025).

Ogrody Kapias, 2025q. Liściasta górka. (Web page: https://ogrodykapias.pl/atrakcje/lisciasta-gorka/) (Date accessed: September 2025).

Ogrody Kapias, 2025r. Wąwóz wiosna. (Web page: https://ogrodykapias.pl/atrakcje/wawoz-wiosna/) (Date accessed: September 2025).

Ogrody Kapias, 2025s. Ogród lato. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-lato/) (Date accessed: September 2025).

Ogrody Kapias, 2025t. Ogród jesień. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-jesien/) (Date accessed: September 2025).

Ogrody Kapias, 2025u. Ogród zima. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-zima/) (Date accessed: September 2025).

Ogrody Kapias, 2025v. Ogród zachodzącego słońca. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-zachodzace-slonce/) (Date accessed: September 2025).

Ogrody Kapias, 2025w. Ogród skandynawski. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-skandynawski/) (Date accessed: September 2025).

Ogrody Kapias, 2025x. Ogród angielski. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-angielski/) (Date accessed: September 2025).

Ogrody Kapias, 2025y. Zakątek patio włoskie. (Web page: https://ogrodykapias.pl/atrakcje/zakatek-patio-wloskie/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-a. Zaułek śródziemnomorski. (Web page: https://ogrodykapias.pl/atrakcje/zaulek-srodziemnomorski/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-b. Ogród w barwach narodowych. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-w-barwach-narodowych/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-c. Miejsca zabaw dla dzieci. (Web page: https://ogrodykapias.pl/atrakcje/plac-zabaw-dla-dzieci-zaczarowany-ogrod/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-d. Tarasy widokowe. (Web page: https://ogrodykapias.pl/atrakcje/tarasy-widokowe/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-e. Fontanny. (Web page: https://ogrodykapias.pl/atrakcje/fontanny/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-f. Aleja lipowa. (Web page: https://ogrodykapias.pl/atrakcje/aleja-lipowa/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-g. Staw z altaną. (Web page: https://ogrodykapias.pl/atrakcje/staw-z-altana/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-h. O restauracji. (Web page: https://restauracjakapias.pl/o-nas/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-i. Centrum ogrodniczym Kapias. (Web page: https://kapiascentrumogrodnicze.pl/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-j. Toalety WC. (Web page: https://kapiascentrumogrodnicze.pl/toalety-wc/) (Date accessed: September 2025).

Ogrody Kapias, 2025z-k. Udogodnienia dla niepełnosprawnych. (Web page: https://kapiascentrumogrodnicze.pl/udogodnienia-dla-niepelnosprawnych/) (Date accessed: September 2025).

Ogrody Kapias, 2025z. Ogród japoński. (Web page: https://ogrodykapias.pl/atrakcje/ogrod-japonski/) (Date accessed: September 2025).

Onay, B. & E. Bayazıt Solak, 2024. The green heritage of spiritual beauty: Mosque gardens and user satisfaction Ege Univ. Ziraat Fak. Derg., 61 (2): 217-232. (in Turkish with abstract in English)

Özkaraca, N. & M. İnceoğlu, 2021. Accessibility assessment in university campuses: Case of Duzce University campus. Duzce University Journal of Science and Technology, 9 (5): 1891-1908 (in Turkish with abstract in English)

Pisarek, M., M. Gargała & L. Lichołai, 2015. “Polskie Ogrody Pokazowe Jako Nowe Miejsce Destynacji Turystów, 103-120”. In: Innowacyjność W Turystyce Wiejskiej A Nowe Możliwości Zatrudnienia Na Obszarach Wiejskich (Eds. W. Kamińska). Polska Akademia Nauk, Warszawa, 341 pp.

Ulrich, R. S., R. F. Simons, B. D. Losito, E. Fiorito, M. A. Miles & M. Zelson, 1991. Stress recovery during exposure to natural and urban environments. Journal of Environmental Psychology,11 (3): 201-230.

WHO, 2025. Health and well-being. (Web page: https://www.who.int/data/gho/data/major-themes/health-and-well-being) (Date accessed: October 2025).

Yin, R. K., 2014. Case Study Research: Design and Methods, SAGE, Los Angeles CA, 282 pp.