

OPEN AND GREEN SPACE DESIGN IN URBAN CONSERVATION AREAS: A DISCUSSION BASED ON THE CASE OF URLA URBAN CONSERVATION AREA AND ITS TRANSITION ZONE

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Abstract

Urban conservation areas are not only significant for preserving historical fabric but also for maintaining urban continuity through the protection of open and green spaces. However, in Türkiye, urban open and green spaces are often overlooked in the planning notes and explanatory reports of conservation development plans. This omission results in a protection-oriented planning approach that neglects the dimensions of landscape and spatial quality. This study discusses the representation of open and green space design within the planning process of urban conservation areas through a comparative analysis of the Urla Urban Conservation Area and its transition zone. The research examines the planning decisions, notes, and explanatory reports related to the Urla area, supported by on-site observations and land-use analyses. The findings reveal that open and green spaces within the conservation area stand out with their aesthetic, historical, and ecological values, whereas these qualities are not systematically reflected in planning documents. The study suggests that landscape principles and approaches regarding open and green spaces should be explicitly incorporated into the planning notes and reports of conservation development plans. In doing so, conservation planning can move beyond a solely physical protection perspective toward a holistic approach that emphasizes spatial quality, ecological continuity, and the cultural landscape as an integral part of urban heritage.

Keywords: Urban conservation area, open and green space design, conservation development plan, landscape planning

KENTSEL SİT ALANLARINDA AÇIK VE YEŞİL ALAN TASARIMI: URLA KENTSEL SİT ALANI VE GEÇİŞ BÖLGESİ ÜZERİNDEN BİR TARTIŞMA

Özet

Kentsel sit alanları, yalnızca tarihî dokunun korunması değil, aynı zamanda kentsel yaşamın sürekliliğini sağlayan açık ve yeşil alanların korunması açısından da kritik öneme sahiptir. Ancak Türkiye’de koruma amaçlı imar planlarında kentsel açık ve yeşil alanlara dair açıklamaların çoğu zaman plan notlarında ya da plan açıklama raporlarında yer almadığı görülmektedir. Bu durum, koruma planlarının fiziksel koruma odaklı, peyzaj ve yaşam kalitesi boyutlarını dışlayan bir yaklaşım üretmesine yol açmaktadır. Bu çalışma, Urla kentsel sit alanı ve geçiş bölgesi üzerinden yapılan karşılaştırmalı bir analizle, kentsel sit alanlarında açık ve yeşil alan tasarımlarının planlama sürecindeki temsil biçimlerini tartışmaktadır. Çalışma kapsamında, Urla kentsel sit alanı ve geçiş bölgesine ait plan kararları, plan notları ve plan açıklama raporları incelenmiş; bu belgeler yerinde gözlem ve alan kullanımı analizleriyle desteklenmiştir. Bulgular, kentsel sit alanındaki açık ve yeşil alanların estetik, tarihî ve ekolojik nitelikleriyle ön plana çıktığını, buna karşın plan belgelerinde bu değerlerin sistematik biçimde yer almadığını göstermektedir. Çalışma sonucunda, koruma amaçlı imar planlarında kentsel açık ve yeşil alanlara ilişkin peyzaj ilkeleri ve planlama yaklaşımının plan notlarına ve raporlara dâhil edilmesi gerektiği önerilmektedir. Böylelikle koruma planlarının sadece yapısal koruma değil, mekânsal kalite ve kültürel süreklilik odaklı bir yaklaşıma evrilmesi amaçlanmaktadır.

Anahtar sözcükler: Kentsel sit alanı, açık ve yeşil alan tasarımı, koruma amaçlı imar planı, peyzaj planlama

Received: 07.11.2025 Acceptance: 05.12.2025 Online publication: 31.12.2025

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1. Introduction

Urban conservation areas are important not only as areas of architectural heritage but also as a living traditional component of the contemporary city. These areas are multi-layered and multi-functional urban spaces that represent the intersection of the built historic environment, traditional social life, and natural landscape (Bingöl, 2006). In this context, open and green spaces go beyond merely supporting ecological systems and enhancing aesthetic and recreational values; they become a significant element that plays a role in preserving spatial identity in historic urban areas (Hızlı & Aktuđlu Aktan, 2023). However, planning practices often do not give enough importance to these areas, prioritizing structural or tangible heritage elements.

In Türkiye, the legal framework for historic urban areas is supported by various plan types, such as the "conservation development plan". Nevertheless, these plans mostly prioritize the protection of the built environment (façades, structural integrity, architectural typologies, street fabric, etc.), and there is a major deficiency in integrating open and green space design into the planning documents, especially the plan notes and explanatory reports. For instance, the general urban open and green space standard accepted in Türkiye as 10 m² per person, according to the Regulation on the Preparation of Spatial Plans, is found insufficient when compared to international criteria and is generally not supported by qualitative criteria such as use, design, or continuity in the planning documents (Biçen, 2023; Hızlı & Aktuđlu Aktan, 2023). Furthermore, analyses conducted on Turkish cities indicate that open and green space planning often focuses on quantity - the amount of area per person - rather than quality, neglecting qualitative dimensions like accessibility, continuity, or landscape character (Demircan & Sezen, 2018; Hızlı & Aktuđlu Aktan, 2023).

Theoretically, open and green spaces in historic urban areas do not only assume recreational or ecological functions; they also contribute to the preservation of cultural continuity, the creation of social interaction areas, and the strengthening of spatial identity by forming an interface between the heritage fabric and contemporary urban life. This approach is consistent with the "cultural landscape" concept, where built heritage and natural elements complement each other (Council of Europe, 2000). Consequently, the disregard or relegation of open and green spaces to a secondary position in conservation development plans poses the risk of historic areas transforming into static monuments, detached from daily spatial practices and environmental systems.

This study aims to address this deficiency by conducting a comparative analysis of the Urla Urban Conservation Area and its associated transition zone. The plan decisions, plan notes, and explanatory reports have been evaluated together with on-site observations and land-use analyses, thus investigating how open and green space designs are represented - or not represented - in the conservation planning process. The study seeks answers to the following main research questions:

1. How do open and green space design differ between the urban conservation area and the transition zone?
2. How are these differences reflected in the planning instruments applied to each zone (plan notes, explanatory reports, etc.)?
3. What are the implications of the limited representation of open and green spaces for conservation-oriented development plans?

This study has two main contributions to the literature. The first is drawing attention to open and green space design, which is often overlooked in conservation master plans. The second is developing suggestions on how open and green space design principles, along with landscape design principles, can be integrated

into conservation development plans. To address these issues, the article begins by examining the institutional and theoretical background of open and green spaces within conservation planning. It then presents the methodological approach, which combines document analysis, spatial assessment, and field observations. The following section provides a comparative analysis of the selected open and green spaces in the conservation core and the transition zone. Finally, the article discusses the implications of these findings for conservation-oriented development plans and proposes a more landscape-sensitive framework for future planning practices.

2. Material and Methods

2.1. Material

The research focuses on the Urla Urban Conservation Area and its transition zone, located within the borders of İzmir province (Türkiye). Urla is a historic coastal settlement that has largely preserved its traditional urban fabric, street pattern, and architectural typologies since antiquity. The area has been registered as an urban conservation area by the Regional Council for the Protection of Cultural Property due to its rich architectural heritage, multi-layered settlement history, and continuity in urban morphology (Öztürk, 2020).



Figure 1. Urla Conservation Area and Transition Zone

The spatial boundaries of both zones are illustrated in Figure 1, which provides an overview of the Urla Conservation Area and its transition zone.

The study area consists of a 63-hectare conservation area and a 95-hectare conservation transition zone. Looking at the conservation area within the Urla urban conservation area, it has a character that includes historic residential fabric, narrow streets, and small-scale public spaces like squares and courtyards. The conservation transition zone is an area with newer residential areas, wide avenues, and fragmented green spaces. As an example, one open and green space close to each other from the conservation area and the conservation transition zone has been selected and examined. Figure 2 presents the triangular-shaped park located in the transition zone, highlighting its geometric layout and its position within the modern residential pattern.

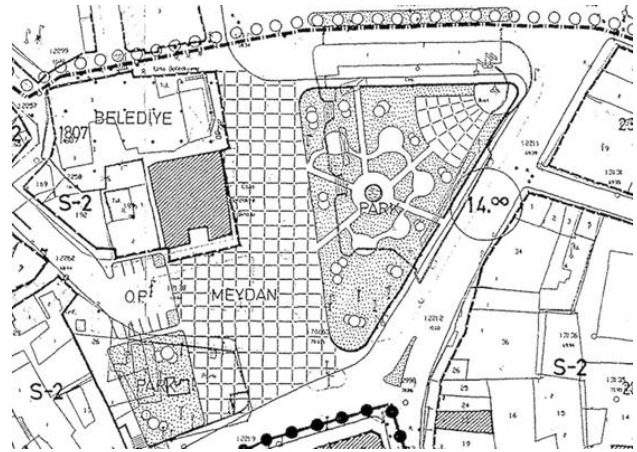


Figure 2. "Park" located in the Transition Zone

Figure 3 depicts the centrally located "Meydan ve Park" within the conservation area, illustrating its intimate spatial character and integration with the historic street texture.

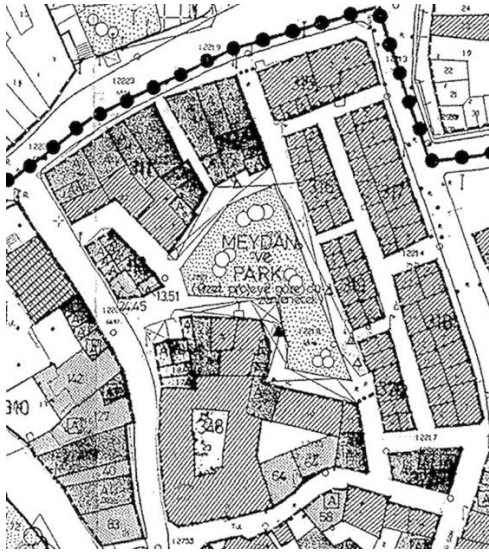


Figure 3. "Park and Square" in the located Conservation Area

The primary materials used in this research include:

(1) Official planning documents, Conservation Development Plan, its plan notes, and plan explanation report prepared by the İzmir Metropolitan Municipality and approved by the Regional Council for Cultural Heritage Protection.

(2) Spatial data and maps – topographic maps, land-use plans, and base maps obtained from the Urla Municipality Planning Directorate.

(3) Field observations – photographic documentation and in-situ assessment of open and green spaces in both the conservation and transition zones.

(4) Supporting literature and legislative texts – Law No. 2863 on the Conservation of Cultural and Natural Assets, the European Landscape Convention (Council of Europe, 2000), and previous academic studies related to conservation and landscape planning (e.g., Biçen, 2023; Hızlı & Aktuğlu Aktan, 2023).

These materials collectively provide both the physical and institutional basis for understanding how open and green spaces are represented within the conservation planning process in Urla.

2.2. Methods

A qualitative research design model was constructed in this study by using document analysis, spatial assessment, and on-site observation techniques together. The method process primarily consists of 3 stages:

1. Document Analysis:

The Urla Conservation-Oriented Master Plan, along with its plan notes and explanatory report, was examined to determine how open and green spaces were defined and categorized. In addition, the presence of decisions related to landscape, vegetation, and design principles was investigated (Taylor & Lennon, 2011). Using a content analysis approach, these elements were coded according to their presence or absence within the planning documents.

2. Field Observation:

On-site observations were conducted to examine the physical characteristics of open and green spaces and to identify user activities. The compatibility of these spaces with their surrounding urban fabric was also evaluated (Bingöl, 2006).

3. Synthesis:

In the final stage, findings derived from document analysis and spatial observations were synthesized to reveal the differing representations of open and green spaces in the conservation core and the transition zone of the master plan. This synthesis provided the empirical foundation for the discussions and recommendations presented in the subsequent sections.

By integrating document-based and spatially grounded methods, the study bridges institutional representation with on-site reality. This mixed qualitative approach not only goes beyond descriptive observation but also contributes to the theoretical discussion on how landscape design principles can be incorporated into urban conservation planning practices in Türkiye.

3. Findings

The findings obtained from the Urla Conservation Master Development Plan emphasize a fundamental problem encountered in many conservation plans in Türkiye. This problem can be defined as the dichotomy between conservation and modernization. Although the Plan defines open and green spaces as an element that integrates the city, the approach and implementation practices for these areas differ significantly in the conservation and transition zones. In this section, these differences are interpreted in the context of the theoretical and legal framework, and the resulting consequences for integrated heritage management are addressed.

3.1. Landscape as Cultural Heritage

The Urla example shows that open and green spaces are not only buffer zones but also cultural interfaces where collective memory and social practices intersect. The area defined as "Meydan ve Park" (Square and Park) within the conservation area embodies the concept of "living heritage" defined by Smith (2006) and becomes the focal point of cultural continuity. Its position in the spatial configuration supports public life and social interaction. This situation indicates that the area can be sustained not only through protection but also through use.

The triangular-shaped park in the conservation transition zone, although seemingly more regular or attractive in form, lacks historical meaning and ecological integrity. The design of this area addresses the concept of continuity formally, focusing on geometry and material harmony. It is completely detached from historical references and context-based meaning. This difference between the two areas shows that landscape in urban systems has not yet been conceptualized as heritage and has not found a place in practice within the Turkish planning system. Landscape is often considered not as a relational system between nature, culture, and space, but merely as a tool for visual

harmony; this clearly reveals the theoretical deficiency (Öztürk, 2020; Biçen, 2023).

3.2. Fragmentation within Conservation Planning

The Urla Conservation Master Development Plan clearly reflects the fragmentation between architectural conservation and landscape planning, which is frequently seen in the conservation approach in Türkiye. While the plan notes include architectural details such as building heights, façade materials, and structural typology, guidance on plant species, spatial continuity, or landscape design principles is quite limited. As Özcan (2008) also states, this situation prioritizes conservation in the architectural dimension, ignoring the ecological or experiential dimensions.

Consequently, the plan produces two distinct approaches to open space management:

1. In the conservation area, landscape is treated as a static extension of heritage, with minimal formal intervention permitted.

2. In the transition zone, landscape is viewed as a flexible design field, allowing for contemporary formal interpretations.

Neither of these approaches adequately captures the spatial and social role of landscape as a mediator between old and new urban fabrics. The absence of measurable landscape design criteria such as plant selection, permeability ratios, and connectivity standards emerges as a critical issue in maintaining the continuity of the urban green network.

As also emphasized by Demircan & Sezen (2018) and Hızlı & Aktuğlu Aktan (2023), these findings indicate that conservation planning in Türkiye still fails to address urban livability in a multidimensional way. Open spaces are often regarded as residual or aesthetic components rather than as structural and functional elements of the urban system.

3.3. Policy and International Context

At the policy level, Türkiye's participation in the European Landscape Convention (Council of Europe, 2000) commits planners to integrate landscape into all stages of territorial and urban management. Similarly, UNESCO's Recommendation on the Historic Urban Landscape (UNESCO, 2011) calls for heritage management that addresses the dynamic interaction between built form, natural systems, and social processes.

However, the Urla Conservation Plan illustrates the gap between international policy discourse and local implementation. The planning notes reference compatibility and continuity but do not operationalize these principles through explicit landscape or ecological standards. This suggests that the integration of global frameworks remains largely nominal, absorbed into the rhetoric of protection but not into design or regulation.

3.4. Toward a Holistic Conservation Approach

Based on the findings of the analysis, it is essential to develop a conservation planning approach with a higher degree of landscape sensitivity. Such a holistic perspective, unlike the prevailing architecture-centered conservation practices, would support the preservation of historic areas together with their spatial, ecological, and experiential dimensions. This does not imply the elimination of boundaries between conservation and transition zones; rather, it calls for the establishment of a shared framework in which visual, ecological, and social continuities between these zones are consciously designed and managed.

In practical terms, conservation plans should incorporate:

(1) Landscape-based planning notes, specifying local plant species, surface permeability, and shading structures compatible with the historic environment.

(2) Ecological and visual continuity principles, ensuring that open spaces across zones form a coherent green system.

(3) Participatory design processes, allowing residents to define the functions and meanings of heritage open spaces.

Such integration would align conservation planning with the principles of resilient urbanism and cultural landscape management, transforming heritage sites from static relics into adaptive urban environments (Bandarin & van Oers, 2012).

3.5. Implications for Urla and Beyond

In Urla, the coexistence of traditional and modern open-space typologies presents both a challenge and an opportunity. The contrast between the intimate "Meydan ve Park" and the formal "triangular park" reveals how design and policy can either strengthen or weaken the dialogue between past and present. Addressing this gap requires reframing open and green spaces not as decorative add-ons but as mediators of cultural continuity and environmental quality.

With these considerations, the study underscores the need to shift conservation master plans from a predominantly structural or architectural orientation toward a more holistic approach that foregrounds spatial quality and cultural landscape values. While traditional conservation practices often prioritize the built environment, the findings suggest that the vitality and long-term sustainability of historic urban areas depend equally on the thoughtful integration of open and green spaces. Without such an intentional planning perspective, conservation areas risk becoming "preserved but not lived in," detached from everyday urban life. The Urla case demonstrates how conservation planning tools can be more effectively aligned with landscape principles to ensure that heritage areas remain dynamic, socially connected, and ecologically coherent.

The Urla case thus exemplifies a broader methodological lesson for conservation planning: protecting heritage is not only about preserving buildings but also about sustaining the lived landscape—the green, open, and social spaces through which urban memory and everyday life coalesce.

To support the findings presented above, Table 1 provides a comparative summary of the spatial, functional, and landscape characteristics of open and green spaces in the Urla Conservation Area and its transition zone.

Table 1. Comparative Analysis of Open and Green Spaces in the Urla Conservation Area and Transition Zones

Criterion	Transition Zone (Triangular Park)	Conservation Zone (Square and Park)
<i>Location and Morphology</i>	Triangular in form, located at the interface between the historic and modern fabric; surrounded by regular urban parcels. Its spatial boundaries are well-defined, reflecting a geometric and orderly character.	Situated within the historic texture, at the intersection of organic street patterns; irregular in shape and integrated with surrounding building blocks.
<i>Land Use and Function</i>	Defined as “PARK”; includes planting design, pedestrian paths, and a central landscape feature (possibly seating or a fountain). Its main function is to provide green texture and visual quality.	Defined as “SQUARE and PARK”; combines functions of a public gathering space and green area. Social interaction, urban memory, and everyday use are concentrated here.
<i>Accessibility</i>	Fronts a wide road network; accessible by both vehicles and pedestrians. Linear connections are maintained along the transition corridor.	Surrounded by narrow pedestrian streets; vehicular access is restricted. The inward spatial structure creates a sense of intimacy and human-scale publicness.
<i>Landscape Character</i>	Reflects a more geometric, orderly, and contemporary landscape approach where formal composition dominates.	Displays an organic, small-scale character compatible with the historic fabric. Although vegetation diversity is limited, spatial identity is strong.
<i>Continuity and Connectivity</i>	Partial continuity of green texture; potential linkages exist along the northern street axis, though visual disconnection from the historic core may occur.	Serves as a focal point within the historic fabric; spatially integrated with adjacent small open spaces, creating strong social continuity.
<i>Planning Context and Interpretation</i>	Represents a modern open-green space design approach; emphasizes form but has weak contextual linkage with the historical setting.	Functions as a cultural and social anchor; maintains balance between physical conservation and socio-cultural continuity.
<i>Scope of Plan Provisions</i>	More flexible; emphasizes formal compatibility and contemporary interpretation (Articles 5.2 and 3.8.2).	Regulated in detail; strict compliance with conservation provisions (Articles 1.0–3.5).
<i>Type of Landscape Principle of Connection</i>	Modern planting patterns, regular geometry, greater allowance for hard surfaces.	Traditional and small-scale with local plant species and permeable surfaces.
<i>Conservation Approach</i>	Reinterpretive and transition-oriented, prioritizing formal harmony over historical meaning.	Preservation-oriented, context-sensitive, and limited in intervention scope.

4. Discussion and Conclusion

The analysis of the Urla Urban Conservation Plan highlights a fundamental paradox embedded in contemporary conservation planning in Türkiye. While the legal and institutional framework recognizes open and green spaces as vital urban components, their representation in planning instruments remains fragmented and superficial. The spatial and regulatory comparison between the “Meydan ve Park” in the conservation core and the triangular park in the transition zone reveals how planning decisions reproduce two distinct and often disconnected understandings of landscape.

In the core conservation area, open and green spaces are treated as extensions of the historical fabric. The plan notes impose strict control over materials, vegetation, and surface treatment to maintain visual and cultural authenticity. This approach ensures physical preservation but also tends to freeze the landscape in time, limiting its adaptability to contemporary social and ecological needs. In contrast, the transition zone encourages modern landscaping “compatible” with the conservation area, allowing design freedom and formal reinterpretation. The resulting spatial expression is aesthetically coherent but culturally detached and the landscape becomes a visual transition rather than a lived one.

This dualism mirrors a broader institutional divide between architectural conservation and landscape planning. As Özcan (2008) and Hızlı & Aktuđlu Aktan (2023) note, Turkish conservation plans are predominantly building-oriented, leaving ecological continuity, landscape character, and public space hierarchy underexplored. The Urla case exemplifies this gap: while conservation plans meticulously regulate façades and building forms, they seldom articulate how open and green spaces should support cultural identity, environmental resilience, or social well-being.

International frameworks such as the European Landscape Convention (Council of Europe, 2000) and UNESCO’s Recommendation on the Historic Urban Landscape (UNESCO, 2011) advocate for a holistic understanding of heritage, integrating tangible and intangible, built and natural, spatial and social dimensions. Yet, the Urla plan reflects a partial adoption of these principles, landscape is visually acknowledged but functionally underrepresented. The absence of explicit landscape-based criteria (e.g., native species, permeability ratios, connectivity principles) reveals how conservation planning still operates within an architectural paradigm, where the open space is considered a static backdrop rather than an active agent of continuity.

To move beyond this limited approach, conservation planning must embrace a landscape-sensitive and integrative framework. The findings from Urla suggest three directions for improvement:

(1) Embedding landscape principles into plan notes and explanatory reports: Conservation development plans should explicitly define landscape parameters - plant species, material types, surface treatments, and ecological functions - to ensure that open and green spaces are not left to arbitrary interpretation.

(2) Strengthening continuity between conservation and transition zones: Rather than treating these zones as discrete design realms, plans should establish visual, ecological, and social linkages through green corridors, consistent material palettes, and shared public-space hierarchies.

(3) Encouraging participatory and adaptive landscape design: The meaning of open spaces in heritage contexts evolves with use. Incorporating community input and adaptive management can ensure that these spaces remain socially relevant and ecologically sustainable.

From a conceptual standpoint, the Urla case underscores that heritage preservation is not merely an act of maintaining the past, but of designing for continuity. Open and green spaces function as mediators of memory and transformation sites where tradition and change can coexist. The coexistence of the historically grounded “Meydan ve Park” and the modernized triangular park encapsulates this dynamic tension between permanence and renewal.

Beyond the Urla case, the findings of this study offer insights that can be generalized to other types of urban conservation areas in Türkiye. For example, in fortified inner-city settlements such as Ankara Kaleiçi or İzmir Kadifekale, open and green spaces are often treated as residual elements despite their potential to reinforce cultural continuity within compact historic patterns. Likewise, in historic bazaar areas such as Konya Bedesten or the Bursa Hanlar District, the integration of landscape-based principles into courtyards and pedestrian circulation spaces could enhance spatial legibility and improve user experience. Coastal conservation sites like Ayvalık or Sinop also confront similar tensions between historic urban fabric and contemporary recreational demands, suggesting that the continuity-oriented approach demonstrated in Urla can guide the design of transitional waterfront landscapes. These examples show that adopting a landscape-sensitive conservation framework can support ecological coherence, cultural continuity, and social vitality across diverse heritage settings in Türkiye.

In conclusion, the Urla Urban Conservation Plan demonstrates both the potential and the limitations of current conservation planning practice. While it achieves formal harmony and physical protection, it falls short of translating landscape as a living heritage into policy and design. Bridging this gap requires expanding the scope of conservation beyond the

built form, integrating landscape as a structural, ecological, and social system. Only through such holistic integration can conservation plans move from preserving objects to sustaining places—ensuring that urban heritage continues to live, adapt, and inspire within the evolving city.

References

- Bandarin, F., & van Oers, R. (2012). *The Historic Urban Landscape: Managing heritage in an urban century*. Chichester: Wiley-Blackwell.
- Bingöl, E. (2006). *A quality of life perspective to urban green spaces of Ankara* [Unpublished doctoral dissertation]. Middle East Technical University.
- Biçen, A. (2023). The Effect of a Cultural Landscape Area on Urban Green Spaces: Case Study of Diyarbakir Fortress and Hevsel Gardens. *Journal of Human and Social Sciences*, 6(2), 343-376.
- Council of Europe. (2000). *European Landscape Convention*. Strasbourg: Council of Europe.
- Demircan, N., & Sezen, I. (2018). Use of Green Spaces for Liveable and Sustainable Cities; Urban Allotment Gardens. *Journal of the Institute of Science & Technology/Fen Bilimleri Estitüsü Dergisi*, 8(1).
- Hızlı, Ö., & Aktuğlu Aktan, E. Ö. (2023). Evaluation of open and green space systems in the context of urban livability. *ICONARP*, 11(2), 540-558.
- Jokilehto, J. (2007). International charters on urban conservation: Some thoughts on the principles of conservation planning. *APT Bulletin*, 38(4), 3–9.
- Özcan, K. (2008). Sürdürülebilir Kentsel Koruma İçin Açık-Yeşil Alan Etkin Bir Planlama Modeli: Konya Kentsel Koruma Alanı, Türkiye Örneği. *Ekoloji Dergisi*, 17(68).
- Öztürk, N. (2020). Kentsel koruma ve peyzaj bütünlüğü ilişkisi. *Megaron*, 15(1), 35–48.
- Smith, L. (2006). *Uses of heritage*. London: Routledge.
- Taylor, K., & Lennon, J. (2011). Cultural landscapes: a bridge between culture and nature? *International journal of heritage studies*, 17(6), 537-554.
- UNESCO. (2011). *Recommendation on the Historic Urban Landscape*. Paris: UNESCO.
- Ustaoglu, E., & Aydinoglu, A. C. (2020). Site suitability analysis for green space development of Pendik district (Turkey). *Urban Forestry & Urban Greening*, 47, 126542.
- Yıldızbaş, N. T., Gençay, G., Birben, Ü., Oskay, F., Perkumienė, D., Škėma, M., & Aleinikovas, M. (2025). Benefits beyond the physical: How urban green areas shape public health and environmental awareness in Istanbul. *Forests*, 16(5), 786.