

**RESEARCH ARTICLE**

A literature-based analysis of studies in urban landscape concept

Harsh Mineshbhai Shah

Abstract

The urban districts that are currently undergoing considerable expansion and transition are home to the bulk of the world's population, which is concentrated in these areas. As a consequence of this, these regions are playing a significant role in promoting the cause of sustainability and improving the quality of life in the world. An urban landscape is a diverse area that incorporates environmental sustainability, social well-being, aesthetic concerns, and the preservation of natural resources. When we talk about urban landscape, we are referring to this area. In the course of this academic inquiry, the objective is to carry out a bibliometric examination of the scientific literature that is associated with the urban landscape. In order to explore its development, temporal distribution, regional concentration, often used keywords, contributing disciplines, and other noteworthy characteristics, the objective of this analysis is to investigate these aspects. By analyzing major subjects, authors, publications, and citations linked with urban landscapes, this study makes an effort to bring attention to the primary components, emphasis, evolution, and direction of scientific research in urban landscapes. While it is anticipated that this study will broaden our understanding of the significance of the urban landscape concept, it is also anticipated that it will provide significant insights for future research, planning, and decision-making in this area. Both of these outcomes are anticipated to coincide.

Keywords: Urban landscape, Urban development, Environmental, Sustainability, Bibliometric analysis, Socio-cultural influence.

Introduction

It is well acknowledged that urban areas, which accommodate the majority of the global population, are experiencing significant growth and development. Urban areas undergo alterations and transformations because of expansion and development. Due to the development above and the transformation process, the urban landscape plays a crucial role in enhancing the quality of life in urban areas and promoting sustainability. Urban landscape is a comprehensive field that focuses on the arrangement and planning of the urban surroundings. It encompasses various aspects, including environmental sustainability, social well-being, aesthetic considerations, and preservation of natural resources. The term "urban

landscape" refers to the arrangement and organization of the physical environment within a metropolis. When considering the urban environment, it is important to take into account the overall link between existing structures inside the metropolitan region and unstructured areas (Karaman, 1995). The socio-cultural structure, in addition to the physical structure, significantly influences the development of the urban landscape (Çelik and Yazgan, 2007). Within this framework, doing a bibliometric analysis of the research about the urban landscape notion would enable us to comprehend the evolution of the topic at hand and ascertain the potential avenues for future investigations. This study will uncover the evolution of the urban landscape, the temporal distribution of scientific studies, the primary nations where the studies are done, commonly used keywords, contributing fields, and other notable details. The objective of this study is to assess significant subjects, authors, publications, and citations in the domain of Urban Landscape in order to uncover the fundamental aspects, focus, development, and trajectory of scientific research in this field. This study is expected to enhance our comprehension of the significance of the urban landscape concept in both present times and future scientific investigations in this domain. It can serve as a

LJ University, Ahmedabad, Gujarat, India.

***Corresponding Author:** Harsh Mineshbhai Shah, LJ University, Ahmedabad, Gujarat, India, E-Mail: ar.harshshah@gmail.com

How to cite this article: Shah, H.M. (2024). A literature-based analysis of studies in urban landscape concept. *The Scientific Temper*, 15(spl-2):73-80.

Doi: 10.58414/SCIENTIFICTEMPER.2024.15.spl-2.13

Source of support: Nil

Conflict of interest: None.

valuable resource for researchers, planners, and decision-makers interested in conducting research in this field in the future.

Literature Review

Concurrently with the exponential growth of the global population, it is widely acknowledged that metropolitan areas are seeing a proportional increase in both population and physical expansion. Due to this rise, the task of establishing sustainable urban habitats is progressively more challenging. Given these challenges, it is crucial to cultivate fresh viewpoints and alternative strategies in the planning and design of cities that prioritize sustainability. The urban landscape strategy, noted for its utilization of urban ecosystems, offers numerous benefits to the metropolis (Tezgör, 2021). The urban landscape is a diverse amalgamation of structures and other regions within the city, characterized by distinct land parcels that can be differentiated based on various usage and management methods. The urban environment mirrors the structure of the city: it includes green areas within buildings, such as balconies, green roofs, and vertical gardens; green spaces near buildings, such as residential gardens, playgrounds, parks, gardens of institutional buildings, planted areas on streets and avenues, cemeteries, sports fields, and hobby gardens; and larger open green spaces, such as agricultural lands and gardens, forests, wastelands, quarries, and dunes (Braquinho et al., 2015). The urban landscape refers to the arrangement and interaction of buildings and open spaces within a city. It encompasses the diverse aspects of structures, such as their shape, size, color, and organization (Çelik & Yazgan, 2007). An urban landscape refers to a complex system that includes ecosystems influenced by natural, cultural, and social factors (Andersson, 2006). When building livable areas in urban landscape design, the city's identity is preserved and transmitted to future generations by considering both living and non-living materials, as well as the aspects that define the city (Çelik & Yazgan, 2007). Urban landscape encompasses the design, planning, and administration of constructed and open areas in cities. It considers the sustainability of the environment, aesthetics, social dynamics, cultural aspects, and economic factors. This field involves the implementation of design and organizational strategies to enhance the liveability, functionality, and attractiveness of urban areas by integrating natural and artificial elements. The urban landscape significantly contributes to safeguarding the physical and emotional well-being of individuals, as well as preserving environmental resources. According to these criteria, the urban landscape is an area that is both conceptually and practically complicated, including multiple disciplines and the range of scientific studies in this field is continuously growing.

Methodology

This study employs a bibliometric analysis to examine the research landscape on urban landscape studies from 2000 to 2024. The methodology involves several key steps, beginning with the data collection process. The data was sourced from the Scopus database, one of the most comprehensive and reliable academic databases, ensuring a broad coverage of relevant literature. A total of 4060 documents were retrieved, encompassing a variety of publication types, including journal articles, conference papers, reviews, and book chapters.

The search strategy was carefully designed to include all relevant documents within the defined time frame. Keywords such as "urban landscape," "urban planning," "urban design," "landscape ecology," and "sustainable development" were used in various combinations to capture a comprehensive dataset. The search was limited to documents published in English to maintain consistency and avoid language bias.

Following data collection, the documents were processed and analyzed using bibliometric tools. These tools facilitated the extraction of key metadata, including the number of publications per year, authorship details, journal sources, institutional affiliations, and geographic distribution of research output. The analysis also involved generating visual representations, such as keyword co-occurrence networks, author collaboration networks, and country collaboration networks, to identify patterns and trends within the field.

Quantitative indicators, such as publication counts, citation analysis, and h-indexes, were used to assess the impact and influence of specific authors, journals, and institutions. Additionally, a qualitative analysis was conducted to interpret the visual data, providing insights into the thematic evolution of the field, the emergence of new research areas, and the shifting focus of urban landscape studies over time.

This comprehensive bibliometric approach allows for a detailed exploration of the research landscape on urban landscapes, highlighting the growth, collaboration, and key contributions within the field over the past two decades.

Results

The graph illustrates the annual distribution of documents related to urban landscape research from 2000 to 2025. The data shows a steady increase in publications from 2000 through the late 2000s, with more noticeable growth starting around 2012. This period marks the beginning of a sharp upward trend that peaks between 2021 and 2023, where document counts consistently exceed 300, reaching nearly 400 in 2022. This peak suggests a surge in research interest and activity, potentially driven by the increasing

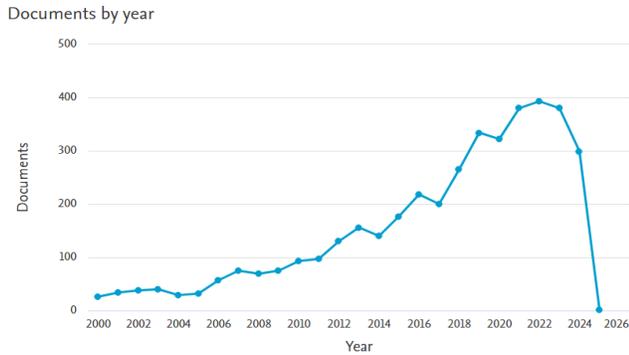


Figure 1: Document by Year

importance of urban landscapes in addressing global environmental and societal challenges.

Following this peak, there is a notable decline in the number of documents in 2024, with the total dropping significantly from the previous years. The data for 2025 shows only one document, which could indicate that the year is either still ongoing or that there is a significant drop-

Table 1: Year wise document

Year	Documents
2025	1
2024	299
2023	380
2022	393
2021	380
2020	322
2019	334
2018	265
2017	200
2016	218
2015	177
2014	140
2013	156
2012	130
2011	97
2010	93
2009	75
2008	69
2007	75
2006	57
2005	32
2004	29
2003	40
2002	38
2001	34
2000	26

off in research output, possibly due to shifting research priorities or the conclusion of major projects. This pattern reflects the evolving focus of the academic community on urban landscapes over time, highlighting periods of intense interest and production followed by a reduction in output.

A yearwise analysis of works on urban landscape studies from 2000-2025 has been done that reveals several significant trends in the subject. The quantity of publications in the discipline exhibits a progressive development throughout the years, commencing with a small output in the early 2000s. Significantly, research activity had a notable surge starting in 2013, with the number of documents consistently surpassing 100 each year thereafter. In 2022 and 2023, there was a significant academic focus on urban landscape topics, reaching its apex with the publication of 393 and 380 documents, respectively. However, in 2024, the quantity of publications will decrease to 299, indicating a potential shift in research priorities or the conclusion of significant programs. The continuing nature of 2025 and the incomplete data collecting based on the sole recorded document for that year. Collectively, the data illustrates the evolution and increasing popularity of researching urban landscapes over the past two decades.

A number of famous journals that publish articles concerning urban landscapes are included in this table, which shows the distribution of research papers among those different magazines. The database known as "Sustainability Switzerland" has a total of 220 entries, making it the most comprehensive collection of publications linked to sustainability possible. The reason for this is that it covers a lot of areas when it comes to sustainability, which is to say that it is not uncommon for there to be overlap with urban landscape challenges. It is emphasized throughout the 197 papers that comprise "Urban Ecosystems" that it plays an essential role in addressing the environmental problems that are associated with urban settings. Magazines titled "Landscape Ecology" contain 116 papers, whereas magazines titled "Landscape and Urban Planning" contain 99 papers. The primary focus of these periodicals is on the incorporation of ecological principles and ecological

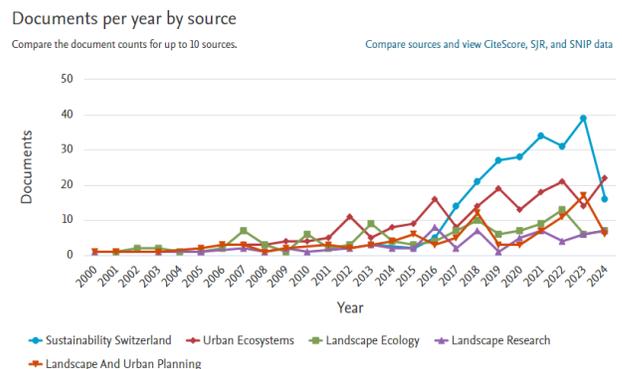


Figure 2: Documents by source

Table 2: Source wise documents

<i>Journal documents</i>	<i>Journal documents</i>
Sustainability Switzerland	220
Urban Ecosystems	197
Landscape Ecology	116
Landscape and Urban Planning	99
Landscape Research	65

Documents by author
Compare the document counts for up to 15 authors.

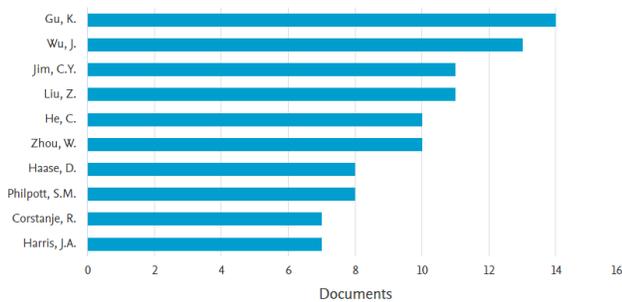


Figure 3: Documents by author

Table 3: Author wise documents

<i>Author</i>	<i>Documents</i>
Gu, K.	14
Wu, J.	13
Jim, C.Y.	11
Liu, Z.	11
He, C.	10
Zhou, W.	10
Haase, D.	8
Philpott, S.M.	8
Corstanje, R.	7
Harris, J.A.	7

Documents by country or territory
Compare the document counts for up to 15 countries/territories.

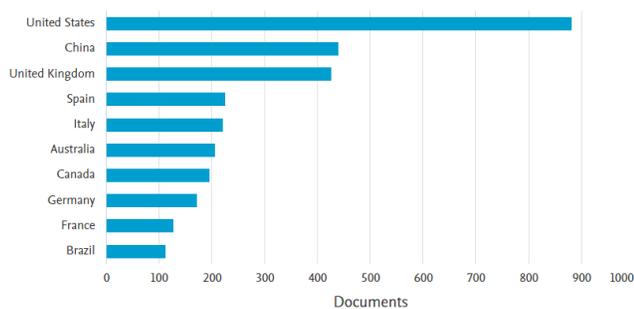


Figure 4: Documents by Country

Table 4: Country wise Documents

<i>Country/Territory</i>	<i>Documents</i>
United States	881
China	439
United Kingdom	425
Spain	225
Italy	220
Australia	206
Canada	195
Germany	171
France	126
Brazil	111
India	109

there are 65 publications that make up a more particular or concentrated collection of works that fall under the umbrella of the larger subject. Journals in the field of urban landscape studies address a wide variety of subjects, with some journals having a more specific concentration than others. This reflects the multifaceted and interwoven nature of the field as a whole.

The following figure shows the distribution of articles in the field of urban landscape research by author, with an emphasis on the output of the top ten writers in this domain. From a purely quantitative standpoint, Gu, K. has produced more articles than any other author, with Wu, J. coming in a close second. Jim, C.Y., Liu, Z., and He, C. make up the third group; they have all contributed extensively, though not quite as much as the first two writers. While Zhou and Haase do moderate work, they are well behind the top writers in terms of publication frequency. The authors with the fewest citations among the cited writers are Philpott, S.M., Corstanje, and Harris, J.A., who are either new to the field or have not published many papers in it. The distribution of their scholarly output shows that these writers have varied degrees of production, which is due to differences in research emphasis, collaboration, and involvement in the area of urban landscape studies.

A summary of the total number of publications on the topic of urban landscape that a variety of authors has written is presented in the table that can be found below. Gu, K. has made a considerable contribution to the corpus of knowledge, as evidenced by the fourteen papers that he has authored. Wu, J. has 30 research studies to his name, and he has made a significant contribution to the scientific community. Through their eleven individual publications, Jim (C.Y.) and Liu (Z.) have each made significant contributions to the field in which they work. Through the submission of 10 documents, both He, C. and Zhou, W. demonstrated the significant impact that they have had on the study of urban landscapes. With a total of 8 papers, Haase and Philpott offer a contribution that

planning methodologies into the process of urban planning. In the final category, referred to as "Landscape Research,"

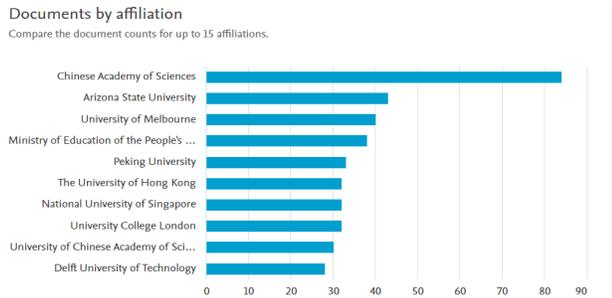


Figure 5: Documents by affiliation

is not just conspicuous but also significantly smaller than that of the primary authors. Last but not least, the seven publications that R. Corstanje and J.A. Harris contributed to the literature illustrate the significant role that they play in the literature despite the fact that it is quite minor. This distribution of document counts allows for the provision of valuable information regarding the prominence of academics in the field of urban landscape as well as the varying degrees of contribution they have made.

The table provides a comprehensive overview of research papers pertaining to urban landscape studies, categorized by nation. Its purpose is to present a holistic view of the worldwide academic contributions in this field. The United States of America's 881 records demonstrate its dominant role in the growth of the field and its status as the foremost contributor overall. China is ranked second with 439 documents, while the United Kingdom is ranked third with 425 documents, showcasing their significant academic influence. Nevertheless, India's urban landscape study exhibits a noteworthy level of interest despite its comparatively low score of 109 documents. Studies of urban landscapes have, for the most part, disregarded India; however, an increasing number of Indians are coming to recognize the significance of this topic. In order to solve the growing urbanization and environmental difficulties that India is already facing, it is possible that increased academic production will be required in the years to come. India's contributions provide a fresh perspective and valuable insights into the distinct issues of urbanization faced by developing nations. These contributions are particularly important when compared to the research output of more industrialized nations. Despite not being in the top ten, India's increasing prominence in urban landscape study is garnering global attention. With the continuous development of the country's academic and scientific infrastructure, there are opportunities for future expansion.

It also features the People's Republic of China Ministry of Education, Peking University, and The University of Hong Kong in Beijing, Peking, and the National University of Singapore, among other prestigious Asian universities. These educational institutions serve as centers for research on urban landscapes, a topic that is generating a lot of buzz

Table 5: Affiliation wise documents

Affiliation	Documents
Chinese Academy of Sciences	84
Arizona State University	43
University of Melbourne	40
Ministry of Education of the People's Republic of China	38
Peking University	33
The University of Hong Kong	32
National University of Singapore	32
University College London	32
University of Chinese Academy of Sciences	30
Delft University of Technology	28

throughout the globe. Even while this data emphasizes the enormous contributions made by institutions in the US, Australia, and China, it is worth noting that no Indian colleges are on the list of top contributors. When the total number of publications is taken into account, it is easily discernible that the study of urban landscapes is gaining an increasing amount of significance in India. In contrast to these globally acclaimed educational institutions, Indian universities still have a significant distance to cover in order to achieve recognition and match their prior level of research output. Indian academic institutions have a significant chance to allocate additional resources towards the examination of urban landscapes, thereby enhancing their international recognition. Finally, the figure shows that most of the urban landscape research institutions are located in the West or China. On a related note, this finding provides more evidence that Indian universities may increase their research activity and partnerships in order to break through in this area.

The table lists the top affiliations contributing to urban landscape research, highlighting the institutions with the highest number of published documents. The *Chinese Academy of Sciences* leads significantly with 84 documents, reflecting its prominent role in advancing research in this field. This dominance is consistent with China's increasing investment in urbanization and environmental research.

Arizona State University follows with 43 documents, indicating its strong presence in urban studies, particularly within the context of sustainability and urban ecosystems. Similarly, the *University of Melbourne* contributes 40 documents, underscoring Australia's active engagement in urban landscape research, likely driven by its unique ecological and urban challenges.

The presence of institutions such as the *Ministry of Education of the People's Republic of China* (38 documents) and *Peking University* (33 documents) further emphasizes China's substantial academic and governmental focus on urban landscape issues.

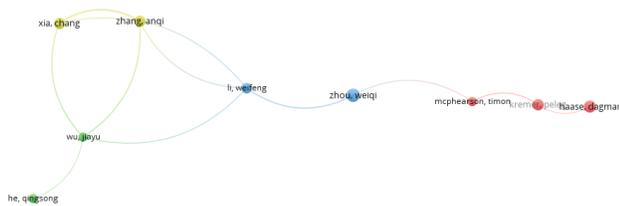


Figure 6: Collaborations in authors

Internationally, *The University of Hong Kong*, the *National University of Singapore*, and *University College London* each contribute 32 documents, reflecting a broader global interest in urban landscapes, particularly in regions facing rapid urbanization. Additionally, the *University of Chinese Academy of Sciences* and *Delft University of Technology*, with 30 and 28 documents, respectively, highlight the ongoing research efforts in both Asian and European contexts.

Overall, this distribution of research outputs across various institutions showcases a global collaboration in urban landscape studies, with a particularly strong contribution from Chinese and other Asian institutions, alongside significant input from Western universities. This diverse academic engagement is crucial for addressing the complex challenges of urban landscapes in different geographic and socio-economic contexts.

The network visualization in the figure depicts the collaborative relationships between key authors in the field of urban landscape research. The nodes represent individual authors, while the connecting lines (edges) indicate co-authorship links, with the thickness of the lines representing the strength or frequency of these collaborations.

Key Observations

Clusters of collaboration

The figure reveals distinct clusters of collaboration among authors. For example, a prominent cluster includes authors like *Xia Chang*, *Zhang Anqi*, *Wu Jiayu*, and *He Qingsong*, suggesting a close-knit research group with frequent co-authorship. This cluster likely represents a strong research team or institutional collaboration focusing on specific aspects of urban landscape studies.

Interconnected networks

- The cluster involving *Li Weifeng* and *Zhou Weiqi* acts as a bridge between the aforementioned group and another cluster featuring *McPhearson Timon*, *Kremer Peleg*, and *Haase Dagmar*. This indicates that while these authors may belong to different research groups or institutions, they collaborate on overlapping themes within the broader urban landscape field, fostering cross-institutional research efforts.

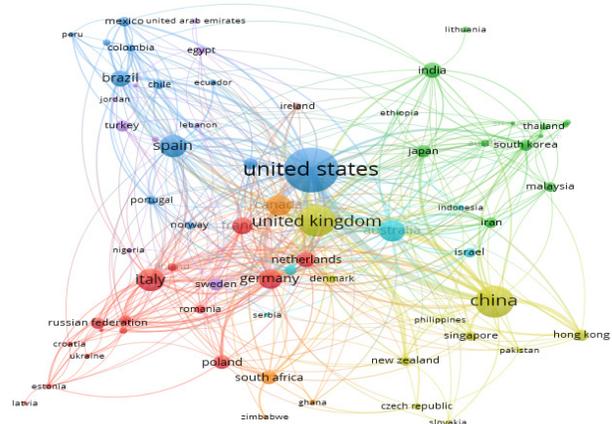


Figure 7: Collaborations in Countries

International collaboration

The presence of different clusters connected by bridging authors like *Zhou Weiqi* highlights the global nature of urban landscape research. Authors from different countries or regions are working together, contributing to a more diverse and comprehensive understanding of urban landscapes.

Central and peripheral roles

Authors like *Zhang Anqi* and *McPhearson Timon* appear to have central roles within their respective clusters, indicating that they are key contributors or leaders in their collaborative networks. In contrast, authors with fewer connections, such as *He Qingsong*, may have more specialized roles or are emerging researchers in the field.

Overall, this network visualization underscores the collaborative nature of urban landscape research, with distinct groups of researchers working closely together while also engaging in broader, cross-disciplinary partnerships. These collaborations are crucial for advancing the field, allowing for the integration of diverse perspectives and expertise.

The network visualization in the figure represents the global collaboration between countries in the field of urban landscape research. Each node corresponds to a country, and the size of the node indicates the volume of research output from that country. The lines (edges) between the nodes represent collaborative ties, with thicker lines indicating stronger or more frequent collaborations.

Key Observations

Major contributors

The *United States*, *China*, and the *United Kingdom* stand out as the largest nodes, indicating that these countries are the leading contributors to urban landscape research. The prominence of these countries underscores their pivotal roles in advancing the field through substantial research output and international collaboration.

- The green cluster centers around environmental and ecological themes, with keywords like “urban ecology,” “urbanization,” “ecosystem services,” “green infrastructure,” and “climate change.” This cluster reflects the growing emphasis on the environmental sustainability of urban landscapes.
- The purple cluster focuses on cultural and heritage-related aspects, featuring keywords like “cultural heritage,” “historic urban landscape,” and “cultural landscape.” This suggests a significant interest in preserving the historical and cultural dimensions of urban landscapes.
- The blue cluster encompasses technical and planning-related terms, such as “remote sensing,” “landscape metrics,” “land use,” and “urban resilience.” This indicates the use of advanced technologies and planning methodologies in urban landscape research.

Interconnected themes

The network shows strong interconnections between different thematic areas, suggesting that urban landscape research is highly interdisciplinary. For example, the intersection of “urban planning” with both social and environmental clusters indicates that planning practices are closely tied to addressing social equity and environmental sustainability.

Emerging and peripheral topics

Smaller nodes on the periphery of the network, such as “smart city,” “tourism,” and “urban conservation,” represent emerging or more specialized topics within the broader field. These keywords may indicate newer areas of research or more niche interests that are gaining attention.

Geographical focus

The presence of keywords like “China” and “urban landscape China” suggests that certain geographical regions, particularly China, are significant areas of study within the field. This could reflect the rapid urbanization and unique urban challenges faced by these regions.

Overall, the keyword co-occurrence network illustrates the complexity and breadth of urban landscape research. It highlights the interconnectedness of various themes, ranging from social and cultural issues to environmental sustainability and technological advancements, demonstrating the field’s multidisciplinary nature.

Conclusion

In conclusion, the bibliometric analysis of urban landscape research from 2000 to 2025 reveals significant trends and insights into the field’s development. The consistent growth in publication output, particularly from 2013 onwards, reflects an increasing academic and global focus on urban landscapes, driven by the need to address complex environmental and social challenges. Leading contributors include prominent journals, authors, and

institutions, with notable participation from countries like the United States, China, and the United Kingdom. The keyword co-occurrence and collaboration networks further underscore the interdisciplinary and international nature of urban landscape research, highlighting diverse thematic clusters and global partnerships. This evolving research landscape not only emphasizes the importance of urban landscapes in contemporary discourse but also points to the growing collaboration and innovation necessary to tackle the multifaceted issues associated with urbanization and sustainability.

Acknowledgment

The authors would like to express their sincere gratitude to _____ for providing the resources and support necessary to conduct this research. Special thanks go to _____, whose valuable insights and guidance greatly contributed to the development of this study. We also appreciate the encouragement and constructive feedback from our colleagues and peers, which helped to refine and improve the final manuscript.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this study. All research has been conducted impartially, and no financial or personal relationships have influenced the work presented in this paper.

References

- Al, U., & Coştur, R. (2007). Bibliometric profile of the Turkish Journal of Psychology. *Turkish Librarianship*, 21(2), 142-163.
- Andersson, E. (2006). Urban landscapes and sustainable cities. *Ecology and Society*, 11(1), 34. <https://doi.org/10.5751/ES-01639-110134>
- Braquinho, C., Cvejić, R., Eler, K., Gonzales, P., Haase, D., Hansen, R., Kabisch, N., Lorange Rall, E., Niemela, J., Pauleit, S., Pintar, M., Laforteza, R., Santos, A., Strohbach, M., Vierikko, K., & Železnikar, Š. (2015). A typology of urban green spaces, ecosystem provisioning services, and demands. *EU FP7 Project The Green Surge*, 9.
- Çelik, D., & Yazgan, E. M. (2007). Examination of laws and regulations regarding the protection of historical environments within the scope of urban landscape design. *Bartın Faculty of Forestry Journal*, 9(11).
- Karaman, A. (1995). Unpublished lecture notes. Mimar Sinan University, Department of City and Regional Planning, Istanbul.
- Tezgör, D. G. E. (2021). Innovative urban landscape approaches in sustainable urban development: The case of Edirne (Doctoral dissertation, Trakya University, Institute of Science, Department of Architecture).
- Ulu, S., & Akdağ, M. (2015). Bibliometric profile of peer-reviewed articles published in journals: The case of Selçuk Communication. *Selçuk Communication*, 9(1), 5-21.
- Yılmaz, G. (2017). Bibliometric analysis of articles published on tipping in restaurants. *Journal of Travel and Hotel Management*, 14(2), 65-79.