



# Interior Landscaping As A Tool for Promoting Well-Being and Air Quality in Residential Design

<sup>1</sup>OGUNNAIKE A., <sup>2</sup>ODEBIYI O.D.

<sup>1,2</sup>Department of Architecture, College of Postgraduate Studies,  
Caleb University, Imota, Lagos 104102, Nigeria

<sup>1</sup>Corresponding Author

Date of Submission: 07-07-2025

Date of Acceptance: 19-07-2025

## ABSTRACT

*This study explores the role of interior landscaping as a tool for promoting well-being and improving indoor air quality in residential design, using Fowóralé House in Lagos, Nigeria as a case study. As urban environments continue to expand, there is a growing need to integrate natural elements within residential interiors to enhance environmental and psychological health. A quantitative research method was adopted, and data were collected through structured questionnaires administered to 150 participants, including residents, architects, designers, and construction professionals. The findings reveal that interior landscaping significantly contributes to air freshness, humidity control, and indoor temperature regulation. In addition to environmental benefits, greenery within residential interiors was found to enhance occupants' mental well-being, reduce stress levels, and improve overall quality of life. Potted plants, vertical green walls, and the synergy between greenery and natural lighting emerged as the most effective and accessible design strategies. The study concludes that interior landscaping is a critical component of sustainable residential design and should be prioritized in architectural planning, particularly in urban contexts like Lagos. Recommendations include policy integration, public awareness, and further research on biophilic design in residential buildings.*

## Keywords:

Interior Landscaping, Air Quality, Well-being, Residential Design, Sustainable Architecture

## I. INTRODUCTION

In an era defined by rapid urbanization, climate change, and a heightened awareness of personal well-being, the built environment has become more than just a backdrop to human life. It plays an active role in shaping health, comfort, and overall quality of life. Nowhere is this more evident

than in the evolving design priorities of residential interiors, where the integration of nature, sustainability, and human-centric principles has moved from the periphery to the core of architectural thinking. Within this paradigm, interior landscaping, the deliberate inclusion of living plant systems and green elements inside built environments, has emerged as a dynamic tool for promoting not only visual appeal but also air quality, psychological well-being, and environmental performance in homes (Elsayyad et al., 2022; Haron & Chen, 2023; Hettiarachchi & Welagedara, 2023). Once perceived merely as decorative elements, indoor plants now represent an ecological intervention with tangible health and environmental benefits. The global pandemic amplified the need for healthy indoor environments, prompting a reevaluation of how interior spaces affect respiratory health, mental equilibrium, and sensory comfort. Consequently, interior landscaping has become a strategic component in sustainable residential design, addressing issues such as poor indoor air quality, thermal discomfort, and sensory fatigue, conditions commonly linked to sealed environments and artificial climate control systems (Da Silva et al., 2024; Yang et al., 2022). Contemporary design approaches, especially those aligned with biophilic and ecological frameworks, are increasingly leveraging vegetation not only to soften spatial aesthetics but also to remediate air pollutants, reduce noise levels, and introduce a natural rhythm into domestic life (Cao & Nadia, 2024; Ling, 2021).

Designers now approach residential landscaping as a functional layer of architecture, integrating plants in ways that enhance spatial logic, passive ventilation, and thermal regulation. From the use of green partitions and living walls that optimize airflow and zoning, to modular planter systems that support occupant interaction and flexibility, modern interiors are being curated as microclimates with self-regulating ecological processes (Kartashova & Balbekova, 2022; Sefatianingsih et al., 2024). These design solutions



often draw from passive environmental strategies, an intersection where traditional wisdom meets modern sustainability. For instance, Bardhan and Sarkar (2020) emphasize that spatial layout and vegetation placement in naturally ventilated homes significantly reduce indoor temperatures and energy use, especially in low-income settings. Such integrations promote not just energy efficiency but spatial vitality, breathing life into otherwise sterile residential environments.

The role of interior landscaping in air purification is particularly notable. Plants naturally absorb carbon dioxide, release oxygen, and can reduce volatile organic compounds (VOCs) and particulate matter in enclosed spaces. Studies reveal that even modest indoor greenery can result in measurable improvements in air quality, especially when combined with natural ventilation strategies (Azarov et al., 2023; Obeidat & Obeidat, 2022). Through transpiration, plants contribute to humidity regulation, creating a more stable and comfortable microclimate indoors. These passive benefits are crucial in dense urban regions where external air quality is often compromised and residents spend extended periods indoors.

Beyond the physiological, the psychological impact of interior landscapes is equally profound. Visual access to greenery has been associated with reduced stress, enhanced mood, increased focus, and even faster healing processes. Hettiarachchi and Welagedara (2023) demonstrated that university students living in personalized spaces with indoor plants reported higher emotional well-being, spatial satisfaction, and reduced anxiety. The presence of greenery nurtures a subtle connection to the outdoors, known as the biophilic response, providing occupants with a psychological refuge that balances the stimuli of modern life (Shamma, 2024; Haron & Chen, 2023). This is particularly valuable in urban residential contexts where access to green public spaces may be limited or inconsistent (Tóth & Vinczeová, 2025). Yet, despite the proven benefits, interior landscaping remains underutilized in many residential developments, especially in regions where architectural priorities are still driven by cost-efficiency over human wellness. In the Nigerian context, for example, the integration of green elements is often minimal or superficial, with limited attention to their environmental performance or long-term maintenance. There is an evident gap between awareness and application, one that calls for deeper investigation, design innovation, and policy advocacy (Aldungarova et al., 2023; Rupasinghe, 2024). Additionally, socio-cultural

perceptions, maintenance concerns, and technical constraints often deter homeowners and developers from adopting living systems indoors, despite their transformative potential (N.G.A. et al., 2024).

To address this disconnect, residential designers and architects must be empowered with both evidence-based strategies and localized design knowledge that align with the principles of sustainable living. As Aldungarova, Kulisz, and Baidrakhmanova (2024) argue, environmental approaches must be contextual, adaptive, and rooted in the daily realities of occupants and not just idealized design visions. From selecting appropriate plant species to determining effective spatial zoning for light, humidity, and growth, a well-implemented interior landscape demands interdisciplinary insight. When done thoughtfully, it can recalibrate the entire sensory and functional experience of the home, elevating it from a shelter to a sanctuary. In light of these realities, this study explores interior landscaping as a holistic design strategy that enhances both environmental quality and human wellness in residential architecture. It examines how green interventions within interior spaces affect air quality, thermal comfort, and psychological health, and investigates how these outcomes can inform more resilient, user-centered design practices. By synthesizing theoretical frameworks, design case studies, and environmental research, this work aims to underscore the value of interior landscaping as a vital tool in shaping future-proof residential environments.

### 1.1 AIM

To explore the role of interior landscaping in enhancing indoor air quality and promoting the psychological well-being of occupants in residential spaces, and to develop environmentally responsive and user-centered interior design strategies.

### 1.2 OBJECTIVES

1. To examine the environmental impact of interior landscaping on indoor air quality in residential buildings, including its effect on humidity, temperature regulation, and pollutant reduction.
2. To investigate the psychological and emotional benefits of interior landscaping on residential occupants, focusing on mental well-being, stress reduction, and overall quality of life.
3. To identify effective interior landscaping design strategies and techniques that can be integrated into sustainable residential design for improved occupant health and environmental performance.



## II. LITERATURE REVIEW

The evolving discourse in sustainable architecture increasingly highlights the transformative potential of interior landscaping in enhancing indoor environmental quality and promoting holistic well-being. As urban density intensifies and access to natural outdoor environments becomes constrained, the integration of greenery into interior residential spaces emerges as a key strategy for fostering healthier living environments. Interior landscaping, the strategic use of natural plant elements and green features within built spaces, serves not merely an aesthetic function but a deeply environmental and psychological one. This practice has been shown to regulate indoor air quality, moderate thermal conditions, and support emotional well-being (Elsayyad et al., 2022). It acts as a mediator between built form and nature, mitigating the disconnect many urban dwellers experience from the natural environment. Green design philosophies have long advocated for biophilic integration, and this is particularly significant in residential architecture, where occupants spend a considerable amount of time. Haron and Chen (2023) assert that sustainable interior landscape design is increasingly informed by stakeholders' environmental values and risk perceptions, underlining the socio-cognitive influences on design choices. Their study underscores the importance of aligning user needs with environmental imperatives in the pursuit of sustainable interiors. From a public health perspective, interior landscaping also plays a pivotal role in improving indoor air quality, a concern that has grown urgent amidst the challenges of climate change and increasing urban pollution. Studies confirm that plants aid in reducing indoor airborne toxins and regulating humidity levels, thereby contributing to cleaner air (Da Silva et al., 2024; Yang et al., 2022). Furthermore, Azarov, Balakin, and Aleksikov (2023) argue that both external landscaping and interior greenery directly influence the dispersion and filtration of atmospheric pollutants, demonstrating a clear link between design intervention and health outcomes.

In exploring the psychological dimension, the incorporation of greenery within residential spaces has been found to offer restorative benefits. Hettiarachchi and Welagedara (2023), in a study focusing on personalized student residences, observed that interior vegetation had a significant positive impact on mental wellness, reducing stress and enhancing mood. These findings resonate with

Shamma (2024), who emphasized that interior design has a measurable influence on perceived quality of life, particularly when it aligns with human-nature affinity. Design interventions rooted in ecological consciousness also inform interior landscaping strategies. Seftianingsih et al. (2024) propose that ecological interior design principles, those which prioritize sustainability, natural materials, and living plants, create environments that are both health-promoting and environmentally responsive. This perspective is supported by Obeidat and Obeidat (2022), who linked indoor environmental quality to behavioral outcomes, noting that residents in biophilically enriched interiors exhibited more positive behavioral patterns and emotional responses. In practical terms, interior landscaping can encompass a wide range of strategies, from vertical green walls and indoor gardens to potted plant arrangements and natural light maximization. Kartashova and Balbekova (2022) outline these approaches within the broader context of environmental design, emphasizing their adaptability across various spatial and cultural contexts. The inclusion of natural elements such as stone, wood, and water features also contributes to a sensory-rich environment that nurtures well-being (Ling, 2021). Furthermore, the role of interior landscaping is particularly relevant in the context of low-carbon and low-income housing solutions. Bardhan and Sarkar (2020) advocate for design frameworks that incorporate passive ventilation and indoor vegetation to reduce energy demand and support thermal comfort, especially in resource-constrained settings. Their findings offer practical design routes for integrating greenery in cost-effective ways, suggesting that interior landscaping need not be exclusive to luxury developments.

Cao and Nadia (2024) also champion the application of green interior design principles within the context of low-carbon living, arguing that aesthetic minimalism, plant inclusion, and material recycling form the basis of sustainable residential design. This stance is echoed by Rupasinghe (2024), who highlights how the reduction of hazardous materials in interiors and the use of sustainable resources can significantly contribute to both environmental safety and user comfort. From a planning and design standpoint, Tóth and Vinczeová (2025) present a compelling case for viewing green elements not just as decoration, but as integral to spatial organization and ecosystem service provision in collective housing. Their insights bridge the gap between urban green spaces and interior design, indicating that residential well-being is a continuum extending from the landscape outside to the



arrangement inside. Additionally, studies like that of Obeidat and Obeidat (2024) reinforce the assertion that residential interiors should be deliberately crafted to reflect a healthy lifestyle. Elements such as indoor greenery, cross-ventilation, and natural lighting coalesce to form environments that support psychological comfort and social harmony.

The spatial logic of landscape integration is further dissected by Aldungarova, Kulisz, and Baidrakhmanova (2024), who examine environmental design approaches in modern residential architecture. They contend that thoughtful interior landscaping fosters microclimatic regulation and visual coherence, aligning architectural aesthetics with ecological performance. This aligns with Aldungarova et al. (2023), who identify green interventions as essential in the environmental adaptation of high-density housing complexes. Contemporary trends also reflect a cultural and experiential shift in how residents interact with their spaces. Shmelov and Burchak (2022) explore the evolution of interior design, noting a transition from stylistic emphasis to functionally driven, eco-conscious interiors. In this new paradigm, landscaping elements are not optional additions but fundamental to the narrative of sustainable living. Vakhnichenko (2024) extends the conversation to multi-apartment developments, highlighting how shared and private green spaces enhance residents' collective well-being. Here, interior landscaping becomes part of a broader design framework that considers community cohesion, sensory engagement, and long-term sustainability.

The importance of understanding occupant preferences and design expectations is equally critical. Yazgi (2021) proposes using methodologies like the "House of Quality" to align landscape design requirements with user desires, thereby

enhancing the relevance and impact of interior landscaping strategies. Finally, the conceptual foundations of interiorscaping have been comprehensively reviewed by N.G.A. et al. (2024), who categorize plant-based interventions as a naturalization process. They emphasize the symbiotic relationship between humans and nature, positing that even small-scale greenery efforts have cumulative health and psychological benefits when applied consistently in interior spaces. Across multiple disciplines and research fronts, interior landscaping has consistently emerged as a viable and impactful strategy for enhancing air quality and supporting psychological well-being in residential design. From the purification of air to the stimulation of mental clarity and emotional balance, green interventions demonstrate their value not only in function but in form. As the architecture and construction sectors pivot toward more sustainable paradigms, the integration of interior landscaping, rooted in ecological awareness and human-centric design, becomes not just advisable but essential.

### III. METHODOLOGY

This study adopts a quantitative research approach, using structured questionnaires as the sole method of data collection. The primary objective is to investigate the contribution of interior landscaping to air quality and the psychological well-being of occupants in residential settings. Data will be gathered from a range of participants, including residents of Fowóralé House in Lagos (the selected case study), as well as professionals such as architects, interior designers, construction workers, and sustainability consultants who are knowledgeable about residential interior design and construction.



Figure 1 and 2: Fowóralé House / Oshinowo Studio; Source: [https://www.archdaily.com/947396/foworale-house-cmdesign-atelier?ad\\_source=search&ad\\_medium=projects\\_tab](https://www.archdaily.com/947396/foworale-house-cmdesign-atelier?ad_source=search&ad_medium=projects_tab)



The questionnaire will include both closed-ended Likert-scale questions for quantifiable analysis and open-ended questions to capture nuanced perspectives. To determine an appropriate sample size, Cochran's formula for infinite populations was applied. The formula is expressed as:

$$n_0 = (Z^2 \times p \times q) / e^2$$

Where:

$n_0$  is the sample size,

$Z$  is the Z-score at a 95% confidence level (1.96),

$p$  is the estimated proportion of the population (0.5),

$q$  is  $1 - p$  (also 0.5), and

$e$  is the margin of error (0.08).

Substituting the values:

$$n_0 = (1.96^2 \times 0.5 \times 0.5) / 0.08^2 = (3.8416 \times 0.25) / 0.0064 \approx 150.06$$

Thus, a minimum of 150 respondents will be targeted for the study. A purposive sampling technique will be employed to ensure that only individuals with relevant residential experience or professional insight into interior landscaping are selected. The collected data will be analyzed using descriptive statistics to identify patterns in the perceived effects of interior landscaping on air quality and psychological well-being. The data collected through the structured questionnaires will be analyzed using descriptive statistical methods.

Responses from closed-ended questions, particularly those utilizing Likert scales, will be coded and entered into SPSS to generate frequencies, percentages, means, and standard deviations. These measures will help identify patterns and trends in participants' perceptions of indoor air quality and psychological well-being in relation to the presence of interior landscaping features. For open-ended responses, a simple thematic analysis will be conducted to extract key themes and recurring insights that support or contrast with the quantitative findings. The combined analysis will provide a comprehensive understanding of the role interior landscaping plays in enhancing residential environments, based on feedback from both occupants and professionals in the built environment sector.

#### IV. RESULTS AND DISCUSSION

##### 4.1 Socio-Demographic Profile of Respondents

A total of 150 valid responses were collected from residents, architects, interior designers, and construction professionals affiliated with Fowóralé House. The respondents varied in age, professional background, and length of exposure to the residential building.

Variable	Frequency (n)	Percentage (%)
<b>Gender</b>		
Male	72	48.0
Female	78	52.0
<b>Occupation</b>		
Resident	92	61.3
Architect/Designer	26	17.3
Construction Worker	18	12.0
Sustainability Expert	14	9.3

##### Objective 1: Environmental Impact of Interior Landscaping on Indoor Air Quality

Respondents were asked to rate their perceptions of air quality features influenced by interior landscaping using a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

**Table 1: Descriptive Statistics – Air Quality Perceptions**

Item	Mean	Std. Dev.
Indoor plants improve air freshness	4.32	0.71
Interior greenery helps in regulating humidity levels	4.05	0.88
Presence of plants reduces airborne pollutants	3.91	0.95
Landscaping contributes to better temperature regulation indoors	4.10	0.80

##### Interpretation:

The mean scores indicate strong agreement across all items. Most respondents agreed that interior landscaping



positively affects air freshness ( $M = 4.32$ ) and helps regulate indoor temperature and humidity. This aligns with findings from Azarov et al. (2023) and Da Silva et al. (2024), who reported measurable improvements in indoor air quality due to natural elements.

### Objective 2: Psychological and Emotional Benefits of Interior Landscaping

This section explored respondents' perceptions of how greenery impacts mental health, stress, and quality of life.

**Table 2: Descriptive Statistics – Psychological and Emotional Well-being**

Item	Mean	Std. Dev.
I feel calmer when surrounded by plants indoors	4.40	0.63
Interior greenery helps reduce stress and mental fatigue	4.28	0.74
Living with indoor plants improves my mood and happiness	4.36	0.69
Green spaces inside the home enhance my overall quality of life	4.30	0.67

#### Interpretation:

Results show a high level of agreement on the psychological benefits of interior landscaping. The calming effect of greenery ( $M = 4.40$ ) and mood enhancement ( $M = 4.36$ ) received particularly strong responses. These findings support previous studies by Hettiarachchi & Welagedara (2023) and Shamma (2024), affirming that green environments promote emotional stability and satisfaction in residential settings.

### Objective 3: Effective Design Strategies for Sustainable Interior Landscaping

Respondents were presented with various design strategies and asked to rate their effectiveness.

**Table 3: Preferred Interior Landscaping Strategies**

Strategy	Frequency (n)	Percentage (%)
Potted plants	135	90.0
Vertical green walls	96	64.0
Use of natural ventilation and lighting synergy	114	76.0
Hanging gardens / ceiling-mounted greenery	71	47.3
Integration of recycled and low-emission materials	88	58.7

**Table 4: Descriptive Statistics – Perceived Effectiveness of Strategies**

Item	Mean	Std. Dev.
The use of indoor plants is a practical sustainable solution	4.45	0.60
Combining natural light with greenery improves indoor environments	4.48	0.55
Vertical green walls enhance both aesthetics and functionality	4.22	0.70
Incorporating greenery improves indoor microclimate	4.31	0.65



### Interpretation:

Respondents favored simple and cost-effective strategies such as potted plants (90%) and the synergy between greenery and natural lighting (76%). The most highly rated item ( $M = 4.48$ ) underscores the effectiveness of integrating plants with daylighting strategies, aligning with insights from Ling (2021), Seftianingsih et al. (2024), and Cao & Nadia (2024)

### 4.5 Summary of Findings

1. Interior landscaping significantly contributes to enhanced indoor air quality, particularly in terms of air freshness, humidity control, and thermal regulation.
2. It also offers measurable psychological benefits, with high scores on emotional calmness, stress relief, and overall well-being.
3. Potted plants, vertical greenery, and natural lighting integration are the most favored and effective strategies for sustainable interior landscaping.

These findings confirm that interior landscaping is not merely decorative but serves as a functional, health-promoting design element in modern residential architecture, especially in climates and urban conditions such as those in Lagos, Nigeria.

## V. CONCLUSION AND RECOMMENDATION

### 5.1 Conclusion

This study set out to examine the environmental and psychological impact of interior landscaping in residential buildings, using Fowóralé House in Lagos, Nigeria, as a case study. The findings indicate that interior landscaping plays a significant role in improving indoor air quality, specifically by enhancing air freshness, regulating humidity levels, and contributing to thermal comfort. These environmental benefits, in turn, support healthier living conditions and contribute to a more sustainable residential design framework.

In addition to environmental performance, the study also highlighted the psychological and emotional benefits of incorporating greenery within residential interiors. Respondents consistently reported positive effects such as stress reduction, improved mood, emotional calmness, and an overall enhanced quality of life, affirming the human need for connection with nature, even within built environments.

Moreover, the study identified effective design strategies that balance aesthetic appeal with sustainability. Potted plants, vertical green walls, and the integration of natural light with greenery

were identified as the most accessible and impactful approaches. These strategies not only elevate environmental quality but also contribute to the long-term well-being of occupants.

Collectively, the findings underscore the relevance of interior landscaping as a multi-functional tool in residential architecture, serving environmental, psychological, and design purposes. In a dense, fast-paced urban setting like Lagos, such interventions are not merely desirable but essential for creating healthier, human-centered living spaces.

### 5.2 Recommendations

Based on the results of this study, the following recommendations are proposed for designers, developers, homeowners, and policymakers:

#### 1. Integrate Greenery into Early Design Phases

Architects and interior designers should incorporate interior landscaping elements from the conceptual design stage rather than as afterthoughts. This allows for better spatial planning and ensures that green features contribute effectively to air flow, light penetration, and thermal performance.

#### 2. Promote Low-Maintenance and Cost-Effective Strategies

For wider adoption, potted plants and modular vertical gardens should be encouraged, especially in moderate-income residential developments. These options require minimal structural alteration and maintenance while still offering measurable health and environmental benefits.

#### 3. Combine Greenery with Natural Lighting and Ventilation

Where possible, design strategies should take advantage of cross-ventilation and natural lighting to enhance the environmental performance of indoor plants and reduce dependence on artificial systems.

#### 4. Educate Residents and Stakeholders on Biophilic Design

Awareness campaigns or user guides should be developed to help residents understand the care, placement, and benefits of interior landscaping, particularly in multi-resident housing systems where shared responsibility may be required.

#### 5. Adopt Interior Landscaping Guidelines into Green Building Codes

Policy makers and urban development agencies should consider incorporating interior landscaping benchmarks into existing environmental rating systems and building codes to foster healthier indoor environments across urban Nigeria.

#### 6. Further Research and Post-Occupancy Evaluation



Future research should include long-term post-occupancy evaluations to track the physiological and environmental metrics of indoor landscaping, including air quality monitoring and mental health indicators, across diverse residential typologies.

### REFERENCES

- [1]. Aldungarova, A., Kornilova, A., Kulisz, M., & Baidrakhmanova, M. (2023). METHODS OF APPLYING THE ENVIRONMENTAL APPROACH IN ARCHITECTURAL DESIGN IN MODERN RESIDENTIAL COMPLEXES. *Bulletin of Kazakh Leading Academy of Architecture and Construction*. <https://doi.org/10.51488/1680-080x/2023.4-01>.
- [2]. Aldungarova, A., Kulisz, M., & Baidrakhmanova, M. (2024). METHODS OF APPLYING THE ENVIRONMENTAL APPROACH IN ARCHITECTURAL DESIGN IN MODERN RESIDENTIAL COMPLEXES. *Bulletin D. Serikbayev of EKTU*. [https://doi.org/10.51885/1561-4212\\_2024\\_1\\_70](https://doi.org/10.51885/1561-4212_2024_1_70).
- [3]. Azarov, V., Balakin, V., & Aleksikov, S. (2023). Ensuring the quality of atmospheric air on main streets and in residential buildings by means of planning and landscaping. *Hygiene and sanitation*. <https://doi.org/10.47470/0016-9900-2023-102-7-639-647>.
- [4]. Bardhan, R., & Sarkar, A. (2020). Optimal interior design for naturally ventilated low-income housing: a design-route for environmental quality and cooling energy saving. *Advances in Building Energy Research*, 14, 494 - 526. <https://doi.org/10.1080/17512549.2019.1626764>.
- [5]. Cao, Y., & Nadia, B. (2024). Exploring the Research of Green Residential Interior Design under the Concept of Low Carbon. *Frontiers Research of Architecture and Engineering*. <https://doi.org/10.26549/rae.v7i2.19487>.
- [6]. Coppell, S. (2023). Natural Richness. <https://doi.org/10.26686/wgtn.24224095>.
- [7]. Da Silva, M., Broday, E., Bueno, A., & Niza, I. (2024). Air quality and ventilation: Exploring solutions for healthy and sustainable urban environments in times of climate change. *Results in Engineering*. <https://doi.org/10.1016/j.rineng.2024.103157>.
- [8]. Elsayyad, N., Elgizawi, L., & Mohamed, A. (2022). Interior Landscape Techniques and Its Contribution to The Interior Places Environmentally. *MEJ. Mansoura Engineering Journal*. <https://doi.org/10.21608/bfemu.2022.268322>.
- [9]. Haron, S., & Chen, C. (2023). The Influence of Multistakeholder Value Cognition and Risk Attitudes on Sustainable Interior Landscape Design Decisions. *Sustainability*. <https://doi.org/10.3390/su15032743>.
- [10]. Hettiarachchi, A., & Welagedara, H. (2023). A study on the impact of greenery in building interiors on the psychological well-being of occupants: an experimental study with special reference to Personalized Residential Spaces of University Students in Sri Lanka. 16th International Research Conference - FARU 2023. <https://doi.org/10.31705/faru.2023.19>.
- [11]. Kartashova, N., & Balbekova, N. (2022). LANDSCAPING INTERIORS. Materials of the international youth scientific school-conference "Reproduction, monitoring and protection of natural, natural-anthropogenic and anthropogenic landscapes". [https://doi.org/10.34220/rmpnnaal2021\\_148-152](https://doi.org/10.34220/rmpnnaal2021_148-152).
- [12]. Ling, J. (2021). The Application of Natural Elements in Interior Landscape Design and its Principal Analysis. *Journal of Architectural Research and Development*. <https://doi.org/10.26689/jard.v5i5.2514>.
- [13]. N.G.A., K., S., B., D., T., A., G., S., P., & P., S. (2024). A Review on Interiorscaping: Naturalizing Interiors. *Journal of Scientific Research and Reports*. <https://doi.org/10.9734/jsrr/2024/v30i72150>.
- [14]. Obeidat, A., & Obeidat, A. (2024). Interior Design Strategies for Improving Quality of Life: How Can Residential Spaces Reflect a Healthy Lifestyle and Psychological Comfort. *International Journal for Housing Science and Its Applications*. <https://doi.org/10.70517/ijhsa4547>.
- [15]. Obeidat, I., & Obeidat, S. (2022). Indoor Environmental Quality in Sustainable Interior Design and It is Impact on Individual's Behavior in Residential Environment. 2022 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems (ICETISIS), 144-153. <https://doi.org/10.1109/ICETISIS55481.2022.9888881>.
- [16]. Rupasinghe, K. (2024). Designing an interior space of residence using recycling and sustainable materials and reduce the impact of hazardous materials. *Sustainability, Agri*



- Food and Environmental Research-  
DISCONTINUED.  
<https://doi.org/10.7770/safer-v12n2-art463>.
- [17]. Seftianingsih, D., Paradita, D., Ticoalu, E., Rifai, D., & Rafia, I. (2024). Designing an Interior Residential House with an Ecological Concept Approach (Friendly Environment). ICEETE Conference Series. <https://doi.org/10.36728/iceete.v2i1.215>.
- [18]. Shamma, H. (2024). The Relation Between Quality of Life and Interior Design of the Residence. Journal of Design Sciences and Applied Arts. <https://doi.org/10.21608/jdsaa.2023.221516.1313>.
- [19]. Shmelov, V., & Burchak, I. (2022). MODERN TRENDS IN RESIDENTIAL INTERIOR DESIGN. Theory and practice of design. <https://doi.org/10.32782/2415-8151.2022.26.16>.
- [20]. Tóth, A., & Vinczeová, Z. (2025). Urban Green Spaces and Collective Housing: Spatial Patterns and Ecosystem Services for Sustainable Residential Development. Sustainability. <https://doi.org/10.3390/su17062538>.
- [21]. Vakhnichenko, O. (2024). LANDSCAPE DESIGN IN THE STRUCTURE OF MULTI-APARTMENT RESIDENTIAL DEVELOPMENT. Regional problems of architecture and urban planning. <https://doi.org/10.31650/2707-403x-2024-18-315-321>.
- [22]. Yang, S., Mahecha, S., Moreno, S., & Licina, D. (2022). Integration of Indoor Air Quality Prediction into Healthy Building Design. Sustainability. <https://doi.org/10.3390/su14137890>.
- [23]. Yazgi, A. (2021). House of quality: a method to identify landscape design requirements. Construction Innovation. <https://doi.org/10.1108/CI-02-2020-0031>.