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Research paper

THE IMPORTANCE OF GREEN SPACES IN MODERN RESIDENTIAL DEVELOPMENT: ANALYSIS OF GREENERY IN MULTI-FAMILY HOUSING AREAS IN NIŠ

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Abstract

Focusing on their existence and purpose in multi-family housing complexes, this study analyzes the significance of green spaces in urban environments, using the city of Niš as a critical case. Niš has experienced a continuous decline in green areas due to rapid urbanization and weak planning enforcement, which has negatively impacted residents. The lack of greenery causes numerous problems, including the urban heat island effect, poor air quality, and reduced community recreation spaces. It also addresses the challenges of implementing and maintaining greenery, emphasizing how investors frequently prioritize short-term financial gains over long-term environmental and social benefits. The methodology involves a review of relevant literature, an examination of successful international practices, an analysis of urban planning documents related to Niš, field observation, and an assessment of public institutions. This approach helps identify key factors shaping the presence and quality of green spaces in residential zones. It examines how urbanization in Niš, favoring building density over greenery, has resulted in insufficient integration of green infrastructure in new residential developments. Based on examples from abroad, such as Denmark's Green Mapping and the Netherlands' Operation Steenbreek, the paper proposes strategies for increasing and preserving green spaces in urban neighborhoods. These international models offer adaptable principles with potential for application in the context of urban planning in Niš. Finally, a comparative analysis of planning standards, supported by a mathematical evaluation of green space requirements and reflections on policy implications for Niš, reinforces the conclusion that policy interventions, stricter regulation, and community engagement are urgently needed. The findings underscore the importance of long-term environmental strategies, community involvement, and effective urban design to preserve and enhance green areas in residential zones, particularly in response to ongoing environmental degradation and worsening air quality in Niš.

Key words: *green spaces, multi-family housing, modern residential development, Urban planning, city of Niš, sustainable urban development*

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1. INTRODUCTION

With more than half of the world's population now living in cities, urbanization is recognized as one of the main themes of the twenty-first century, resulting in increased urban growth, environmental pressures, and a growing demand for sustainable solutions [1]. Due to population growth and ecological degradation, environmental concerns must be a priority in urban planning. Schumacher highlighted the risk of consuming environmental capital at a rate that exceeds nature's capacity to regenerate, thus threatening essential life support systems (E.F.Schumacher). In this sense, a city's environmental impact is greatly influenced by the way it is designed and function. Energy use in construction, transportation, and infrastructure contributes directly to environmental strain. Therefore, integrating sustainable practices into urban design is not optional but essential. As urban environments become increasingly dense and complex, the role of green spaces has expanded far beyond their traditional association with aesthetics and recreation. Multifunctional green networks in cities serve essential roles by offering leisure, visual appeal, and ecological benefits such as biodiversity support, stormwater management, and improved air and water quality. They also promote social cohesion, provide space for outdoor learning and local transport, and enhance property values and urban resilience. [2]. In response to these challenges, the integration of green spaces, trees, and environmentally conscious design within urban landscapes has gained increasing attention as a comprehensive strategy to enhance the sustainability of cities.

In the context of the city of Niš, the existing distribution and availability of green spaces expose several challenges. Protective greenery and forested land make up the majority of the total green area, indicating a small percentage of parks and public recreation areas. Moreover, the spatial distribution of green areas across the municipalities within Niš is markedly uneven, leading to disparities in access to urban nature among residents. The planning and construction of new multi-family housing units often neglect the integration of adequate green infrastructure, which undermines both environmental and social sustainability in rapidly urbanizing neighborhoods. In the sections that follow, a number of spatial analyses and chosen case studies will be used to further examine this situation, which is far from satisfactory.

This paper focuses on the present state and spatial distribution of green areas in the city of Niš, with particular emphasis on the availability and quality of greenery within newly developed multi-family residential blocks. The research investigates how green spaces are addressed in local urban planning documents, identifying both the regulatory requirements for minimum green coverage and the extent to which these provisions are implemented in practice. Additionally, selected examples of best practices from European cities are examined in order to highlight the environmental, social, and functional benefits of well-designed and systematically integrated green infrastructure. The methodology combines a review of relevant literature on the importance of urban green spaces with an analysis of spatial planning documents, as well as a comparative assessment of existing conditions in Niš. Through this comparative analysis, the study explores the potential for adapting and implementing foreign planning principles in the local context, taking into account the city's unique spatial, regulatory, and socio-economic limitations.The main aim of this research is to identify strategic solutions for improving the existing state of urban greenery in Niš. By evaluating the present situation and drawing insights from international examples, the paper seeks to support more sustainable and inclusive urban development, while also emphasizing

the ecological risks associated with continued neglect of green space planning in residential environments.

2. SIGNIFICANCE OF URBAN GREEN SPACES FOR RESIDENTS AND THEIR IMPACT ON THE ENVIRONMENT

The process of urbanization has significantly transformed the cityscape, leading to a reduction in green areas, an expansion of impervious surfaces, and alterations in urban microclimates [3]. In response to the growing demands of sustainable development, particularly within urban planning and the Architecture, Engineering, and Construction (AEC) sector, increasing emphasis is being placed on strategies such as the net-zero carbon approach and the Circular Economy model, both of which highlight the importance of urban green spaces in shaping resilient and sustainable cities [4].

Promoting awareness of the ecological, aesthetic, and economic values of green spaces supports the broader implementation of this concept in urban planning practices. The World Health Organization (WHO) recognizes the availability of green space as a public health indicator for sustainable cities and recommends a minimum of 9 square meters of green area per capita within a 15-minute walking radius [5].

In the following sections, the multifaceted significance of urban green spaces will be explored through their diverse roles within the urban environment:

- **Air quality**: Because of their role as natural air filters, trees and other vegetation in urban green spaces greatly improve air quality. By absorbing harmful pollutants such as particulate matter (PM), nitrogen dioxide (NO_2), carbon monoxide (CO), ozone (O_3), and carbon dioxide (CO_2), and by releasing oxygen into the atmosphere, they help mitigate the adverse effects of urban air pollution. In addition, plants absorb toxic gases released from motor vehicle exhausts and industrial emissions, including sulphur dioxide (SO_2) and nitrogen oxides (NO_x), which are major contributors to urban smog and respiratory illnesses. In cities, pollution can take many different forms, such as solid particles, liquid droplets, and gases, and it is frequently accompanied by loud noises. The ability of urban greenery to reduce these pollutants, and even noise to some extent, is particularly relevant in densely populated environments where exposure to such conditions poses significant risks to human health, especially among vulnerable groups such as children and the elderly [6] [7].
- **Biodiversity**: Urban development rarely accounts for the ecosystems it replaces, often disrupting or even destroying them entirely. In this context, even in multi-family residential settings, urban green spaces are essential for preserving and improving biodiversity. These areas offer habitats for various plant and insect species, as well as for birds that have adapted to urban conditions. Green spaces support vital ecosystem services like pollination, water filtration, and soil stabilization by promoting urban biodiversity, and act as ecological corridors that enable species movement between fragmented areas, maintaining genetic exchange crucial for long-term resilience. However, integrating well-designed and connected green infrastructure, such as courtyards, greenways, and small-scale community gardens, can help counteract these effects and also serve as buffers between urban and natural systems. A functional green network, particularly one

composed of locally adapted and low-maintenance plant species, is key to enhancing ecological stability [8].

- **Urban heat islands**: The urban heat island effect, which occurs when cities have higher temperatures than neighboring rural areas because of the concentration of heat-absorbing materials and sparse vegetation, can be minimized partly by urban green space. Vegetation contributes to cooling through several complementary processes, including evapotranspiration, reflection of solar radiation, and shading. Through evapotranspiration, plants release water vapor into the atmosphere, using solar energy to convert water into vapor instead of heating the surrounding air, which helps lower ambient temperatures. Trees provide shade that limits solar penetration, reducing both the accumulation of heat on urban surfaces and the indoor heat gain in buildings, thereby decreasing the demand for artificial cooling and lowering energy use and waste heat emissions. In densely built areas, such as compact residential blocks in central urban zones, where sealed surfaces dominate and passive cooling is limited, these natural cooling mechanisms are especially valuable. By integrating greenery into such environments, cities not only alleviate heat stress and improve thermal comfort, but also contribute to strengthening overall ecological resilience [8] [9] [10].
- **Health benefits**: Urban greenery supports human health by encouraging physical activity, reducing the risk of cardiovascular disease, and contributing to lower stress and anxiety levels. Studies have shown a positive link between access to high-quality green spaces and increased physical activity, which directly supports heart health and lowers obesity risk. In particular, older adults can benefit from small-scale maintenance tasks or shared gardening in multi-family housing complexes, which not only improve mobility, strengthen muscles, and cardiovascular health but also foster social interaction and a sense of purpose. Mental health improves in green environments, where time in nature reduces stress and anxiety symptoms. Green spaces provide a peaceful and healing atmosphere that helps neutralize the stresses of noise, crowding, and rapid city life, even in densely populated urban neighborhoods. Although the relationship between urban greenery and allergies remains inconclusive, findings consistently support the idea that more intense and meaningful contact with natural spaces contributes to improved physical and psychological health [7] [11].
- **Social Interaction and mental well-being**: It has long been recognized that contact with nature has restorative effects, and numerous studies document the mental health benefits of green spaces. This reaction is often explained by the biophilia hypothesis, which suggests a natural human tendency to connect with nature. It causes a parasympathetic nervous system reaction that promotes relaxation. For example, a study in the United Kingdom using wearable electroencephalography (EEG) devices demonstrated how a short walk in a green space positively influenced brain activity associated with relaxation and restoration. Social interactions are important for mental health. A recent study in the Netherlands found a strong connection between the quantity and quality of greenery and perceived social cohesion, characterized by trust, shared norms, and a sense of belonging. The concept of "sense of place" and "place identity," shaped by both social and natural environments, further highlights the importance

of green spaces in fostering community ties. However, it's important to recognize that green spaces will only promote positive social and mental outcomes if they are perceived as safe and inviting, as proper management and maintenance are essential to ensure they remain conducive to social interactions. Residents in greener areas report less stress, stronger social ties, and greater well-being [6] [11].

- **Economic and Aesthetic Benefits**: Residential developments that incorporate well-designed greenery are significantly more attractive to potential buyers and investors. Aesthetic landscaping enhances the visual appeal of urban areas, increases property value, and contributes to a more pleasant and comfortable living environment. In addition to visual benefits, strategically placed vegetation can also reduce energy costs, making green design both desirable and economically efficient [8] [12].

Well planned and maintained green spaces enhance residential appeal, reduce environmental stress, and support social well-being and economic value. As cities face increasing challenges such as pollution and urban congestion, particularly in Niš, greater focus must be placed on integrating, managing, and monitoring greenery as a key component of urban development.

3. ANALYSIS OF GREEN SPACE PRESENCE IN MULTI-FAMILY HOUSING ZONES IN NIŠ

The actual condition on the ground frequently diverges from the planned project documentation, and the maintenance of existing green areas remains at an unsatisfactory level. As housing demand in the city center continues to rise, single-family homes are increasingly being replaced by small-scale multi-family buildings. These developments are typically carried out independently by individual investors, without coordination or the possibility for integrated planning of larger green areas. The transformation of single-family house plots into new residential buildings often occurs without adequate adaptation of supporting infrastructure or traffic systems. Even in cases where urban plans anticipate green spaces, the resulting open areas are minimal due to the limitations of small plots and the high cost of developing larger residential complexes. As a result, most private investors opt for smaller multi-family buildings that can fit within existing parcels. Furthermore, instead of restoring or enhancing existing green areas, infill construction [13] is increasingly occurring within previously planned residential blocks dating back to the socialist era, which were originally designed with generous green and open spaces.

This trend significantly reduces the amount of available greenery in areas that were once characterized by well-integrated communal outdoor environments. As a consequence, internal block greenery is often converted into construction land, leaving each resident with only 1.2 m² of green space, far below the defined urban planning standards of 20 to 40 m² per capita for urban areas and 9 to 13 m² per capita in residential zones [14].

3.1. Review of green space regulations in general urban plans of Niš

An analysis of general urban plans reveals that greenery within multi-family housing blocks is typically addressed only through the prescription of a minimum green surface

percentage per building plot. In the municipality of Medijana, the section titled *Building Rules* originally stipulates that at least 10% of a plot must be covered by green areas. However, the third amendments to the regulation introduce a more detailed approach, requiring that a minimum of 25% of the plot be designated as green space, of which 10% must be in direct contact with the ground.

The term green space is broadened to include several categories: one tree counts as 5.0 m² of green area; 50% of vegetated roof surfaces, green facades, and greenery above underground levels are included; while ground-level greenery is counted in full.

A similar revision was adopted in later amendments to the general plan for the municipality of Palilula, where the initially prescribed 10% green coverage was increased to 25%, following the same calculation principles as in Medijana. Across various plan phases in other municipalities, different thresholds are defined. For example, phase 3 of both Palilula and Crveni Krst requires 15% green coverage, while phases 1 and 2 of Crveni Krst demand 10%. In Palilula phase 2, the required percentage depends on the density: 10% for high-density and 15% for medium-density areas. In Pantelej, phase 1 prescribes 20% for high-density and 10% for medium-density zones, while phase 2 uniformly requires 15%.

These phases correspond to the proximity to the city center—phase 1 covers central urban areas, while phase 3 refers to peripheral or suburban zones, which reflects a spatial differentiation in green space planning priorities [15].

Notably, none of the examined plans provide clear mechanisms for the qualitative evaluation or long-term maintenance of green infrastructure, which may limit their effectiveness in achieving sustainable urban development goals.

3.2. Comparative analysis of older and new housing blocks in the municipalities of Medijana and Pantelej

The Monitoring Unit of the City of Niš conducted a comparative analysis of green space presence in both older and newly developed housing blocks within the municipalities of Pantelej and Medijana, aiming to identify shifts in the treatment of greenery over time.

In the case of Pantelej, 190 parcels representing older blocks were surveyed. These parcels collectively covered an area of 141,878 square meters, of which 78,079.88 square meters or 55.03 percent was recorded as green space. With 3,938 residential units in total and an estimated average household size of three persons, the total population was approximated at 11,814. This results in 6.61 square meters of green space per resident, falling short of the recommended 9 square meters per capita standard for residential areas. By contrast, the situation in newer blocks proved to be even more unfavorable, with only 9.33 percent of the total area allocated to green space. A total of 58 parcels, occupying 155,649 square meters, were analyzed, of which only 14,530.23 square meters was designated as green space. Using the same population estimation methodology, the calculated population was 12,705, resulting in just 1.14 square meters of green space per resident. An additional notable finding is the dramatic increase in the number of parking spaces, with 1,001 in older blocks compared to 2,437 in newer ones. Given that the total surface area of the old and new blocks is relatively similar, the data suggests a substantial portion of land has been allocated for parking, which appears to be a more economically attractive option for developers than green space, as parking units can be sold for profit.

In Medijana, 267 parcels forming older housing blocks were surveyed. These encompassed a total area of 848,725 square meters, with green space accounting for

291,242.20 square meters or 38.62 percent of the total. The estimated population for this area was 80,375, leading to a green space provision of 3.62 square meters per resident. Again, newer developments exhibit a marked decline in green area allocation. Analyzed data from 253 newer parcels covering 190,155 square meters shows that only 7,575.43 square meters or 3.98 percent consists of green space. Based on a projected population of 22,149, this results in a critically low ratio of just 0.34 square meters of green space per resident [16].

3.3. Review of residential buildings constructed in Niš in 2023 with emphasis on green space provision

The Republic Urban Planning Inspectorate carried out a field inspection in three cities in southern Serbia, one of which was the city of Niš. The inspection included all residential buildings designed for long-term occupancy, classified under categories B and V, that received occupancy permits in 2023. A total of 24 buildings were examined to determine the most frequent deviations from the established construction and site development regulations. These buildings are located in the municipalities of Medijana, Palilula, and Pantelej.

The built conditions were assessed in relation to regulatory standards concerning green space provision, parking availability, accessibility, intended function, and architectural appearance, as defined in the respective technical documentation. This study focuses particularly on identifying discrepancies between the planned and the realized conditions. The evaluation was based on site visits and visual observation. Among the parameters analyzed, the greatest deviations were noted in the area of green space provision, suggesting a widespread failure to meet the planned landscaping requirements.

Figure 2. Overview of Green Space Presence at 6 Residential Building Sites in Niš, source: Republic Urban Planning Inspectorate and author

As illustrated in the figures, the majority of observed sites are dominated by paved and concreted surfaces, while green areas are either minimal in size or entirely absent. In many cases, greenery is limited to narrow strips along the parcel boundaries, seemingly included only to formally meet planning requirements rather than to serve any meaningful purpose for residents. Such greenery is often perceived as highly unfunctional and contributes little to the overall quality of the space.

Moreover, even where green areas do exist, they are frequently neglected and poorly maintained, which further diminishes their potential environmental and social benefits. Unfortunately, only three examples were identified in which greenery was both properly designed and implemented in accordance with the approved plans, thereby demonstrating that well-planned and functional green space is achievable within contemporary residential development. However, in one of these rare cases, the greenery was fenced off, with restricted access for residents, raising concerns about the inclusiveness and actual usability of such spaces.

This discrepancy between planning documentation and execution suggests not only weak enforcement mechanisms, but also a prevailing prioritization of economic gain over the creation of livable and sustainable urban environments.

Table 1. Green Area Provision per Location: Planned vs. Actual Implementation

Location Number	Total Plot Area (m^2)	BCR (%)	Story Count	Planned Green Area (m^2)[3]	Realized Green Space
Location 1	652	59.4	G+4	65.5	0
Location 2	389	50	G+3	48.34	0
Location 3	783	49	G+6	88	0
Location 4	506	54.43	G+3	54	About 30%
Location 5	4555	42.95	G+6	568.75 (12.48%)	All green spaces were implemented during the first phase, as the remaining phases are still under construction
Location 6	584	60	G+3	65	65
Location 7	415	53.9	G+3	10%	Approximately 2 m² was not implemented
Location 8	340	48	G+3	11%	About 50%
Location 9	469	52.8	G+3	46.95	Approximately 5 m² was not implemented

The first part of this paper addressed the importance of green spaces and highlighted how, even at the planning stage, the amount of greenery allocated in urban development projects is generally insufficient. However, the field inspection reveals that even these limited green areas, as prescribed by planning documents, are often not implemented on site.

Overall, the situation in newly constructed residential areas is unsatisfactory, with a clear tendency to prioritize short-term financial gain over long-term quality of life for residents. This finding underscores the need for stronger monitoring and enforcement mechanisms to ensure that even minimal planning standards for greenery are actually realized in practice [17].

[3] If greenery in the project is indicated only as a percentage, it is recorded in the table accordingly.

4. PROPOSALS FOR IMPROVING THE EXISTING SITUATION IN THE CITY OF NIŠ

4.1. Integrating green spaces in urban planning: The role of Denmark's green map

In Denmark, the Green Denmark Map (Grønt Danmarkskort) is a key tool for preserving natural spaces and connecting larger ecological areas. It includes layers like the Biodiversity Map, which highlights habitats of endangered species, aiding municipalities in designating protected areas. Local authorities are responsible for incorporating these areas into planning, aligning with regional, national, and international goals.

The Green Map not only maps existing green spaces but also identifies potential areas for urbanization and ecological protection. This enables local authorities to integrate green corridors into urban development, enhancing sustainability and quality of life. While the Planning Act provides a framework, local governments make specific decisions on green space planning.

The system is vital for residential blocks, encouraging the integration of nature into urban life. Although the Planning Act does not directly address green spaces within residential blocks, the Green Map promotes their inclusion in new developments and revitalization projects. Projects like Aalborg's “good yards” illustrate how green solutions, such as rain gardens and green roofs, create multifunctional spaces that address environmental challenges and provide public recreational areas [18].

4.2. Greening paved residential areas: Education, participation, and social equity in operation Steenbreek in the Netherlands

In urban areas of the Netherlands, approximately 60% of private gardens are paved, contributing to biodiversity loss, poor water retention, and increased heat stress. Operation Steenbreek, established in 2015, aims to reverse this trend by encouraging citizens to replace pavement with vegetation. The initiative highlights the importance of education in promoting behavioral change and environmental awareness, particularly in residential settings where collective action can lead to visible improvements. Steenbreek functions as a national platform, bringing together municipalities, environmental NGOs, the Dutch state forest agency (Staatsbosbeheer), water boards, and provinces. While the foundation develops knowledge and communication strategies, municipalities implement local activities and engage directly with residents. Educational outreach is central to Steenbreek’s strategy. During the nationally coordinated Garden Week, municipalities and local partners organize workshops, neighborhood events, and symbolic actions like “tile-for-plant” exchanges. These activities inform citizens and foster social interaction, particularly in multi-family housing complexes.

Socioeconomic disparities influence access to and quality of urban greenery. Wealthier neighborhoods typically benefit from larger, biodiverse gardens, while disadvantaged areas often lack both green infrastructure and opportunities for contact with nature. This inequality particularly affects children, who are most likely to engage with nature in their immediate living environment. Thus, greening efforts in residential blocks contribute not only to ecological sustainability but also to environmental justice and social cohesion.

Operation Steenbreek shows how small garden changes can enhance biodiversity, climate resilience, and well-being. In residential areas, particularly in housing blocks where garden spaces are often limited in area and shared among residents, such interventions can be effectively advanced through a combination of education, municipal leadership, and active citizen participation [19].

Figure 3. Garden transformation: before and after greening, source: [19]

5. DISCUSSION AND CONCLUSION

In urban planning, the allocation of green spaces is essential for maintaining a healthy living environment. This section presents a mathematical model to evaluate whether 10% of a plot dedicated to green space is sufficient per resident in typical residential settings. The model assumes 50% plot coverage and a G+3 building height, reflecting common planning standards and maximizing permitted density, while remaining within the legal framework for open and green space provision.

5.1. Mathematical analysis of green space requirements

Assumptions and Initial Conditions:

Plot size: Let the total plot area be denoted by A (in square meters).

- The building plan occupies 50% of the plot, so the area of the building footprint (Ab) is:

$$\mathrm{Ab} = 0.5\mathrm{A} \tag{1}$$

- Green space allocation (Ag): 10% of the plot is designated for green spaces, so the area of green space is:

$$\mathrm{Ag} = 0.1\mathrm{A} \tag{2}$$

- Building structure: The building has 4 levels (including the ground floor and three additional stories).
- Average living space per resident: The average living space per resident is 20 m².
- Required green space per resident: It is assumed that each resident requires 9 m² of green space.

Mathematical Formulation:

1. Total residential area:

Since the building has 4 levels, the total residential floor area (Ares) is:

$$\mathrm{Ares} = 4 \times \mathrm{Ab} = 2\mathrm{A} \tag{3}$$

2. Number of residents:

The number of residents N is calculated by dividing the total residential area by the average living space per resident:

$$\mathrm{N} = \frac{\mathrm{Ares}}{20} = \frac{2\mathrm{A}}{20} = 0.1\mathrm{A} \quad (4)$$

3. Green space per resident (G):

The green area available per resident is:

$$\mathrm{G} = \frac{\mathrm{Ag}}{\mathrm{N}} = \frac{0.1\mathrm{A}}{0.1\mathrm{A}} = \frac{0.1}{0.1} = 1\mathrm{m}^2 \quad (5)$$

The model shows that allocating 10% of the plot area to green space results in approximately 1 m² of green space per resident (as shown in equation (5)). This amount is significantly lower than the required 9 m² per resident, indicating that 10% green space allocation is insufficient for maintaining a healthy and sustainable living environment.

This analysis clearly demonstrates that, in typical urban development scenarios, the proposed green space allocation does not meet the minimum requirements for residents. This finding highlights the need for increased green space in residential areas to support both environmental and health standards.

5.2. Concluding reflections

An integral part of sustainable residential development is the improvement of urban green spaces. In the face of climate change, rising urban temperatures and declining air quality, greenery in multi-family housing areas contributes to environmental balance, supports biodiversity, and enhances both physical and mental well-being. These spaces absorb carbon dioxide, help regulate temperature, improve air quality, and promote social interaction, ultimately increasing the quality of life in urban settings.

The analysis of residential blocks in Niš reveals a noticeable decline in greenery, especially when comparing older blocks with newer ones. While the older developments tend to have more generous green areas, newer ones often lack adequate planning for vegetation, despite the opportunity to do so. This is especially evident in a decline in ecological benefits and a reduction in tree coverage. Although minimum biologically active areas are formally required, enforcement is inconsistent and often insufficient. Furthermore, the lack of harmonized standards and effective monitoring tools makes it difficult to track the condition and development of urban greenery, while existing strategies often remain unimplemented. Strengthening monitoring and encouraging practical initiatives are key steps forward.

While European cities increasingly adopt integrated strategies to expand and preserve urban greenery, Niš continues to face challenges in both planning and implementation. What is especially concerning is that even in newly developed neighborhoods, where there is potential to plan and allocate green areas more effectively, green spaces are frequently overlooked. Improving this situation requires more than just better urban policies. Educational programs and active community involvement are essential for building a shared sense of responsibility for urban greenery. Citizens need to understand their role in addressing climate change, while decision makers should recognize that investing in green infrastructure is an investment in public health, environmental stability, and long term urban sustainability. If cities are to remain livable for future generations, maintaining and increasing urban greenery is imperative.

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