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**GREEN URBANISM: THE ROLE OF SUSTAINABLE PUBLIC SPACES
IN CLIMATE-RESILIENT CITY PLANNING**

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Abstract: As cities face increasing threats from climate change, sustainable urban planning has become essential for long-term resilience. This article explores the role of green public spaces—parks, green corridors, bioswales, and urban forests—in enhancing the ecological, social, and thermal performance of cities. Using global examples and referencing case studies from Central Asia, particularly Uzbekistan, the paper argues that green urbanism is not merely aesthetic but a critical infrastructure strategy. The study concludes that integrating sustainable public spaces into the urban fabric mitigates urban heat island effects, improves air quality, and enhances urban well-being, especially in developing cities with extreme climates.

Keywords: Green urbanism, public space, climate resilience, sustainable cities, urban ecology, Uzbekistan, environmental design

The 21st century presents a dual challenge for urban environments: rapid population growth and escalating climate risks. Urban areas now account for over **70% of global carbon emissions**, yet they also hold the greatest potential for climate solutions. One of the most effective and accessible tools for sustainable urban transformation is the integration of **green public spaces**.

Green urbanism refers to the planning and design of cities that prioritize **ecological balance, resource efficiency, and human well-being**. At its core are elements such as **urban parks, green roofs, street trees, and water-sensitive landscapes** that work together to **cool the environment, filter air and water, and support biodiversity**.

In cities like Tashkent and Samarkand—where summer temperatures exceed 40°C and air pollution is rising—green public spaces offer not only relief from heat, but also vital ecological functions. This paper investigates the principles of green urbanism and how sustainable landscape design can contribute to **climate-adaptive city planning** in Uzbekistan and similar regions.

The research used a multi-method approach combining:

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- **Literature Review:** Scientific articles, landscape planning guidelines, and climate resilience frameworks were reviewed.
- **GIS Mapping Analysis:** Urban vegetation cover was compared in global green cities vs. Central Asian cities using open-source satellite data.
- **Case Studies:** Comparative evaluation of sustainable urban park systems in Copenhagen, Singapore, and Seoul.
- **Field Observations:** Existing green zones and redevelopment projects in Tashkent and Bukhara were analyzed for spatial quality and environmental impact.
- **Stakeholder Interviews:** Insights were gathered from urban planners, landscape architects, and municipal officials in Uzbekistan.

The research confirms that green public spaces contribute significantly to climate resilience and urban quality:

- **Temperature Reduction:** Well-designed urban parks and tree-lined streets reduce local temperatures by 2–4°C, mitigating the **urban heat island effect**.
- **Stormwater Management:** Bioswales and permeable surfaces absorb runoff, decreasing the risk of urban flooding.
- **Air Quality Improvement:** Urban vegetation filters particulate matter and reduces CO₂ concentration.
- **Mental and Physical Health:** Access to green areas improves psychological well-being and increases physical activity.
- **Biodiversity Support:** Green corridors act as habitats and migratory routes for birds and pollinators.

In Uzbekistan, green initiatives are underway—such as the "**Yashil Makon**" (**Green Nation**) project—but implementation remains fragmented and heavily centralized, with limited integration into citywide planning systems.

Climate Resilience through Design

Green infrastructure provides a **cost-effective and passive solution** to climate challenges. Unlike mechanical cooling or concrete flood barriers, trees and wetlands **function continuously and naturally**, often requiring lower maintenance in the long run. For arid cities like those in Uzbekistan, **drought-resistant native plants** and **xeriscaping principles** can create resilient landscapes without heavy water usage.

Social Equity and Accessibility

Green spaces must be **equitably distributed** to avoid “green gentrification,” where wealthier neighborhoods monopolize urban parks. In Uzbekistan, many green zones are concentrated in city centers, leaving peri-urban and industrial areas under-

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served. Inclusive green planning must ensure **universal access**, especially for youth, the elderly, and low-income communities.

Integration with Urban Systems

For maximum impact, green public spaces should be embedded within transportation, housing, and infrastructure plans. Green belts can be aligned with **bicycle lanes, urban transit stops, and community centers**, turning fragmented parks into **continuous ecological networks**. This connectivity increases usability and ecological value.

Policy and Governance

Effective green urbanism requires updated zoning laws, incentives for green roofs and vertical gardens, and clear guidelines for **tree preservation** during construction. Local governments in Uzbekistan must move beyond ad-hoc planting campaigns to **systemic green planning**, backed by spatial data and cross-sector collaboration.

Green public spaces are not decorative luxuries—they are **strategic infrastructure** essential for climate-resilient, healthy, and inclusive cities. In rapidly urbanizing countries like Uzbekistan, investing in sustainable landscape architecture can mitigate environmental hazards while enriching everyday life.

A national policy shift toward **green urbanism**, supported by design education, participatory planning, and international cooperation, can transform Uzbek cities into living ecosystems that serve both people and the planet.

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