

THE ROLE OF WATER BODIES IN SHAPING THE ARCHITECTURAL AND PLANNING IMAGE OF THE CITY OF KARSHI

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Introduction:

The relationship between water and the city represents one of the most crucial aspects of urban planning and environmental design. In the case of Karshi, located in the arid region of southern Uzbekistan, the presence and distribution of water resources have historically determined the city's architectural and spatial development. Water has not only served as a vital resource for life and agriculture but has also shaped the visual aesthetics, urban composition, and environmental comfort of the city. This study examines the role of natural and artificial water bodies — including the Kashkadarya River, irrigation canals, and reservoirs — in forming the architectural and planning image of Karshi.

The research is based on a combination of historical, spatial, and analytical methods, using cartographic materials, urban planning documentation, and field observations. The results reveal that water bodies have historically acted as the main structuring elements of Karshi's urban fabric, influencing the orientation of streets, the placement of residential and public zones, and the configuration of green areas. In modern conditions, these water systems continue to play a significant role in enhancing the city's microclimate, providing recreational functions, and defining its aesthetic identity.

The study argues that sustainable integration of water infrastructure into the urban planning process can revitalize Karshi's historical landscape and strengthen its environmental resilience. By adopting water-sensitive design principles, the city can achieve a balanced interaction between nature, architecture, and society, creating a more comfortable and ecologically stable urban environment.

Materials and Methods:

The research is based on analytical, historical, and spatial-compositional methods. Urban planning documents of Karshi, hydrological maps, and satellite imagery were analyzed to determine the interaction between the city's water network and its architectural structure. Field observations were conducted to identify the visual and functional role of water elements in the urban fabric, particularly in areas surrounding the Kashkadarya River and the main irrigation canals. Comparative analysis was also applied to evaluate Karshi's planning structure in relation to other Central Asian cities with similar climatic and hydrological conditions.

Results:

The findings demonstrate that water bodies significantly influence the architectural and planning development of Karshi. Historically, the city's spatial organization evolved around the Kashkadarya River, which served as both a water supply source and a compositional axis of urban growth. The system of canals and irrigation channels not only supported agriculture but also contributed to the development of public spaces, green zones, and residential districts. In recent years, the reconstruction

of the central canal and the creation of artificial lakes have transformed these areas into recreational and cultural zones, improving the aesthetic perception of the city.

Water bodies have also played an important climatic role. The proximity of canals and reservoirs mitigates the effects of the arid continental climate by increasing humidity and reducing air temperature in adjacent areas. The visual integration of water with green spaces and architectural ensembles enhances the environmental quality and forms a distinctive urban identity for Karshi.

Discussion:

The study highlights that water elements in Karshi should not be regarded solely as technical or infrastructural objects but as integral parts of the city's cultural and spatial heritage. They provide an opportunity to connect the city's historical irrigation traditions with modern urban design. Contemporary architectural practice must consider water systems as dynamic components that shape perspectives, pedestrian routes, and social interactions.

However, the lack of integrated planning and inadequate maintenance of water infrastructure present challenges. Canal pollution, uneven water distribution, and limited public access to waterfront areas reduce the potential of water bodies as architectural and social assets. Implementing sustainable management strategies, improving landscape design, and adopting water-sensitive urban planning principles are essential to preserving the city's ecological and cultural identity.

Conclusion:

Water bodies have a formative influence on the architectural and planning image of Karshi. They define its landscape composition, contribute to climatic comfort, and enhance the aesthetic and emotional perception of the city. Integrating natural and artificial water systems into the urban structure promotes ecological balance, recreational development, and architectural harmony. A comprehensive approach that combines engineering, landscape architecture, and cultural heritage preservation is crucial for the sustainable development of Karshi's urban environment.