

# Urban Planning Solutions for the Ecological Development of Central Asian Cities

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## Abstract

The population growth of Central Asian cities is accompanied by the renewal and modernization of urban space. The ecological well-being and comfort of residents on their territory depends on the presence of natural components. The inclusion of elements of nature in the urban landscape increases the level of comfort of human life and its historical connection with the natural environment.

**Key words:** sustainable development of human settlements, ecopolis, , urban environment, comfort level, urban policy, ecologization of cities, ekonomikorayon.

Urban ecology is a special field of scientific and design-creative activities in architecture. The formation of this area in the XXI century due to the development of relations of social ecology, with the territories and constructive possibilities of urban development, the introduction of urban planning theory and practice of system-ecological, architectural and bionic and landscape approaches, the development of the basic concepts, methodological approaches and design concepts. The subject of urban ecology - architectural and planning regularities of regulation of interaction between man, the anthropogenic and the natural environment, the object - the urban environment, the goal - the creation of favorable conditions for the protection, reproduction and eco-evolution of the population, nature and architecture.

The modern stage of the development of urban ecology is characterized by the crystallization of its sections, the leading role of socio-ecological approach in the process of integration of environmental and urban planning concepts and basic methodological approaches (landscape-ecological, architectural-ecological, system-ecological), intensive introduction of environmental and urban planning principles in the practice of designing settlements and their systems. In the conditions of crisis state of ecology of settlements, degradation of ecosystem, destabilization of population reproduction process, ecological-urban planning activity acquires a new direction connected with providing of transition of urban planning objects to sustainable development and further movement to noosphere form of existence.

The concept of sustainable and noosphere development corresponds to the socio-ecological approach to urban ecology, fills the principles of this approach with actual content, contributes to the development of new principles and methods of architectural design. At the same time urban ecology as a branch of architecture and applied discipline of social ecology can help to clarify and implement the strategy of movement of settlements along the path of sustainable development, the removal of contradictions in the conceptual provisions of this strategy (sustainability - myth and reality; sustainability makes with unsteadiness the dynamics of environmental development, etc.). The main principles of the new direction of urban ecology are noosphere orientation, consistency and integration of criteria, environmental and urban structuring, optimization and harmonization.

Movement along the path of sustainable and noosphere development should be based on ecological

and urban planning laws of environment formation such as:

1. socio-ecological conditionality of urban planning activity;
2. architecturally-planned coordination of self-organization and management in development of city environment;
3. architecturally-planned harmony of ecological and economical conditions;
4. ecologo-planning harmonization of environment.

Social-ecological approach, basic concepts, principles and laws of urban ecology determine theoretical and methodological basis of modern design the core of which is ecological and urban planning concept of sustainable and noosphere development of human settlements and their systems. The concept contains five interconnected "blocks":

1. "Target benchmarks";
2. "Environmental quality indicators";
3. "Basic Aspect Principles";
4. "Complex principles and laws";
5. "Basic implementation mechanisms".

In accordance with the stages of transition of settlements to sustainable development and further movement to noosphere, as well as the order of implementation of architectural and planning solutions in the work proposed a model of dynamic environmental and urban planning design environment in the current crisis socio-environmental conditions. It includes the stages of design, called: "Surviving City", "Sustainable City" and "Noosphere City". The content of the stages is determined by the theoretical and methodological foundations of urban ecology.

The main provisions of modern urban ecology is confirmed by the real urban planning practice. Karakalpak region is indicative in this regard. Its intensive industrial development has led to the state of ecological disaster of many settlements and landscape complexes of the region. Ecological and socio-economic crisis, especially acute in the cities of the region in the early 1990s, determined the need for active participation of urban planners in the search for ways out of this situation. Ensuring the sustainable development of settlements as a new direction of environmental and urban planning is today the only strategy that provides a comprehensive and balanced solution of environmental, economic, historical, cultural, regulatory and legal problems of architectural and planning organization of the environment. From the position of this strategy, the paper considers the historical and architectural foundations of urban ecology in other regions and the features of integrated environmental and urban planning design of settlements.

The analysis of the regional experience of urban planning regulation of the interaction of man, nature and architecture shows the concrete possibilities of implementation of the idea of transition of the Aral Sea region settlements to sustainable development and the movement to a reasonably organized environment. These opportunities are contained in the historical experience of formation of urban ensembles as the highest achievement of architectural creativity, implementation of the concepts of "garden city" and "industrial city", "ecopolis" and "technopolis"; in modern trends of identification and organization of unique historical territories, design and creation in nature of new environmentally and economically sustainable urban areas, complexes and structures; in developing regional programs and search projects of transition to sustainable development; in improving method Widespread implementation of the newest complex direction in modern practice will allow to consider the Aral Sea region as a kind of experimental territory of sustainable development.

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