



**O‘ZBEKISTON RESPUBLIKASI OLIY TA‘LIM, FAN VA
INNOVATSIYALAR VAZIRLIGI ABU RAYHON BERUNY
NOMIDAGI URGANCH DAVLAT UNIVERSITETI**

**“QURILISH VA ARHITEKTURA SOHASIDAGI INNOVATSION
G‘OYALAR, INTEGRATSIYA VA TEJAMKORLIK”**

**УРГЕНЧСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
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**РЕСПУБЛИКАНСКАЯ
НАУЧНО-ПРАКТИЧЕСКАЯ КОНФЕРЕНЦИЯ
«ИННОВАЦИОННЫЕ ИДЕИ, ИНТЕГРАЦИЯ
И ЭКОНОМИКА В ОБЛАСТИ
СТРОИТЕЛЬСТВА И АРХИТЕКТУРЫ»**

**IN THE NAME OF
ABU RAYHAN BERUNI
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AND ECONOMY IN THE FIELD OF
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ECOLOGICAL CHALLENGES AND THEIR SOLUTIONS IN SUSTAINABLE URBAN DEVELOPMENT

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Annotation

This article examines the role of the environmental factor in the development of urban areas and its impact on city improvement. It also highlights effective approaches to creating a favorable ecological environment in urban territories, identifies the main barriers hindering the progress of urban landscaping, and presents practical recommendations for achieving an environmentally sustainable and healthy urban setting.

Keywords

Environmental factor, sustainable development, urban improvement, landscaping, greening, material potential of the territory, historical and cultural heritage, modern transport and engineering infrastructure.

Introduction

In the modern world, special attention is being paid to the issues of sustainable development and urban improvement. This process primarily concerns developing countries that are entering the era of mass urbanization. The process of sustainable development can significantly increase productivity and the standard of living; however, it may also generate environmental and other risks, which could partly negate the achieved positive outcomes.

Many states with emerging market economies are already striving toward sustainable development, that is, toward achieving economic growth that ensures an improved quality of life without causing damage to the environment and natural resources.

The main principles that must be taken into account during the design process to ensure sustainable territorial development include: construction of energy-efficient buildings and structures using energy-saving technologies; utilization of environmentally friendly and safe local materials; optimization of resource consumption; minimization of waste generation, along with recycling and secondary use; reduction of dependence on private automobiles and encouragement of alternative modes of transport.

In modern conditions, ensuring the sustainable development and improvement of urban areas requires consideration of four groups of factors: ecological, urban planning, economic, and social. However, all these factors are closely interrelated and together express a unified principle of ecological integration in territories, production, urban planning identity, as well as in the fields of education and science. Therefore, research in this field should primarily focus on the principles and directions of environmentally sustainable development of urban areas.

In this regard, special attention should be paid to the positive impact of street vegetation on the urban ecological environment, the main types and characteristics of urban plants, the problems associated with urban greening, and possible solutions. As a result of large-scale construction processes in major cities, areas covered with vegetation are significantly decreasing compared to small towns or rural settlements.

Modern life demonstrates that people's practical activities aimed at achieving maximum comfort in living conditions are gradually causing changes in the ecological state of large cities. For example, the widespread use of heating and cooling equipment has a negative impact on the technical condition of buildings. Since buildings constitute an integral part of the urban structure, this situation leads to the overall deterioration of ecological indicators and, consequently, economic indicators as well.

The main advantages of planting trees in cities include the reduction of harmful substance concentrations in urban air, the contribution of urban trees to maintaining stable building temperatures, the restoration of ecological balance, the preservation of

necessary humidity levels in the air, the reduction of noise along highways and busy streets, as well as the enhancement of the city's aesthetic appeal. However, in many cases, city authorities and certain officials responsible for landscaping do not pay sufficient attention to tree planting and the current state of urban greening. As a result, some urban areas remain completely without greenery, which worsens the ecological situation and leads to the deterioration of the technical condition of buildings. From this, it can be emphasized that the development of landscaping in cities is often significantly influenced by the human factor.

Greening is only one of the components of urban landscaping development. The effectiveness of implementing an urban development strategy also depends on the activities of local self-government bodies. Their work should be aimed at creating the necessary conditions and implementing specific measures to achieve the strategic objectives of urban development and landscaping [1]. Municipal authorities should pay attention to this issue by establishing specialized organizations, supporting volunteer initiatives, and promoting other relevant actions.

In addition to greening, other important factors must also be considered to ensure the improvement of urban areas. For example, an excessive proportion of impermeable surfaces leads to disruption of the hydrological regime and soil erosion. Furthermore, the construction of energy-efficient buildings using environmentally friendly and recycled materials, the balance between urbanized and natural areas, and other critical aspects affecting the ecological state of cities should also be taken into account [2].

In general, an integrated urban development program is characterized by a system of objectives, the primary aim of which is to design measures for achieving the established directions of urban growth. As a result, it is expected to significantly improve the quality of life of the population, ensure its contribution to addressing national and interregional challenges, as well as fulfill the tasks arising from the accepted system of territorial division of labor.

The formation of a comprehensive strategy for the socio-economic development of cities is based on the following key principles: goal-orientation, complexity, efficiency, social priority, consistency, manageability, and transparency.

Thus, the transition toward the improvement and sustainable development of urban areas is possible only under certain conditions: increasing urban employment, promoting alternative forms of employment, reducing the income gap between rural and urban populations, enhancing the availability of social and production infrastructure, and creating optimal conditions for residential and economic activities.

At present, the steady growth of the world's population is being observed, which entails specific consequences for cities and directly affects the ecological situation: scarcity of water resources, soil and air pollution, large-scale deforestation, and the increase in industrial waste generated by human activities.

In addition, several other issues of critical importance for modern society are becoming increasingly urgent: depletion of energy resources, loss of biological diversity, and disruption of ecosystem stability [3].

However, a significant contradiction exists worldwide that directly affects the implementation of the main directions of urban improvement policies. On the one hand, there is an urgent need to protect the environment from the destructive consequences of human activity and technogenic impacts. On the other hand, a number of factors hinder the effective integrated development and improvement of urban areas [4].

In many regions, active measures are being implemented to improve urban management, particularly in the areas of landscaping and greening. Landscaping, and especially greening, is considered one of the priority directions of regional economic activities. It is precisely in this sector that conditions are created to ensure a high standard of living and a modern lifestyle for the population.

The health-oriented component of landscaping is aimed at optimizing and regulating the microclimate of the region. The recreational component focuses on addressing the needs of the population for leisure and relaxation, in particular through

greening initiatives. Cities that are aesthetically attractive not only draw tourists but also attract new labor resources, which in turn brings economic benefits for both urban and national development.

To achieve the necessary level of efficiency in the fields of landscaping, greening, and ecological-economic security, it is essential to establish an integrated and reliable system of quantitative assessment, along with forecasts of economic losses caused by human intervention in the natural environment. In this context, economic damage represents the monetary expression of the actual or potential harm inflicted upon the urban environment.

The assessment of economic damage is carried out through mathematical calculations, in which the losses caused by all adversely affected objects are summed together. The mechanism of damage follows a relatively simple scheme and includes the following stages: the generation of harmful substances as a result of human economic activities; the introduction of these substances into the environment; subsequent changes in the environmental state due to these factors; deterioration of environmental conditions leading to a decline in living and production standards; and, as a result, the aggravation of the overall economic situation in both the city and the country.

Today, the issue of unfavorable environmental conditions is regarded as an acute problem not only in developing cities but also in developed countries.

Urban improvement is significantly influenced by a number of important urban planning indicators. First and foremost, among them is the territorial material potential. Typically, such potential has been accumulated and shaped within territories over centuries, sometimes even millennia. The most fundamental manifestation of this potential is natural resources, which are characterized by climatic conditions, relief, water resources, ecological state, flora, and fauna.

Another equally important component of territorial material potential is the historical and cultural heritage, including archaeological, historical, and architectural monuments, which often define the uniqueness of a territory. The potential of

historical and cultural heritage is expressed through its diversity, uniqueness, and the degree of preservation. Moreover, material potential is also characterized by the integrity and harmony of the environment in which natural and historical-cultural heritage sites are located.

Equally important for territorial development is human resource potential, that is, the availability of qualified specialists in the required fields and the functioning of educational institutions capable of preparing new professionals at a high level of quality. Another major urban planning indicator is the presence of modern transport and engineering infrastructure. Even large investors are generally unable to independently create airports, metropolitan transport networks, or essential engineering systems within their territories. Therefore, national and local authorities must develop and implement programs to provide high-quality infrastructure for tourist and recreational areas.

The material and socio-cultural characteristics of territories can be significantly enhanced by forming a harmonious and comfortable environment. This requires not only the presence of “attractive” objects for tourism development but also a properly planned and structured urban space. To prevent problems during the process of urban development, municipal governments and political institutions must devote particular attention to environmental policy and urban improvement, as this area is inextricably linked with the economic framework.

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O‘ZBEKISTON SHAHARLARIDA ZAMONAVIY AVTOBEKATLARNI LOYIHALASH

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Annotatsiya

Ushbu maqolada O‘zbekiston shaharlarida zamonaviy avtobekatlarni loyihalash masalalari yoritilgan. Avtobekatlarning shahar transport tizimidagi ahamiyati, loyihalash tamoyillari va zamonaviy texnologiyalarni joriy etish tajribasi tahlil qilingan. Shuningdek, bekatlarning funksional qulayligi, xavfsizligi va milliy me‘moriy qiyofasi bilan uyg‘unligi masalalari ko‘rib chiqilgan.

Аннотация

В статье рассматриваются вопросы проектирования современных автовокзалов в городах Узбекистана. Анализируется значение автовокзалов в транспортной системе города, принципы проектирования и опыт внедрения современных технологий. Особое внимание уделено вопросам функционального удобства, безопасности и гармонии с национальным архитектурным обликом.

Abstract

This article examines the issues of designing modern bus stations in the cities of Uzbekistan. The study analyzes the role of bus stations in the urban transport system, design principles, and the implementation of modern technologies. Special attention is given to functionality, safety, and integration with the national architectural identity.