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## CRITICAL LOOK AT MODERN TENDENCIES OF URBAN LANDSCAPING AND PLANTING

*Zaitsev A.D., Koptseva E.M.*

FSBEI of HE «Saint-Petersburg State University»,  
*e-mail: anton.seitz@yandex.ru, ekoptseva@hotmail.com*

The concept of sustainable development of urban environment provides for a harmonious combination of all components: development, transport networks, landscaping, etc. Traditionally, the objects of green landscaping were trees and shrubs, planted on streets, squares, boulevards and other urban areas. However, for the modern megapolis, the following features are typical: densification, increase in traffic, modernization of road network, abundance of expanded networks of underground communications. As a result, green plantations are subjected to a colossal pressure, which leads to their dying out and impossibility to fulfill an adequate replacement planting.

As a result of the above listed aspects, a number of trends have emerged in the modern landscaping of urban environment, providing for replacement of full-fledged tree and shrub vegetation with mixborders, flower beds, street and vertical greenery modules, planting on roofs and parking spaces. Do the new trends have undeniable advantages over classical landscaping, and if so, is it rational to plan places for green plantations in areas of modern construction?

Despite the fact that the total leaf area index can be higher with the use of new methods of landscaping, the benefits for stabilizing and improving conditions of urban environment is very disputable, since such architectural solutions use mainly herbaceous plants that do not form any vast crown spaces. The crown of trees and shrubs is an entirely different environment, with great aerodynamic and acoustic resistance, greater ability to trap and precipitate micro-dust pollution and providing habitat for urban fauna representatives. In addition, alleys, boulevards and squares can have combined functions: protective, for example, noise-resistant and recreational.

Active development of urban underground space reduces the room that could be used by root systems, making it impossible to plant trees and shrubs. One option to solve this problem is modular greening of streets, when vegetation is planted in containers. On the one hand, this method has many advantages: it vacates the underground space, simplifies care, allows using a larger range of species due to the possibility of seasonal replacement of tubs, prevents the spread of epiphytity, since containers with damaged trees can be removed and replaced with new ones. On the other hand, the container hampers the full development of root system, its relatively small volume leads to significant temperature fluctuations in soil and its relatively rapid salinization. As a result, trees have thin trunks, small leaves, small crowns and are generally inadequate, making it impossible for them to perform a number of functions, for example, thermoregulation or noise protection.

Vertical landscaping, well developed in a number of European countries and the United States, is installation of containers and irrigation systems on walls of industrial or residential buildings. Creeping or curly species of herbaceous plants are mainly used as vegetation, that produce a solid green wall while growing. This method is advantageous for dense construction, since it allows to partly reduce the effect of urban heat island from the walls of buildings and hide unsightly facades, and there are numerous studies demonstrating vibro-protection features of the "green wall". However, it should be understood that such structures can not be installed on every building, in addition, despite separation of the wall from containers by plastic panels, there is a great risk of seepage and creation of a micro greenhouse effect between walls and panels, which is a favorable environment for the growth of simple algae and destructing fungi, with a negatively effect for the building. Also, these structures are not recommended for safety reasons in areas subject to strong winds and hurricanes.

Beautification of roofs of roofs, in fact, is not new, it originates from ancient Scandinavia, where peat was used as roofing material. Its growth formed a small "meadow" with mixed grass, small bushes and trees. In the modern version, special areas for lawns and containers for large plants are mounted on the roof of the building. The real practical benefits include only a decrease in heating coefficient of the roof, as well as accommodating recreational spaces on it, combining observation sites, cafes, and sometimes even sports grounds. With this method of landscaping of urban territory, due attention should be paid to roofing structures resistance calculation and passive safety systems preventing people from falling or sliding off the roof.

Worth attention is greening parking lots with the use of geogrids. This is mainly a purely decorative approach. When using this method of landscaping, special attention should be paid to the material and structural features of the geogrid. For example, in areas subject to the risk of flooding, it is necessary that the grid has negative buoyancy, and in parking lots used for heavy equipment, attention should be paid to fragility of cell walls. Other important factors are the toxicity of geogrid material and its resistance to atmospheric effects. Geogrids are predominantly made of polymers or concrete, but the latter has a significant drawback: the thick cell walls reduce the internal volume intended for filling with soil and lawn grasses.

Summarizing, we can say that the above modern trends of urban landscaping can not completely replace the diversity of all features of tree and shrub vegetation, although they are more adaptive to conditions of modern urban space. Therefore, the task of landscape architects and green space experts should be an integrative approach combining both the traditional concepts and the emerging trends.