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**ПРИНЦИПЫ И ПРАКТИКА ПЛАНИРОВАНИЯ. ПЛАНИРОВКА В
МАСШТАБЕ СТРАНЫ: РАЙОННАЯ ПЛАНИРОВКА И
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Аннотация

Данная статья повествует о неудачной планировке городской среды и ее последствиях, также предложены возможные пути решения. Исследование проблем городского благоустройства в связи с активной урбанизацией является ключевым моментом для устойчивого развития городской среды.

Ключевые слова: урбанизация, городской ландшафт, благоустройство.

**PRINCIPLES AND PRACTICE OF PLANNING. COUNTRY-WIDE LAYOUT,
DISTRICT LAYOUT, URBAN PLANNING****Nadezhda A. Malysh**

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ABSTRACT

This article tells about the unsuccessful planning of the urban environment and its consequences, and also suggests possible solutions. The study of the problems of urban

improvement in connection with active urbanization is a key moment for the sustainable development of the urban environment.

Keywords: barriers urbanization, urban landscape, landscaping.

Vladimir Vernadsky wrote about the influence of humanity on the ecosystem of the planet in his works: human, by virtue of his socio-cultural and intellectual activity, changes the natural landscape to suit his needs. Industrial and urban areas which were initially determined by natural conditions are undergoing particularly serious changes (Akatushev, 2013; Kochurov et al., 2018). For suburban areas where industrial enterprises are located, the issues of landscaping and landscape design are becoming increasingly relevant over time due to the expanding impact of industrial infrastructure facilities on the environment. The roots of these problems go back to the 18th and 19th centuries, when a strengthened human society began to build factories and plants actively on a global scale, without taking into account the features of the landscape. Analyzing the current situation, we can conclude that the infrastructure of suburban areas with industrial facilities is characterized by unsettled conditions, lack of competent planning, sometimes spontaneous development and lack of environmental protection measures (Buldygin, 2017). The result of this imbalance is damage to nature and waste of its resources. Thus, the natural landscape loses its original functions and properties that are needed to maintain the vital activity of the human population, including. In addition to competent construction and reasonable choice of a building site, the phased organization of space in an industrial suburban area is also a matter of exceptional importance. This is especially true for areas of space that are close to the city-forming enterprise. The actions described above are appropriate to maintain the balance of the anthropogenic and natural components of suburban space (Golovanov et al., 2005).

The purpose of this article is to consider examples of unsuccessful organization of territories in the suburbs and possible solutions to the problems that are arisen. Also it is necessary to note that similar problems in the device and design take place for the main part in the post-Soviet space.

It is widely known in suburban areas there is a situation of inconvenient traffic interchange or lack of sidewalks sometimes. At first sight, this phenomenon leads only to violations of transport safety. In fact the consequences are more extensive and this is especially true for such an important natural component as soil. In the absence of asphalt pavement, cars are driven through nearby areas with living vegetation, the local population forms spontaneous trails and unpaved roads to pass through unsettled territories. The described unauthorized actions cause significant damage to the soil cover - they provoke violations of the water-air regime, which adversely affect the transformation of soil organic matter. Due to the occurrence of soil crust and over-compaction of the soil layer, natural processes in the organic horizon do not pass, as a result of which the death of the ground cover is noticeable. Also, disturbed air exchange affects the microbiota (anaerobic processes begin to prevail).

The change in the water regime is that the disturbed porosity of the soil prevents the water exchange of moisture from the atmospheric air. Also such processes make it difficult to retain moisture and it evaporates at a high rate (Netrusov, 2009; Nikitin, 1979).

Increased pressure on the roots of vegetation leads to disruption of their functions, gradual death of the root system and as a result to the death of vegetation. It is in the upper layers of the soil profile that thin and sucking roots are located in the conditions of a low-power humus horizon in the northern regions. Also, in areas where active recreation is observed, the relief may change, especially in waterlogged areas, and spontaneous accumulations of wastewater may occur, which create favorable conditions for the reproduction of pathogenic microflora. Road section near the

village 'Novaya' (Leningrad region, Vsevolozhsky district) can be an example of territories with problems described. The narrow road connecting the village with the nearest social infrastructure facilities is designed only for cars, there are no pedestrian zones. The terrain is characterized by waterlogged soil, in places of spontaneous trails and uncontrolled trampling, there is increased erosion of the soil cover and leaching of organic and inorganic substances in addition to all the other negative consequences mentioned. There is also the formation of shallow channels formed with bicycle and automobile wheels (in some areas local residents, trying to shorten the path and avoid traffic congestion, drive various vehicles), which are filled with precipitation and increase the already high soil moisture (Gerasimova et al., 2019).

A person is shaped by the environment. In addition to all other aspects it is also worth addressing the issue of the influence of the environment on the moral and psychological state of people. In this area there are frequent conflicts on the roads between drivers due to transport problems, conflicts of the "driver-pedestrian" type, which leave an imprint on social life. Residents of industrial areas tend to be not puzzled by environmental problems, since historically the socio-cultural and external environment is configured for intensive consumption and use of the surrounding space (Chomaeva, 2020; Panov, 2004). But when the question concerns the choice of certain places for development, it is not uncommon for a person to obey biological subconscious impulses. Everybody wants comfort, security and satiety. That is why it is more pleasant for a person to be on a lighted, clean and decorated street with trees and shops than in a dark deserted alley. Thus a place can have an impact on the psychological state of society. The city, having many small details that the human eye must constantly observe, is prone to cause stress. Also the urban environment itself bears little resemblance to safe places, evoking associations with danger, unlike the natural landscape. The task of specialists in the field of ecological urban planning is to design safe, as well as environmentally and economically comfortable spaces for the well-being of the population (Colin Ellard, 2015; Vedmanova, Lagodny, 2020).

The correct organization of the territory of the village "Novaya" (Leningrad region) is also complicated by the fact that this area combines the features of all 4 types of urban landscape: garden and park (significant wooded areas with a predominance of wild fruit trees in places), low-rise (significant open areas, areas built up with one-story houses), multi-storey (nearby there are residential complexes with 25-storey buildings and the entire urban infrastructure) and the factory (there is an extensive industrial zone nearby and a significant area is given to heat supply facilities). It requires the involvement of specialists from various industries (gardeners, design engineers, electrical engineers, etc.), as well as the allocation of significant funding (Vershinin, 2014). It seems mandatory to create pedestrian zones, bike paths, as well as the construction of fences to protect particularly vulnerable areas of vegetation. A terrain operation plan for the next few years is also needed.

There is a noticeable tendency to a proportional deterioration of the situation as one moves away from large cities. In particular, village 'Karavaevo' (Moscow region, Noginsk), where the paper and cardboard factory is the city-forming enterprise, has the problems of landscaping which must be solved, perhaps even to a greater extent (2011). This type of landscape characterizes with intensive development and the maximum permissible changes for the needs of production. However, with such an approach the competent distribution of anthropogenic and technogenic load may not be taken into account. It should be borne in mind that in 1955-1970 massive construction of large industrial enterprises was carried out in order to increase the material and economic base of the USSR (Filimonov, 2017). Entire large industrial districts were built up. It formed urban-planning complexes, which have been preserved to the present, often with residential quarters for workers (Kochurov et al., 2018; Baranova et al., 1975).

Another striking example of a city with an industrial landscape is Yaroslavl. The introduction of a large number of factories made Yaroslavl an advanced industrial center. The

Avtodiesel enterprise YAMZ of the Order of Lenin and the October Revolution was awarded the USSR State Prize for 1972. The district of the city "Zavolzhsky" was almost entirely adapted to production needs. Mashpribor and YAZDA enterprises were built in 1970. The Yaroslavl-Rezinotekhnika plant was also founded, as a result of which a rubber equipment district appeared, located in the northern part of the district "Zavolzhsky". The first oil refinery was launched in Yaroslavl in 1961 and it is still the largest refinery in the Northern region of Russia, after which one of the residential areas was named - Neftestroy. (Rutkovsky, Rutkovskaya, 2011; Kolesnichenko, 2001).

First of all, we consider it necessary to note the unsettled space adjacent to the factory's land plots. While the factory territories are organized and maintained at an acceptable level by the enterprise, the nearby natural landscape is subjected to intensive recreation due to the lack of paved roads; these sites are popular not only among pedestrians, but also among motorists and cyclists. The territory is also popular as a place of rest for people from nearby residential buildings. Due to the lack of organization of a zone for barbecues, garbage containers, etc. the population builds bonfires spontaneously, thus creating a threat of forest fire, leaves behind food and other waste, damages vegetation. There is also a river nearby, and certain categories of people stop near it for the purpose of washing the car. Such actions cause enormous damage to the reservoir, vegetation, and the soil layer - the synthetic detergents used (especially those containing surfactants), the substances washed off harm all living organisms with which they come into contact. Accumulation of polyarenes occurs in the organic matter of soils with subsequent leaching into the illuvial horizon (Gabov et al., 2010). POV is able to sorb complex high-molecular compounds due to a variety of functional groups, which contributes to the complexation of ion exchange and solubilization (Beznosikov, Lodygin, 2010). But overloading with this kind of pollution can cause a malfunction in the soil system. Synthetic substances by their nature are poorly absorbed by microorganisms, accumulating in the biogenic components of nature and causing harm: food chains are torn, biochemical processes are disrupted due to a shift in pH (either acidic or alkaline). Complex substances are added to detergents to impart different properties (Abilova, Ershova, 2011; Vakhnina, 2008; Nikolaev, 2007). For example, to prevent repeated contamination of tissue surfaces antiresorbents are used which manifest themselves as a binder. By this property, this substance can disrupt the soil structure and significantly reduce the intensity of water-air exchange (Gendler et al., 2015). If these compounds get into the soil layer, then unfavorable changes occur in soil processes: biological, physical and chemical (Nefedov, 2002; Dobrovolsky, Nikitin, 1990).

As a result the vital activity of the soil is disrupted. This problem needs to be solved at the level of local authorities. It seems expedient to organize the space - building roads, erecting gazebos and barbecues where possible, installing waste containers. A set of clear rules, the introduction of a system of fines for their violation, informing vacationers about it will also allow regulating the situation. We consider it necessary, in addition to the above, to carry out explanatory work among the population, to place posters about the rules of behavior in the recreation area.

In general, a scientific approach should be applied to solve the problems of improving suburban areas. In addition to construction specialists, it is necessary to involve gardeners and urban gardeners in the work of this kind, and seek advice from environmental engineers. If necessary, it is recommended to organize additional training for workers in the field of urban and landscape gardening in order to update their knowledge and skills. It seems advisable to include courses in agrochemistry and agro-soil science in the curriculum so that specialists can apply knowledge from these areas, which will improve the current state of the soil layer and prevent deterioration of its quality in the future.

In conclusion, we note that a comprehensive approach to the problem of the coexistence of anthropogenic and natural components in suburban areas will allow us to take into account and

realize various needs of human society (social, economic, environmental, aesthetic, etc.), as well as to ensure the preservation of natural resources.

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