



ISSUES OF ECOLOGICAL PROTECTION OF CITIES AROUND THE WORLD

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Annotation. This article analyzes the environmental problems facing world cities and the strategies being applied to solve them. Attention is paid to such pressing issues as atmospheric pollution, waste management, the reduction of green spaces, water and soil pollution. The experience of developed and developing countries is also comparatively studied. The article highlights the importance of ensuring environmental sustainability, developing green infrastructure, and environmental management systems, and emphasizes the principles of environmentally safe urban development.

Keywords. environmental protection, urbanization, waste management, air pollution, sustainable development, green infrastructure, environmental safety

Introduction. Nature is a holistic system with many balanced relationships. Disruption of these bonds leads to a change in the exchange of substances and energy existing in nature. In modern society, such quantities of substances and energy are required for production and consumption that exceed a person's biological needs by hundreds of times. This is the main cause of the modern ecological crisis.

Today, the Earth's population has reached 7.5 billion people. Global climate change, land degradation, and a decrease in biodiversity pose a serious threat not only to the development of economic sectors but also to the prosperous future of humanity.

The principles of international environmental cooperation were first established in 1972 in the Declaration of the Stockholm Conference of the UN on Environmental Problems, which defined a new direction of international cooperation - environmental protection, recognizing the fundamental human right to life and the environment, and other principles.

In June 1992, at the UN Conference on Environment and Development in Rio de Janeiro, the Declaration on Environment and Development, as well as the Action Program "Agenda for the 21st Century," were adopted and signed.

In recent years, there has been a rapid increase and high level of anthropogenic impact on the environment. Today, human production activity is associated with the use of various natural resources, including many chemical elements. The intensification of anthropogenic impact on the environment has caused a number of environmental problems. The most pressing problems are related to the atmosphere, hydrosphere, and lithosphere.

A car is not a luxury vehicle, but a means of transportation. Currently, it is impossible to imagine the existence of humanity without a car. With urbanization and the growth of megacities, motor transport has become the most unfavorable environmental factor in protecting human health and the natural environment in the city. Thus, the machine became a competitor to man for the living space.



Fig 1. Emission of toxic gases

Over the past decades, humanity has become convinced that the first culprit in air pollution, one of the main sources of life on our planet, and a product of scientific and technological progress, is the automobile. The car, in addition to absorbing the oxygen necessary for life, intensively pollutes the air with toxic substances that simultaneously cause serious damage to all living and non-living things. Its contribution to environmental pollution is 60-90%.

Based on this, it is necessary to take into account the need for strict control over the level of harmful emissions and noise during the production of cars.

Transportation pollutes the environment in various ways:

1. Spills of petroleum products and waste during natural disasters and illegal activities.
2. Reduction of fuel reserves as a result of fuel combustion in engines.
3. Air pollution due to the combustion of fuel and its direct evaporation into the air.
4. Separating land and forests with barriers and thereby breaking down the integrity of nature into smaller parts.
5. Seizure of land and water areas for transport infrastructure.
6. High noise from traffic movement, as well as vibration from loaded main roads.
7. Waste from a moving vehicle.
8. Waste of used vehicles and their spare parts.
9. CO₂ emissions into the atmosphere, etc.

There is another criterion for air pollution - the fight against frozen roads.

The chemical method of removing snow and ice from road surfaces using chlorinated compounds has a harmful effect on landscaped areas either directly or through soil. Direct action is carried out upon removal of saline snow from barriers and roadsides. This leads to direct damage to plant tissue. Salinization of the soil, caused by the penetration of saline waters into sown areas, worsens the soil structure, resulting in the death of trees and shrubs. If trees are planted at a distance of up to 9 m from the edge of the road, the probability of their destruction is significantly reduced. Phosphate-rich soil is considered fertile and causes less damage.

The strong harmful effects of salts are manifested in the corrosion of metals of cars, road cleaning machines, road signs, and elements of barriers. Sodium chloride solution is more harmful than calcium chloride solution of the same concentration.

This problem is undoubtedly of global importance. The number of cars around the world is growing day by day. More and more people are getting their own cars. However, most people don't even think about what all this will ultimately lead to.

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