

Russia's Natural Potential Sustainable Development and "Green" Growth Modern problems

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Abstract. Currently, at the Moscow State University of Geodesy and Cartography (MIIGAiK), the Department of Economics is conducting a multifactorial and multifaceted scientific and practical study of the influence, relationships and dependence of the development of socio-economic policy in Russia and the complex of property relations. The study is carried out in several stages. At present, the "green" part of the study is being actively pursued: environmental factors, "green" growth and modern problems of sustainable development of the natural potential of Russia are being studied. The work is carried out on the basis of open information (regulations, publications, Internet resources, own research). Environmental components at the present stage have a significant impact on the economic, social and territorial policy of Russia, on the one hand. On the other hand, the Russian Federation itself is a large territorial, human, natural resource and industrial element of the planet Earth. Therefore, the material for research is rich, multifaceted, interesting and constantly updated with new directions.

1 Introduction

In 1992, at the II World Conference on Environment and Development in Rio de Janeiro, representatives of 179 states adopted the Agenda 21 program, which considered the essence and goals of the Sustainable Development concept [1].

The modern unstable ecological component threatens the "green" sustainable development and growth of the natural potential of the earth's civilization. The potential deterioration of the surrounding components of our life leads to the threat of a crisis of the biosphere, the loss of its unity, harmony and the ability to self-regulation and development, which is vital for humans. A way out of this situation may be the renewal of relations and the formation of a different interaction between people and nature on the basis of reciprocity, trust, understanding and respectful attitude.

The "green" growth of Russia's natural potential, a decent quality of life and health of the entire population, as well as state ecological, social and economic security may be achieved only in conditions of respect for the surrounding world and a stable status of the ecological component. This view implies the design and phased implementation of a

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comprehensive state strategy in the field of ecology, aimed at sustainable development of the environment and the economical and efficient use of natural resources. Self-regulation and reproduction of ecosystems must be a key line of life and development of man and nature.

The Russian Federation historically, territorially and geographically fulfills the main mission in preserving the vital functions of the biosphere, due to the globality of its territories with many ecosystems and the presence of most of the biological diversity of our planet. Territorial, natural resource, innovative, industrial, socio-economic components of the natural potential of Russia form its significant position in solving global and regional modern environmental problems.

The purpose of the "green" stage of our research is to consider the current problems of the Russian environment and develop proposals and recommendations for its sustainable development. Tasks: study of the current regulatory and legal strategy for the development of the natural potential of the Russian Federation; highlighting the main problems of green growth; determination of directions for improving the efficiency of environmental policy in the framework of scientific and practical research of the complex of socio-economic policy of Russia and the complex of property relations; development of proposals and recommendations. This research is carried out at the Department of Economics of the Moscow State University of Geodesy and Cartography by students, graduate students and teachers.

2 Materials and Methods

The study is conducted on the basis of open information (regulations, publications, Internet resources, own research). As the analysis of the regulatory framework has shown, the current state policy of Russia for the protection, protection and sustainable development of the environment is carried out within the framework of four main documents:

- Federal Law "On Environmental Protection" dated 10.01.2002 No. 7-FZ [2];
- Environmental doctrine of the Russian Federation [3];
- Fundamentals of state policy in the field of environmental development of the Russian Federation for the period up to 2030 [4];

Environmental safety strategy of the Russian Federation for the period up to 2025 [5].

We have carefully analyzed these documents, identified their main goals and objectives. Table 1 shows the goals and objectives of the main documents of the modern regulatory framework for sustainable natural development in Russia.

Table 1. Goals and objectives of sustainable natural development in Russia (pursuant to the main modern regulatory documents).

The Document name	Target	Problems
Federal Law "On Environmental Protection" dated 10.01.2002 No. 7-FZ	Legal foundations of the state policy of Russia in the field of environmental protection and the formation of environmental safety	Relations in the field of interaction between society and nature in the implementation of economic and other activities within the territory of Russia
Environmental doctrine of the Russian Federation	Formation and implementation of a unified state environmental	Creation of environmentally friendly methods of resource extraction,

	policy and rational use of natural resources	increasing the efficiency of environmental management and environmental protection mechanisms, strengthening the control functions of the state, raising the economic standard of living of the population, raising the level of environmental awareness and environmental culture of the country's population
Fundamentals of state policy in the field of environmental development of the Russian Federation for the period up to 2030	Developing effective and efficient government policies to prevent global environmental problems	Global environmental problems (climate change, loss of biological diversity, desertification, etc.) from natural disasters and man-made disasters, pollution of atmospheric air, surface and ground waters, as well as the marine environment
Environmental safety strategy of the Russian Federation for the period up to 2025	Formation of a strategy in the field of ensuring the national security of the Russian Federation	Identifies the main challenges and threats to environmental safety, goals, objectives and mechanisms for the implementation of state policy in the field of environmental safety

As may be seen from Table 1, all these documents are united in their desire to preserve the natural potential and create conditions for sustainable "green" development of the environment within the framework of the comprehensive state socio-economic and property policy of the country.

There are 3 (three) main elements of the environment - water, air, earth (Fig. 1.), which form a single environment space.

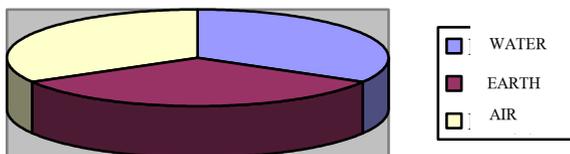


Fig. 1. The main environment elements.

Each of the elements has its own system for assessing the pollution of the natural complex. So for the assessment of air pollution (atmospheric air) measured values are used. concentration of impurities (in mg/m³). To assess the degree of pollution, the measured impurity concentration is compared with the maximum permissible concentration (MPC). For a comprehensive assessment of water pollution, bottom sediments are examined. To determine the level of their pollution, the indicators of the excess of the concentration of elements relative to the background are used. Due to the fact that water and bottom sediments are polluted by several elements, a total pollution index is calculated for them, reflecting the effect of the impact of a group of toxic elements. In case of soil contamination with one substance of inorganic nature, the assessment of the degree of pollution is carried out taking into account the hazard class of the pollution component, its MPC and the maximum value of the permissible level of the element content pursuant to one of four hazard indicators. Table 2 shows the methods for assessing the pollution of the natural complex.

Table 2. Methods for assessing pollution of the natural complex of Russia (pursuant to three main elements).

The Element	The Assessment Method
Air	To assess air pollution (atmospheric air), the values of the measured concentrations of impurities (in mg / m ³) are used. To assess the degree of pollution, the measured impurity concentration is compared with the maximum permissible concentration (MPC)
Water	For a comprehensive assessment of water pollution, bottom sediments are examined. To determine the level of their pollution, the indicators of the excess of concentration of elements relative to the background are used. Due to the fact that water and bottom sediments are polluted by several elements, a total pollution index is calculated for them, reflecting the effect of the impact of a group of toxic elements
Soil	In case of soil contamination with one substance of inorganic nature, the assessment of the degree of pollution is carried out taking into account the hazard class of the pollution component, its MPC and the maximum value of the permissible level of the element content pursuant to one of four hazard indicators.

The economic assessment of damage caused by environmental pollution is carried out by types of pollution: from air pollution, water pollution, land (soil) pollution, environmental pollution by physical factors, the damage to biological resources is determined.

3 Results and Discussions

For clarity and evidence of the degree of damage to the environment, pollution maps are used. Each element (water, air, earth) forms its own map layer. The layers are

superimposed on each other and a map of the total pollution of the environment complex is obtained. On its basis, a detailed analysis is carried out and proposals and recommendations are created for stabilizing this territory and further improving the ecosphere of the site. It should be noted that for lands in the Russian Federation, an important point is their classification and consideration of their legal status [6]. Therefore, we plan to introduce additional layers by types of classification, which will provide additional material for analyzing the results. The creation of such maps is the next stage of our research on the basis of the Department of Economics of the Moscow State University of Geodesy and Cartography as part of a scientific and practical study of the complex of socio-economic policy of Russia and the complex of property relations.

It is also of interest to us to study unfavorable ecological zones in Russia for which the Register of Accumulated Environmental Damage Objects (ONVOS) has been compiled and maintained. The latest version of such a Register was published in the open press on May 07, 2021 [7].

Accounting and supervision in the field of a complex of property relations, the relationship with a complex of socio-economic policy of Russia is a rich research field due to the novelty and the introduction of constant changes in the regulatory framework [8], relevance for the modern situation in the economy, ecology and national state policy of Russia, as well as the multidimensionality and multifactorial nature of the study.

4 Conclusion

We will continue to study the contemporary issues of sustainable development and "green" growth of Russia's natural potential. The next stage is the creation of maps for assessing the pollution of the environmental complex, taking into account the classification of lands of the Russian Federation and the Register of objects of accumulated harm to the environment.

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