## REGIONAL SUSTAINABLE DEVELOPMENT REVIEW: RUSSIA

## N. P. Laverov

Academician, Vice President of the Russian Academy of Sciences ,Russia

**Keywords:** sustainable, Russia, development, regional, technology, information resources, natural resources

#### **Contents**

- 1. Introduction and historical overview
- 2. Protection and rational usage of natural resources
- 3. Human resources
- 4. Technology and information resources
- 5. Institutional resources for sustainable development
- 6. Conclusion

Glossary

Bibliography

Biographical Sketch

## **Summary**

The Russian Federation plans and implements its national environmental policy, as well as measures aimed at transition to sustainable development, in complicated internal conditions of radical, political, and economic reforms while at the same time searching for its place in international relations following the end of the cold war and dissolution of the Soviet Union. A lack of adequate financial resources is responsible for the slow progress of the Russian Federation on the route to a healthy environment and sustainable development. But the rich cultural and ethical heritage of the peoples of the Russian Federation is by its essence future-oriented, deeply humanistic, and harmonic. This circumstance makes this heritage attractive for many other nations, cultures, and religions of our planet. On the basis of such a legacy the bodies of different branches of power, in co-operation with the public at large in the Russian Federation, will step by step improve the conceptual principles of national environmental policy and raise the efficiency of practical measures leading to sustainable development.

# 1. Introduction and Historical Overview

As far back as 1972 the Declaration of the United Nations Conference on the Human Environment, which was held in Stockholm, called for a comprehensive analysis of interaction of human society and the global environment of the planet:

A point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences. Through ignorance or indifference we can do massive and irreversible harm to the earthly environment on which our life and well-being depend. Conversely, through fuller knowledge and wiser action, we can achieve a better life in an environment for our posterity and ourselves more in keeping with human needs and hopes. There are broad

vistas for the enhancement of environmental quality and the creation of a good life. What is needed is an enthusiastic but calm state of mind and intense but orderly work. For the purpose of attaining freedom in the world of nature, man must use knowledge to build, in collaboration with nature, a better environment. To defend and improve the human environment for present and future generations has become an imperative goal for mankind – a goal to be pursued together with, and in harmony with, the established and fundamental goals of peace and of worldwide economic and social development. (Declaration of the United Nations Conference on the Human Environment, 1972)

The beginning of sustainable development as a state policy in Russia was proclaimed with the act of the president, and put into effect as a social economical program at the all-Russian first Nature Protection Congress (June 1995).

According to academician V. Koptyug and his team (1997), Russia has a number of favorable factors for sustainable development:

- Throughout the last millennium Russia has been the site of the natural political, economic, and cultural integration of a large number of peoples. In most cases this integration was voluntary.
- Russia has always had sizeable material and natural resources, necessary for its independent economic development without the exploitation of other states.
- Powerful industrial and scientific bases have been created.
- A system of public education on several levels has been developed. The country possesses a highly educated and qualified workforce.
- Tolerance of different religions allowed coexistence between different faiths for centuries.
- Russia, due to its geographical position, has always emerged as a bridge, and sometimes even as a shield, between European and Asian cultures. This role is not shrinking, for the importance of the United Europe and Asia–Pacific region as political and economical poles is growing.

The ecological outlook embodied in the creative works of Russian philosophers, writers, and artists may be considered a cultural and ethical foundation not only of an attitude of care towards nature, but also of the instigation of the first public actions in defense of natural resources. The writings of Alexander Pushkin, Alexander Herzen, Feodor Dostoyevsky, Leo Tolstoy, and Anton Chekhov organically combine a love of nature with a compassion for human beings. The emotional discourses on the beauty of nature by the outstanding representatives of Russian society of the eighteenth to early twentieth centuries are inseparable from calls for cautious treatment of natural resources, for the liberation of the popular masses, and for the establishment of favorable conditions for realizing their creative abilities. Progressive scientists and cultural figures thought of the democratization of Russian society as a realistic means for the advancement of civilization, which at one and the same time requires a businesslike relation to the biosphere and the rational utilization and regeneration of its resources.

For centuries the Russian Orthodox Church played a significant role in the spiritual and cultural development of Russian society. The Russian Orthodox Church, in the framework of Christian anthropology and natural philosophy, carefully analyzed the

crisis of the environment in the middle of the twentieth century. According to their interpretation one of the main reasons for global environmental crisis was the forceful separation of human beings from nature, as well as violation by humans of natural laws, which prescribed for them an appropriate place in the biosphere. The Russian Orthodox Church claims that humans enter this world the way they enter the church to pray in front of God. Since humans are at the same time material and spiritual beings, they must combine their spiritual essence and everyday labor activity, thus combining in themselves both God and the world in which they live.

Russia's enormous territory with its massive natural resources, but often unfavorable living conditions, is usually regarded as one of its most particular features. However there are others; its intermediate position between European civilization, based on a consumerist-technocratic approach centering on the individual, and eastern culture, which leans towards morality, spirituality, and collectivism. The Russian mentality and culture have absorbed features of both civilizations. Today Russia is a multicultural and multi-faith state with many centuries of life experience. During the twentieth century Russia experienced various political and social cataclysms: two revolutions, leading to a change in the political and economic structures; three devastating wars (two world wars and a civil war); and internal destructive processes, namely repression and perestroika. Within a short period of time Russia changed from an agrarian country into an industrial superpower, and then collapsed economically as a result of reforms. In the light of the above, Russian history and experience are undoubtedly of great interest. The same can be said of the development of Russian science, enterprise, and sustainable development. The national environmental policy of the Russian Federation may be defined as a purposeful activity of the state, guided by the bodies of executive and legislative power, aimed at providing the most favorable conditions for the socio-economic and spiritual development of Russian society in harmonic balance with the biosphere and, in the long run, transition to sustainable development. Basic legal provisions, which determine the state and public activities in protection of the environment and regulation of natural resources use in Russia, are contained in the Constitution of the RF adopted on December 12 1993 by public voting. Russia is proclaimed as a democratic federal state, where an individual's rights and freedoms are of the highest value. The state is mandated to recognize, observe, and protect the rights and freedoms of an individual and citizen.

Russia consists of eighty-nine member-units of the Russian Federation: twenty-one republics, six krai, forty-nine oblast, two federal cities, one autonomous oblast, and ten autonomous districts. Pursuant to article 42 of the constitution, each citizen has the right to a favorable environment, true information about its state, and to compensation for damage caused to their health and property by an ecological wrong. The right to have access to true information, proclaimed in the constitution, is regulated in legislative acts and regulations and is protected by the judiciary. The right to compensation for damage caused to an individual's health and property by an environmental wrong is established and regulated by administrative, civil, and criminal law, and is protected by the judiciary. In addition to those rights, the constitution proclaims the obligations of citizens to treat natural resources with care and to protect the natural environment.

The constitution also determines the respective obligations of the state to protect the

environment. It is envisaged that state agencies (federal, member-units, and local ones) within their mandates are obliged to:

- ensure proper exercise of the ecological rights and obligations of individuals
- regulate nature use and environmental protection
- determine and control the legal status of natural objects and areas
- steer the human activities that impact the environment
- conduct ecological monitoring
- take measures for preventing accidents, catastrophes and natural calamities and to eliminate their consequences
- participate in international co-operation on ecological issues.

The criteria for determining a favorable environment include:

- international and national environmental quality standards
- pollution emission limitations and limitations for other impacts on nature
- limitations for noise, radiation, and electromagnetic impacts
- requirement for wastes storage
- standards for land zoning
- limitations of the maximum allowable extraction of raw materials, resources and consumption products from nature
- recommendations for balancing the components and states of the natural environment (availability and concentration of forests, availability of waters, biodiversity, etc.).

In February 1994, specialists from the Ministry of Environmental Protection and Natural Resources of the Russian Federation submitted a draft document, *On State Strategy of the Russian Federation for Protection of the Environment and Provision of State Development*. The Ministry did its best to incorporate in the draft the following major elements:

- the main directions of activities for transition to sustainable socio-economic development in the short, medium, and long term
- A list of inadmissible actions during transition to sustainable development
- consideration of the federal structure of the government, and the diversity of natural and socio-economic conditions on Russian territory
- the influence of political interests on the implementation of the conception
- methods to constrain the polarization of society in terms of wealth
- a definition of strategic priorities to ensure a reduction in the resource consumption of production.

The draft was developed in order to organize constructive interaction, among local self-government, entrepreneurs, and public associations, for comprehensive solutions to the problems of economic development and the provision of ecological safety. It was prepared taking into account the article of the Russian Federation Constitution, which proclaimed the right of each citizen to a healthy environment, and the principles of sustainable development presented in documents of the UN Conference on the Environment and Development (UNCED).

The joint efforts of executive and legislative bodies of the Russian Federation, aimed at the creation of favorable conditions for transition to sustainable development, are concentrated primarily on elaboration, adoption, and enforcement of the basic document, which determines the essence of national environmental policy. For example, such a basic program document as the Decree of the President of the Russian Federation No. 440, dated April 1 1996, which proclaimed the concept of the transition of the Russian Federation to sustainable development, is officially qualified as a product of direct across the board co-operation of executive and legislative agencies and bodies of the country. In strict conformity with the guidelines of actions of Russian society in the field of environmental protection, which were proclaimed by Presidential Decree, the Ministry of Economics of the Russian Federation, in co-operation with other ministries and federal agencies, elaborated a draft state strategy of sustainable development of the Russian Federation which was subsequently approved by the Government of the Russian Federation on December 11 1997.

In 1997 the government of the Russian Federation allotted financial appropriations for thirty-nine federal target programs, of different scale and purpose, which were related to the protection of the environment and transition to sustainable development. These federal target programs are distributed among the ministries and federal agencies, which hold the responsibility for implementation of the state order in appropriate fields. In 2001, President of the Russian Federation V. Putin initiated the discussions among state authorities, scientific community, and NGOs which resulted in the consensus document "Ecological Doctrine of the Russian Federation."

Today Russia is a party to over eighty multilateral global and regional conventions and other acts relating to environmental protection and nature use. In addition, Russia has concluded many general and specific agreements on co-operation in environmental protection and in determining the regime of nature use on a bilateral basis, including agreements on the protection and use of transboundary watercourses and international lakes, and on the protection of migratory birds, and others.

# 2. Protection and Rational Usage of Natural Resources

Irrespective of ideological dogmas, which govern the everyday socio-economic and political activity of nations belonging to different political systems, every nation is dependent on finite resources of the biosphere. Political priorities and economic capabilities affect the methods of utilization of natural resources and in the long run determine the prospects for the survival of future generations of any nation on the planet. Meeting humanity's demands for natural resources is one of the fundamental problems faced by a civilized community. Enjoying the achievements of scientific and technological progress does not free people from the necessity of developing natural wealth. On the contrary, their dependence on natural resources is ever growing. According to estimates by the academician V. I. Vernadsky ancient peoples used nineteen chemical elements, while at the beginning of the twentieth century, use was made of fifty-nine elements, and natural resources were used far more intensively. In 1985, all of the discovered chemical elements of the earth's crust were used. This circumstance makes it necessary for government of any nation to develop and implement into practice an appropriate environmental policy. Such a policy should

incorporate the most urgent tasks and missions associated with protection and rational use of natural resources available on the territory of a particular nation, and at the same time set the priorities of that nation's participation in international efforts aimed at sustaining the quality and reproduction of the most valuable resources of the biosphere.

This situation has given rise to a number of "alarmist" statements, which predicted grave problems connected with the supply of mineral resources as early as the beginning of the third millennium. Though estimates made in the 1960s and 1970s have already proved to be far from adequate the concern is nevertheless still there. This concern is reflected not only in analytical papers and forecasts, but also in legislative documents. The Law of Subsurface of the Russian Federation proclaims (in Article 35) that the primary task of regulation by the state of relations connected with use of mineral resources, is to ensure reproduction of the potential of mineral resources and raw material, its rational use, and protection of mineral deposits in the interests of the living and the future generations of the peoples of the Russian Federation.

Alongside this, world development demonstrates sustainable production of raw materials, and in some cases its growth, though at slower rates. One may claim that production of raw material resources has entered a stable phase, which correlates with the generation of demand in conditions of lack of physical shortages of raw materials. Stability is ensured by new developments in both science and technology, which make it possible to explore new, sometimes complicated, sources of raw materials as well as to stabilize, and, in some countries, reduce their consumption. Reduction of consumption of raw materials by the developed economies is caused primarily by structural and technological factors, a decrease of the share of industry, and a growth of the share of services and information technologies. For countries with a transitory economy, such as Russia, a reduction in the consumption of raw materials is caused by radical structural changes in the economic system, and a considerable decline of output in branches of the economy that are traditional consumers of raw materials. At the same time, in Russia and in other countries, consumption of primary mineral resources is reduced at the expense of use of wastes as their substitutes. In such instances the growth is often caused by not only the deficit of raw materials, but by environmental problems, connected with accumulation, storage, and disposal of wastes. According to established legislation, management of natural resources viewed as a state-owned property is aimed at their study, reproduction, and conservation. The system of administrative control of natural resources in Russia includes federal agencies, such as structural divisions of the Ministry of Natural Resources of the Russian Federation, and local agencies, such as committees for natural resources of autonomous republics, regions and territories, i.e. managerial bodies for state-owned mineral and water resources.

TO ACCESS ALL THE **48 PAGES** OF THIS CHAPTER,

Visit: <a href="http://www.eolss.net/Eolss-sampleAllChapter.aspx">http://www.eolss.net/Eolss-sampleAllChapter.aspx</a>

### **Bibliography**

A Young Family Development Prospects. State Committee of the Russian Federation on Statistics. 1995. Moscow, pp.169–70. [This represents data of Goskomstat of Russia about simultaneous selective surveys of 14,013 married couples, where husbands and wives less than twenty-five years of age were asked about their reproductive plans.]

Conception of the Russian Federation's Transition to Sustainable Development. 1996. [In Russian.] Approved by a Decree of the President of the Russian Federation of April 1 1996, No. 410. Russia on the Path to Sustainable Development, No. 3, pp. 5–9 [This document presents the main principles of the State's approach to problems of transition to sustainable development and to the role of science in solving them.]

Demographic Yearbook of Russia. Statistical Handbook. State Committee of the Russian Federation on Statistics. 1997. [In Russian.] Moscow. 575 pp. [This contains data on administrative and territorial breakdown, population size, age and sex structure, on births and deaths, death rates in working age by main groups of causes.]

Demographic Yearbook of Russia: Statistical Handbook/Goskomstat of Russia. 1999. Moscow, pp. 111, 190–1, 278, 300. [The Yearbook contains data related to administrative and territorial breakdown, population size, age, and sex structure, spatial distribution of the population in the Russian Federation, to births and deaths, marriages and divorces, and migration. The Handbook might be used by chief executives, senior management officials, corporate planners, marketing directors and sales executives, academic scholars, entrepreneurial and banking institutions, professors, post-graduates, and students of higher economic establishments.]

*Environmental Education and Sustainable Development*. 1996. Moscow: Russian Academy of Public Service at the President of the Russian Federation. 213 pp. [The publication in Russian presents the main requirements to the formation and reproduction of R&D personnel and the intellectual potential of Russia, caused by the peculiarities of transition to sustainable development.]

Health of the Population in Russia and Work of Health Care Services in 1997. 1998. [In Russian.] Moscow. 201 pp. [This presents official statistical materials dealing with modern trends of birth and death rates, expectation of life, morbidity and mortality rates of the population, and the development of public health services].

KOPTYUG V. A.; MATROSOV V. M.; LEVASHOV B. K.; DEMYANKO YU. G. 1997. *Sustainable Development of Civilization and the place of Russia in it.* [In Russian] Vladivostok, Russia, Dalnauka. 82 pp. [Shows some details of sustainable development in Russia.]

Men and Women Towards Sustainable Development (Experience of a Gender Approach). Moscow, REFIA. 95 pp. [This collection of articles presents a study of gender approaches to sustainable development in Russia.]

MOISEEV, N. N. 1997. *Thinking about Russia's Future*. Moscow: Foundation for the Promotion of Social and Political Sciences. 210 pp. [This book, in Russian, represents approaches to the choice of a rational, science-based strategy of Russia's transition to sustainable development.]

ORLOV, V. P.; RYBALSKY, N. G. (eds.) 1998. *Natural Resources of Russian Federation*. [In Russian.] Moscow, Priroda. 317 pp. [Analysis for structure and stocks of natural resources for providing of social economic development, working out and realization of state resource conservation policy.]

On the Tenth Anniversary of the Creation of Independent Trade Unions in Russia: Achievements, Perspectives and Tactics of Future Activity. 2000. A report of the Chairman of the FITUR, Mikhail Shmakov at the General Council of the FITUR on September 19, 2000. [In Russian.] FITUR News, Nos. 9–10. Moscow. [A report with statistics and programs of action.]

*Red Data Book of RSFSR: Plants.* 1988. [In Russian.] Moscow, Rosagropromizdat. 590 pp. [Review of rare and disappearing plant species, prohibited for use and protected.]

*Red Data Book of RSFSR: Animals.* 1985. [In Russian.] Moscow: Rosselkhosizdat. 454 pp. [Revision of rare and disappearing animal species, prohibited for use and protected.]

STATE COMMITTEE OF THE RUSSIAN FEDERATION ON LAND RESOURCES AND LAND

PLANNING. 1997. State (National) Report about the State of Land Use in the Russian Federation in 1996. [In Russian.] Moscow, Izd. Ruslit. 87 pp. [This gives characteristics of land resources in Russia and the state of their conservation.]

STATE COMMITTEE OF THE RUSSIAN FEDERATION FOR ENVIRONMENT PROTECTION. 1998. State (National) Report about the State of the Environment in the Russian Federation in 1997. Moscow. [In Russian.] [The report contains summarized data about the state of soils and land resources in Russia.]

VERNADSKIY, V. I. *Collected Works*. 1990. Moscow, Nauka. [This series now includes ten volumes and covers publications, lectures, letters, and other documents written by this outstanding scientist in the period 1892–1944.]

#### **Biographical Sketch**

**Nikolai P. Laverov** was born on January 12 1930 in the Arkhangelsk region of Russia in a peasant family.

He received his M.Sc. from Moscow Institute of Non-ferrous Metals and Gold (1954), and his Ph.D. from the same institute in 1958.

From 1958 to 1965 he worked as Director in the Central-Asian Geological Station of the Institute of Ore Deposits Geology of the USSR Academy of Sciences. In 1965 he was appointed Deputy Chief of the Research Organization Department in the USSR Ministry of Geology and in 1972 Chief of the Research Organization Department in the USSR Ministry of Geology.

From 1983 to 1987 he worked as the first vice-rector of Academy of National Economy of the USSR Council of Ministers. In 1987 he was elected the President of the Kirghiz Academy of Sciences. He was appointed the Deputy chairman of the USSR Council of Ministers, chairman of the USSR State Committee for Science and Technology in 1989, and since 1991 he has been the Vice-president of the Russian Academy of Sciences.

N. P. Laverov is the author and co-author of more than 250 scientific publications including twenty monographs. Many of his works have been published in Germany, the United States, Australia, the United Kingdom, Canada, Cuba, China, and other countries. He is the well-known leader of the scientific school of Russian geologists. A new approach to radiogeological studies was pioneered and headed by N. P. Laverov in 1990. The fundamental principle of these studies lies in the use of protective properties of the geological environment to prevent pollution of the ecosphere by radionuclides. The studies embraced the general problem of radioactive waste disposal in the Earth's crust.