Some legal aspects of environmental engineering

S M Kurbatova¹, L Yu Aisner¹ and V V Naumkina²

¹Krasnoyarsk State Agrarian University, 90 Mira street, Krasnoyarsk, 660042, Russia
²Khakass State University named after N F Katanov, 90 Lenin street, Abakan, 655000, Russia

E-mail: larisa-ajsner@yandex.ru

Abstract. The article considers a number of legal aspects related to environmental engineering. The levels of legal regulation of this environmental and economic institution are presented. The main problematic aspects are highlighted. Certain options are proposed for their solution and improving the quality of legal regulation as a prerequisite for the successful functioning of environmental engineering mechanisms. The importance and significance of legal regulation, scientific support and human resources for the effective solution of the tasks posed to environmental engineering are noted.

Currently, it is absolutely obvious that the problems of environmental management, environmental protection, economics and law are closely interrelated: economic growth should not be accompanied by the destruction and depletion of the natural environment. Technical and economic development should not conflict with the interests of the environment. Environmental and economic regulation should be designed so that the producer is economically interested in resource-saving technologies, and the requirements to maintain a favorable environment should not mean the curtailment of production. On the contrary, they are obliged to stimulate the development of new resource-saving technologies and ideas. Environmental and economic regulation should combine solutions that are technologically feasible, economically feasible, socially desirable, environmentally friendly. This means that the legislation enshrining the mechanisms of the functioning of the ecological and economic system should be balanced, systemic, clear and logical, contributing to, and not hampering, their implementation at the proper level and with the maximum effect corresponding to the goals and objectives facing them.

Since the UN Stockholm Conference on the Human Environment (1972), there has been a steady positive trend towards improving international and national legislation of different states on environmental protection and environmental management, as well as the conservation of particularly valuable ecological systems and natural sites. More than 100 UN member states have adopted comprehensive laws on environmental protection, which regulate environmental policies and fundamental legal provisions. Laws and by-laws have been introduced that determine the procedure for planning environmental protection and the use of natural resources, rationing, licensing and standardization, environmental review and inspection. Nevertheless, to this day there are more than enough problems in the field of legal regulation of environmental and economic activity.

Environmental engineering, representing an environmental tool of a complex environmental and economic system, is designed to ensure compliance with environmental requirements of technological processes and technology itself at industrial facilities. Its main goal is the feasibility study of a set of
measures for the environmental modernization of production with the conduct, if necessary, of preliminary technological studies on pilot equipment.

However, all this should be carried out within the framework established by law. Therefore, the legal regulation of specific areas of environmental engineering, the definition of its facilities and the consolidation of the legal status of subjects of environmental engineering activities, as well as the features and guarantees of its implementation, as well as the grounds and limits of legal liability for violations in this area, are all the prerogatives of legislation in which there are several levels of legal regulation of environmental engineering:

1. International. These are international treaties and agreements on natural resources and objects under the national jurisdiction of the state (for example, on the basis of the Convention for the Protection of the World Cultural and Natural Heritage of 1972, Lake Baikal, Kamchatka volcanoes and a number of other unique Russian natural complexes and objects have the status of World Territories natural heritage), and international treaties and agreements for the protection of “shared” natural resources and objects (for example, the Framework Convention for the Protection of the Marine Environment of the Caspian Sea Ry, 2003 or the Convention for the Protection of the Black Sea from Pollution in 1992), and international treaties and agreements aimed at resolving:

   • a specific global environmental problem (for example, the 1979 Convention on Long-Range Transboundary Air Pollution, within the framework of which member states undertake to limit and reduce transboundary air pollution, exchange information, conduct consultations on emerging problems and monitor air quality; Vienna Convention on the protection of the ozone layer in 1985 contains the obligations of the parties to systematically observe, research and exchange information on the state of the ozone layer, and Montreal sky Protocol on Substances that Deplete the Ozone Layer, 1987 g. imposed considerable restrictions on the production and use of chlorofluorocarbon greenhouse gases not covered by the Montreal Protocol, applies Framework Convention on Climate Change, 1992 etc.);

   • the protection of a specific natural resource (for example, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) of 1973, the purpose of which is to prevent the excessive exploitation of flora and fauna by introducing control over trade in these species through the export-import system import permits; International Convention on the Regulation of Whaling, 1946; Convention on Wetlands of International Importance, 1971, etc.).

2. The Constitution of the Russian Federation, adopted at a popular referendum 12/23/1993, for example, Part 1 of Art. 9 of the Constitution of the Russian Federation establishes a basic principle that determines the importance of land and other natural resources as the basis for the life and work of peoples living in the corresponding territory; P. 1 Art. 36 establishes that citizens and their associations are entitled to have land in private ownership; Art. 41 - financing of federal programs for the protection and promotion of public health; activities promoting environmental and sanitary-epidemiological well-being are encouraged; the right of citizens to a favorable environment corresponds to the obligation of citizens to preserve nature and the environment, to take care of its wealth - Art. 58 and others).

3. Federal constitutional laws. For example, the Federal Constitutional Law of December 17, 1997 No. 2-FKZ “On the Government of the Russian Federation”, in Art. 18 consolidates the functions of the Government of the Russian Federation in pursuing a unified state policy in the field of environmental protection and environmental safety; to ensure environmental well-being; on the organization of activities for the protection and rational use of natural resources, the regulation of nature management and the development of the mineral resource base of the Russian Federation, etc.

4. Federal laws:
• Ecosystem: Federal Law dated 10.01.2002 No. 7-FZ “On Environmental Protection”, Federal Law dated 01.05.1999 No. 94-FZ “On Protection of Lake Baikal”, Federal Law dated 30.11.1995 No. 187-FZ “On Continental shelf of the Russian Federation” and others;

• Differentiated: The Land Code of the Russian Federation of October 25, 2001 No. 136-FZ, the Water Code of the Russian Federation of June 3, 2006 No. 74-FZ, the Forest Code of the Russian Federation of December 4, 2006 No. 200-FZ, etc.;

• Federal laws in the field of environmental safety - Federal Law of 21.07.1997 No. 116-FZ “On Industrial Safety of Hazardous Production Facilities”, Federal Law of 09.01.1996 No. 3-FZ “On Radiation Safety of the Population”, etc.

• Green laws: Civil Code of the Russian Federation, Criminal Code of the Russian Federation of June 13, 1996 No. 63-FZ, Code of the Russian Federation on Administrative Offenses of December 30, 2001 No. 195-FZ, etc.

5. Secondary regulatory legal acts. Thus, the Decrees of the President of the Russian Federation determine the main directions of environmental policy, form the system and structure of state executive authorities. For example, the Fundamentals of state policy in the field of environmental development of Russia for the period up to 2030 (approved by the President of the Russian Federation dated April 30, 2012) and others. Decrees of the Government of the Russian Federation approve federal target programs, establish rates for calculating the amount of damage caused to natural resources, the procedure for environmental monitoring etc. For example, Decree of the Government of the Russian Federation of 09.09.2013 No. 681 “On state environmental monitoring (state environmental monitoring) and the state fund of data of state environmental monitoring (state environmental monitoring)”, Decree of the Government of the Russian Federation of 26.09.2000 No. 724 “On changing rates for calculating the amount of recovery for damage caused to aquatic biological resources”, Decree of the Government of the Russian Federation of February 11, 2005 No. 69“ On the state examination of mineral reserves, geological information on the subsoil blocks, the amount and manner of charging for its implementation”, and others. Equally important in environmental law sources system are normative legal acts of ministries, federal services and federal agencies. For example, Order of the Ministry of Natural Resources of Russia dated 25.07.2014 No. 338 “On amendments to the Procedure for the development and approval of waste generation standards and limits for their disposal”, Order of Rostekhnadzor dated 05.04.2007 No. 204 “On approval of the form for calculating payments for negative environmental impacts” and the Procedure for filling out and submitting the form for calculating payments for negative environmental impact”, etc.

The regions of the Russian Federation also carry out their own normative legal regulation in the environmental sphere. As a rule, their lawmaking takes into account the natural-geographical, climatic, resource and other features of the region [1]. For example, the Law of the Krasnoyarsk Territory “On Ecological Safety and Environmental Protection in the Krasnoyarsk Territory” of September 20, 2013, the Concept of State Policy of the Krasnoyarsk Territory in the Field of Ecological Safety and Environmental Protection until 2030, approved by Decree of the Governor of November 25, 2013 No. 225 and others

Nevertheless, despite the seemingly large number of regulatory legal acts of various levels and legal force, there are many issues in the field of environmental engineering that need to be resolved in a legal manner.

First, on the basis of the already universally recognized importance of environmental engineering for both the ecology and the economy of the state, an appropriate regulatory and legal framework is necessary for the legal consolidation and execution of this complex interdisciplinary institute as such.

Second, the legislative consolidation of environmental regulation in relation to individual components of the natural environment (water, soil, forests, aquatic biological resources) is not up to the mark - the movement of pollutants from one environment to another, their accumulation and total concentration in the environment are not taken into account [2].
Third, the problem is that the process of developing and approving quality standards lags behind the amount of chemicals that appear. To solve this issue, in practice, temporary indicative safe exposure levels and approximate permissible levels are used. Their substantiation is carried out using accelerated experimental and calculation methods, as well as by analogy with structurally similar compounds that were previously normalized. Although temporary indicative safe exposure levels and approximate permissible levels are not provided for by applicable law, their usefulness for practice is undeniable: like quality standards, they are used in the design, conduct of environmental assessments, as well as in environmental monitoring. Therefore, it is necessary at the legislative level to establish requirements regarding their legal regime. As for the standards of permissible environmental impact, the situation is better: the literature draws attention to the lack of uniformity of legal terminology regarding the standards of permissible environmental impact used in the federal laws “On Environmental Protection” and “On Air Protection” (“Normative of permissible anthropogenic environmental load” and “maximum permissible (critical) load”; “emission and discharge limits” and “temporarily agreed release”, etc.). And although the differences in the content of the same standards referred to in different ways are not fundamental, nevertheless, agreement on the terms would still be appropriate. One of the most problematic aspects of legal regulation of rationing should include rationing of the extraction of natural resources: in the Law of the Russian Federation “On Subsoil” there are no requirements for rationing the withdrawal of mineral resources. Such a position of the legislator does not comply with the Constitution of Russia, the Declaration on the Environment and Development, the Basic Provisions of the State Strategy of the Russian Federation on Environmental Protection and Sustainable Development (approved by Decree of the President of the Russian Federation on February 4, 1994 No. 23614), the Concept of the Russian Federation's transition to sustainable development. Accordingly, one of the directions for improving the legal mechanism for rationing the extraction of natural resources should be the establishment in the Law "On Subsoil" of scientifically based restrictions on the extraction of subsoil resources [3].

Fourth, a legal update of the previously adopted various rules in the field of environmental and economic activity that were previously adopted (often quite long ago) and no longer correspond to the expectations of modern reality. So, in October 2019, the Ministry of Agriculture of the Russian Federation proposed a new draft rules for waste management.

Fifth, for the implementation of environmental and economic activities, it is necessary to resolve the personnel issue, and this also requires an appropriate legal settlement [4].

Sixth, it is important to use a comprehensive method in the implementation of economic and legal regulation of issues affecting related industries and fields of activity, in particular, in the implementation of regional policies (for example, in the Arctic region [5]), when developing priority directions of the state policy for rural development economy [6] and the use of land [7] and water [8] resources, when introducing environmental engineering mechanisms in managerial decisions [9], when implementing environmental-eco ideas in the activities of enterprises nomic management [10], etc. The same applies to various kinds of legal institutions, in which it is necessary to fix at the legislative level the specifics of solving certain problems related to environmental and economic activities, for example, in resolving constitutional law problems [11], in solving criminal law problems of combating crime [12] etc. Seventh, it is necessary to focus on national projects in the development of environmental engineering systems. So, one of the main such projects is the digitalization of the national economy in general and its individual branches [13]. Therefore, the development of medium-term (and especially long-term) environmental engineering programs should include such ideas, which implies the need for their legal consolidation and support.

Here are just some aspects of a legal nature, the solution of which is of great importance for the quality functioning and further improvement of the environmental engineering system in the Russian Federation.

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