

Taxation in the System of Natural Resource Management and its Influence on the Economic Development of Northern Territories*



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Abstract. The paper considers types of taxes on and payments for the use of natural resources and shows their volume and dynamics in Northern regions of Russia. We highlight tax policy in the system of natural resource management from the point of view of coordinating private and public interests and observing social and territorial justice. The goal of the paper is to present the findings of a research on the theory and practice of taxation in the system of environmental management and its impact on economic development in the Northern territories. The objectives are as follows: to determine the types of tax exemptions for the use of non-renewable natural resources, to reveal current problems in fiscal relations, to establish general principles of taxation of environmental management and to assess its effectiveness. Scientific novelty of our study consists in the fact that we assess imbalances in the system of economic federalism in terms of taxation and the excessive gap between the places of production and consumption of natural resource revenues. Our study is relevant in a practical perspective because it determines current problems in tax and budget relations, establishes general principles of taxation of environmental management essential for the strategy of public administration in economics, analyzes and evaluates its effectiveness in Russia's Northern regions. The research methodology we use is based on the theories of taxation, environmental economics and regional economics. In order to achieve the goals and objectives of the study, we use methods such as quantitative comparison, dynamic and static analysis of tax revenues related to the use of natural resources in the Northern regions of Russia; this makes it possible to reveal relevant problems in fiscal relations.

Key words: types of taxes and payments, use of natural resources, taxation in the world and Russia, Northern regions, performance assessment, volume, dynamics and structure of taxes, fiscal relations.

Introduction

We believe that the methodologically correct consideration of “Northern” taxes and payments can have a significant impact on the assessment of the state of the entire financial and budgetary system of the country. Financial relations between the center (Federation) and the Northern regions are currently becoming particularly relevant due to the aggravation of the problem of spatial gap between the created and consumed surplus product. The division of income between the state and the enterprises of the extractive industry is also connected with the difficulties in balancing their interests on the basis of a certain compromise. Our general initial premise is that the taxation of natural resources should be formed taking into account the future of resource-based regions; besides, it is necessary to perform effective transformation of natural resources into resources of direct social purpose.

Specific types of tax immunity have their own features in certain sectors of the natural resource economy; at the same time, there is a significant increase in the promising role of biological and water resources. But the current problems of regionalization of fiscal relations are largely related to the extraction of minerals, primarily hydrocarbons.

We try to analyze the current problems of distribution of taxes related to natural resources in the framework of existing theories of taxation from the point of view of the need to improve regional policy.

Content of the problem

The development and use of natural resources is the basis of socio-economic development in the Northern regions of Russia. The share of natural resource industries in their GRP ranges from 25% in Kamchatka Krai to 69% in Nenets Autonomous Okrug (2015).

The proportion of people employed in these industries is lower; for example, it is 23% in Nenets Autonomous Okrug. But the nature and dynamics of all other types of employment is determined mainly by the arrangement of the extractive industry, its institutions and the role played by the natural resource factor in the scientific and technological development of the country. Most researchers of resource-based regions are critical about the thesis of “resource curse”, “oil export dependence”, “dependence on raw materials”, etc. [1, 2, 3, 4, 5, 6, 7]. The main premise is that “resource wealth and good institutions are two fundamental factors that ensure sustainable economic growth in a long-term historical trend. In fact, it is political and economic axiom that needs no further explanation” [8, p. 88].

The question whether “to extract or not to extract” is not a problem one; the problems arise due to the existence of a variety of ways to assess resource potentials, their correct use, the inclusion of “raw materials and resources” in the system of social reproduction, the formation of end-to-end technological cycles “raw materials—semi-finished products—finished products”, the calculation and distribution of rental and other revenues, the implementation of the constitutional norm in terms of joint (Federation and subjects of the Federation) state regulation of processes and financial results of nature management. It is in this aspect that the subject of economic science comes to the fore with a focus on the formation of a new system of capitalization of labor and natural resources of society [9, 10]. In order to improve rent taxation and enhance its role in the sustainable development of regions, research is carried out on concrete mineral and fuel and energy complexes of Siberia and the European North of Russia taking into account world experience of environmental

management institutionalization [11, 12, 13] and distribution of the corresponding income among the budgets of different levels and the funds of the future. Concern about the future of resource-based regions and mining centers is associated with the cyclical character of natural resources and involves the early accumulation of funds for their modernization or radical reconstruction.

We can assume that the relations in the system of environmental management are well elaborated and regulated by legal documents. And yet they still remain opaque, not sufficiently systematic, contradictory, and ultimately socially and territorially unfair. The situation here is such that we have to go back to the theoretical foundations of taxation issues and their revision under the due to the risks of depression in the regions with raw materials specialization.

Research results

The economic basis of natural resource taxation is the state ownership of subsoil, most of the land, forests, and water, as well as the need to create funds for public reproduction and national security. The principles of establishing the payments for the use of natural resources imply the necessity to harmonize private and public interests. Differences in the reproduction of mineral and biological resources are also taken into account.

From the standpoint of the laws of social reproduction and social justice, the fact that the state withdraws part of the income of specific economic entities is perfectly justified. In the system of environmental management, the need for this exemption (except for the classical approach to income taxes and environmental payments) is supported by the theory of natural resource rent (absolute and differentiated), formed in the works of the classics of political economy (A. Smith, D. Ricardo, K. Marx)

and economic scientists of the present day (J. Stiglitz, D. Ellerman, Dm. Lvov, etc.). The regional aspect of rent taxation taking into account geographical, geological and social conditions is thoroughly analyzed in the works of V.A. Kryukov, V.V. Shmat, T.E. Dmitrieva and other authors [14, 15, 16, 17, 18]. The works [19, 20, 21] emphasize the Northern specifics of the issues of socially significant approach to financial and economic relations. These works consider various options for the payments for the right to develop mineral deposits and various options for the establishment of norms to withdraw super-profits. It is shown that the “ideal” calculation, withdrawal and distribution of natural resource rent could make minor changes in the volume and structure of GRP and significant changes in the formation of incomes of people and territorial budgets. Methodological difficulties of finding an unambiguous and acceptable practical solution for the calculation and withdrawal of rental income are revealed.

It is necessary to take into account the fact that in our country the tax load on subsoil users is the highest in comparison with other economic sectors: in 2017 in Russia – 10.8%, in the sector of fuel and energy minerals extraction – 45.4%, in the mining sector, except for fuel and energy, – 18.8%. Here, the payment of taxes is carried out both under the traditional system, including profit tax, value added tax, property tax, transport tax, export and import duties and other mandatory payments, through which the fiscal sovereignty of the country is realized, and also through special tax payments for the use of natural resources, namely mineral extraction tax, water and land taxes. Here we add fees for the use of objects of fauna and other biological resources¹.

Analysis and explanation of the results

Taxes in environmental management have a significant impact on the assessment of the condition of the entire financial and budgetary system of the country. For example, in 2015, GDP in Russia was 80 trillion rubles, taxes

¹ Tax exemptions for the use of non-renewable natural resources are quite diverse and include the following: rental bonuses, rentals, royalties, mineral extraction tax, in-kind payments received on the basis of production sharing agreements, and a number of others. *Rental bonuses* are pre-payments, the amount of which may be established according to the results of a competition for the right to use a natural object. *Rentals* (rent), as well as bonuses, do not depend on the volume of mineral extraction or profitability of the object (field) and are paid annually, thus ensuring a stable replenishment of the revenue side of the budget. The size of rentals can be established both for the entire contracted area and for a part of the area. *Royalty payment* is a payment to the owner for the right to develop natural resources; royalty payment is essentially a tax on the developer of minerals, it is set at a fixed rate for each ton of extracted raw materials or is calculated as a percentage of its market value. This type of tax exemption guarantees the state a certain minimum revenue from the beginning and until the end of the field operation. *Rent tax* on natural resources is a tool for the withdrawal of part of the rent, the source of which is the excess income exceeding the alternative cost of capital for the company. This tax is paid only from the implementation of high-yield projects and can be applied as an addition to royalties. *Production sharing agreement* is an agreement between the state and investors (usually foreign) on the division of extracted minerals within the framework of a specific investment project.

Different countries use different combinations of these payments. In Russia, the extraction of non-renewable natural resources, in particular hydrocarbons, is accompanied by the exemption of mineral extraction tax, excise taxes (on motor gasoline, diesel fuel, motor oils for diesel and (or) carburetor (injector) engines, straight-run gasoline, medium distillates (i.e. mixtures of hydrocarbons in liquid state obtained as a result of primary and (or) secondary processing of oil, gas condensate, associated petroleum gas, oil shale), benzene (i.e. a liquid containing (by weight) the corresponding elementary aromatic hydrocarbon in the amount of 99%), paraxylene, orthoxylene, aviation kerosene, petroleum raw materials (i.e. a mixture of hydrocarbons consisting of one component or several components, including oil, stable gas condensate, vacuum gas oil, tar, fuel oil), dark marine fuel (i.e. mixtures of hydrocarbons in liquid or solid state, obtained as a result of primary and (or) secondary processing of oil, stable gas condensate, associated petroleum gas, oil shale), natural gas), corporate income tax, export duties on oil and less fiscal exemptions – royalties, bonuses, fees for participation in the competition, for the issuance of licenses, payment for geological information about the subsoil, as well as the conclusion of production sharing agreements. (For details, see: Tax payments for the use of natural resources, their brief description. Available at: <http://pravo.studio/kreditovanie/nalogovyie-plateji-polzovanie-prirodnymi-46235.html>).

and fees – 14 trillion, and the tax burden was only 17.5%, i.e. its level was relatively low. But “... the actual level of tax burden is significantly higher than the officially declared one. If its calculation takes into account the receipt of these payments withdrawn from the tax system, as well as oil and gas revenues (oil and gas production tax, export customs duties on oil, gas and oil products), which are not reflected in the revenues of the budget of the current year, but are sent to the state (federal) reserve stabilization funds, then the tax burden in the economy in recent years will be about...38-40% of GDP. This level roughly corresponds to the average European tax burden (ranging from 27.8% in Ireland to 48.2% in Denmark) and significantly exceeds its value in the U.S. economy (24%) and Japanese economy (28.1%). Thus, we come to an obvious conclusion: it is necessary to return customs duties, fees for harvesting raw wood (forest tax), regular payments for negative environmental impact (environmental tax) to the tax system” [22]. The example given above shows that before declaring that “our taxation in the field of raw materials and fuel is quite moderate”, it is necessary to make a clear record of all financial and budgetary flows. In addition, the monitoring of specific tax rates for the extraction of multi-component complex ores in Krasnoyarsk Krai (the rates were established on mineral extraction tax as of January 1, 2017) will make it possible to prepare recommendations for their distribution to other types of minerals, including common ones, and to other regions, and to take into account specific features of nature management related to taxation in the Northern regions [23].

Financial relations between the center (Federation) and the regions are currently coming to the fore due to the aggravation of the problem of spatial gap between the created and consumed

surplus product. This problem has historical prerequisites for the development of capitalism in Russia. At the time, N.N. Baransky showed its essence on an example of a pre-revolutionary situation in the cities of Ivanovo-Voznesensk and Moscow: the former manufactured goods (fabrics), and the latter accumulated the profit from the sales of those goods. Workers in Ivanovo-Voznesensk considered such a situation as socially unfair, which greatly contributed to their revolutionary mood [24]. And at present, the geography of income and consumption reflects territorial and social injustice: Moscow and some other large centers and their surroundings benefit from the concentration of capital, while other regions – especially the North – lose. One of the reasons for this lies in undetected and undistributed natural resource rent, the great portion of which is accumulated far from where it was created. The problems of spatial gap between the created and consumed surplus product will continue after the introduction of a new tax regime for the oil sector from January 1, 2019. The tax on additional income in the extraction of hydrocarbon raw materials will be introduced, and the amount of its inflow in the budget will depend on the amount of the estimated cash flow from the activities for the development of a separate subsoil plot (taking into account global market prices for hydrocarbon raw materials) and on the capital and operating costs for its production actually incurred and paid by the taxpayer. The problems will linger because the revenues to the budget after the introduction of a tax on additional income from hydrocarbon production and the reduction of the total amount of budget revenues under the new tax regime (mineral extraction tax and export customs duty on oil) due to the dependence on gross indicators, concern only the federal level.

The division of revenues between the state and the natural resource user is connected with the difficulties of maintaining the balance of their interests on the basis of a certain compromise. But in any case, the state should not allow the user of natural resources to appropriate the unearned part of the profit. The latter should have a profit of sufficient size to develop production and maintain economic incentives to exploit not only the best or highly profitable, but also hard-to-exploit fields. Here it is necessary to take into account mutual relations between business and local authorities. For instance, in the Republic of Komi, the tendency toward strengthening the links between corporate and territorial development has become more noticeable. In 2018, corporations operating in the Komi Republic began to invest significant funds not only in production, but also in the development of territories and in social environment. LUKOIL, Gazprom, Rosneft, Transneft, Mondi SLPK, Renova, Severstal, RUSAL and other companies increased the volume of financial support to 4.2 billion rubles² (5.5% of the consolidated budget revenues in the Republic).

Taxation of natural resource management implies taking into account the future of resource-endowed regions and effective transformation of natural resources into resources of direct social purpose. The analysis performed by T.E. Dmitrieva on the formation and distribution of funds for future generations, for example, the Alaska Permanent Fund, shows that they can be considered as territorial-resource trust funds [25]. The main points of the formation and use of this kind of trust funds are as follows: establishment of specific sources of formation, favorable placement of capital, elaboration of a dividend program, organization of management, and people's awareness. The general idea is to increase and protect domestic

² BNK. Internet source. Accessed May 7, 2018.

financial capital, the source of which is the common resource property.

In addition to outlining the current problems of fiscal relations, the theory of taxation of natural resources allows us to understand general principles essential for the strategy of state economic management:

- legislative establishment of taxes and fees for the use of natural resources should be carried out on the basis of legal norms: universality and equality of taxation; actual ability of economic entities to pay them; inadmissibility of discriminatory taxation and manipulation of elements of taxes (differentiated rates of taxes and fees for the use of natural resources, and tax benefits) depending on the form of ownership of the taxpayer and citizenship of natural persons or the place of origin of capital;

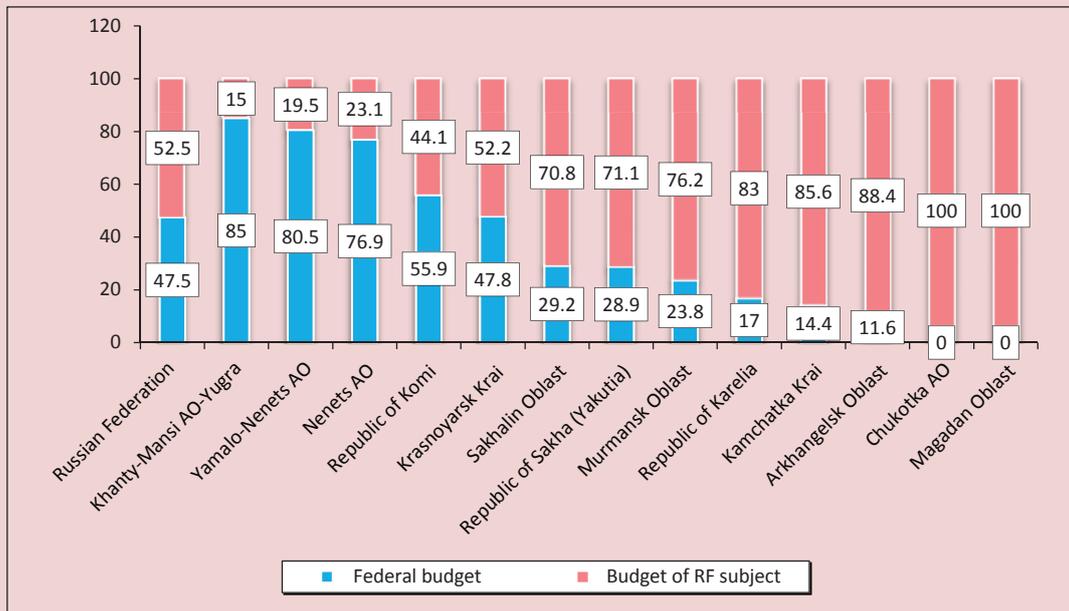
- establishment of taxes and fees for the use of natural resources should not violate the unity of the economic space of the country and should not limit the free movement of capital;

- parity between the fiscal and regulatory functions of taxes on the use of natural resources should be maintained, taking into account national and regional interests.

Assessment of environmental taxation effectiveness in the Northern regions of Russia

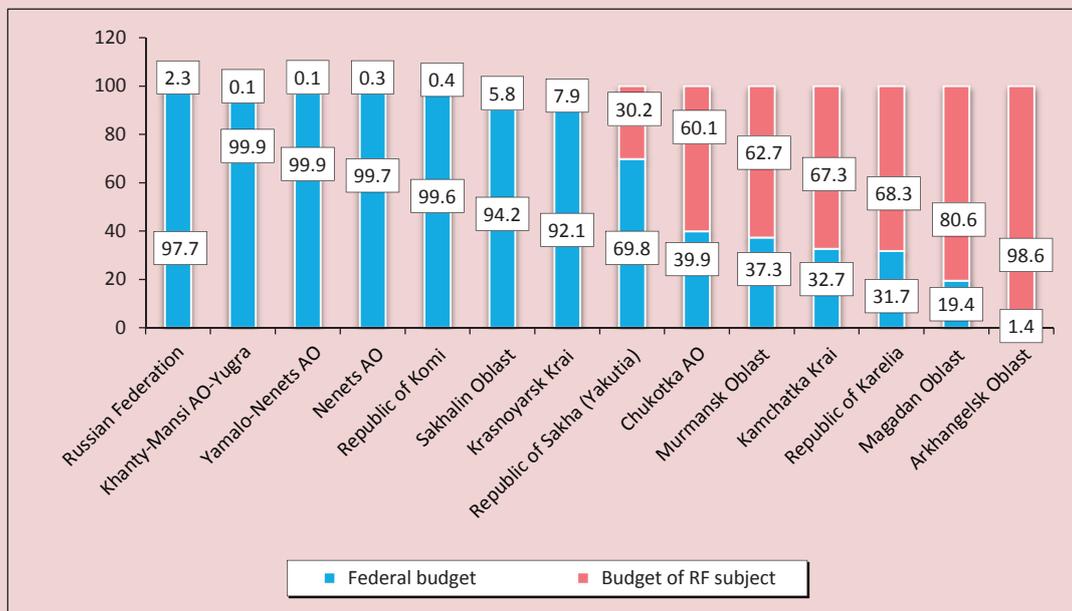
The proportion of taxes received by the federal budget and by consolidated budgets of the Northern constituent entities of the Russian Federation amounted to 47.5 and 52.5%, respectively, which is quite an acceptable proportion. But this ratio differs significantly in specific regions (*Fig. 1*). For instance, in 2016, the ratio of tax revenues of the federal to territorial budgets was (as a percentage): in Khanty-Mansiysk Autonomous Okrug – 85 to 15, in Yamalo-Nenets Autonomous Okrug – 81 to 20, in Nenets Autonomous Okrug – 77 to 23, in the Komi Republic – 56 to 44 (for comparison: in 2000 – 42 to 58).

Figure 1. Proportion of taxes received by the federal budget and the budgets of Northern constituent entities of the Russian Federation in 2016, %



Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

Figure 2. Proportion of taxes, fees and resource payments for the use of natural resources (total) received by the federal budget and the budgets of Northern constituent entities of the Russian Federation in 2016, %



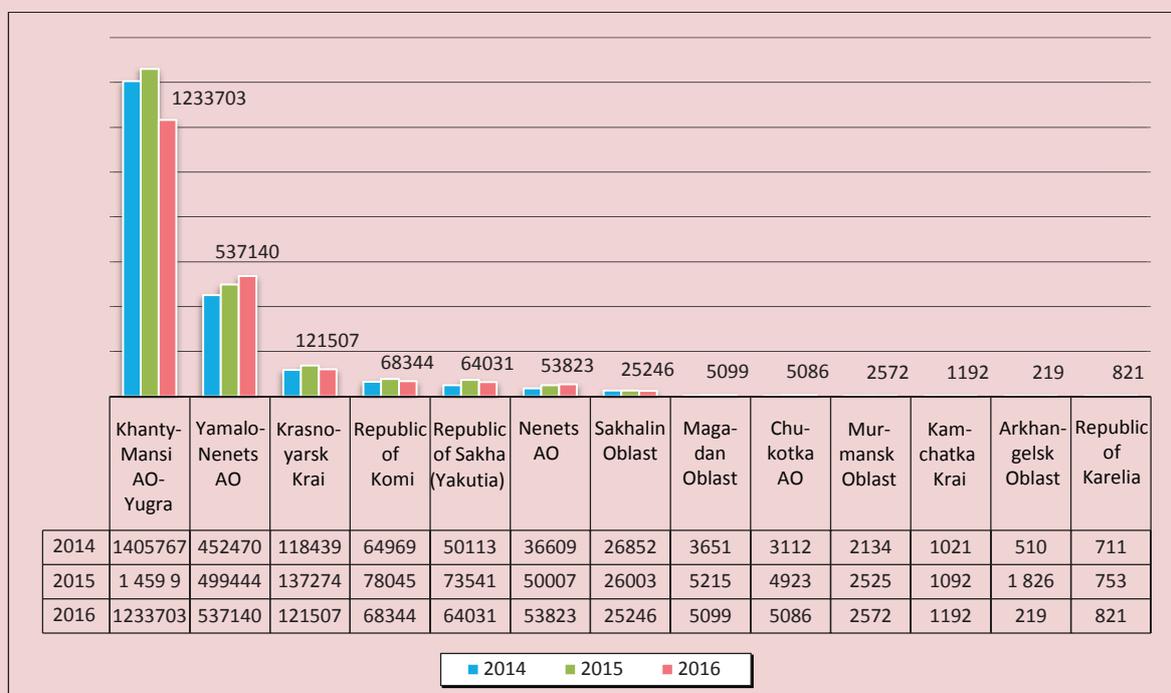
Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

In these constituent entities of the Russian Federation, the proportion of taxes, fees and payments for the use of natural resources (total), received by the federal budget and the budgets of constituent entities of the Russian Federation in 2016, amounted to more than 99% (Fig. 2). At the same time, in six of the twelve Northern regions under consideration, more than 60% of the total payments for the use of natural resources was received by the budgets of the following constituent entities of the Russian Federation: Chukotka Autonomous Okrug – 60%, the Murmansk Oblast – 63, Kamchatka Krai – 67, the Republic of Karelia – 68, the Magadan Oblast – 81, the Arkhangelsk Oblast – 99%.

Redistribution of natural resource taxes and payments in favor of the federal budget or territorial budgets depends on the type of resources (taxes on oil, gas, coal, land, forest,

water are distributed differently). Therefore, the very problem of the unsatisfactory state of territorial budgets should also be considered in a differentiated way. It is particularly acute in the areas of oil and gas specialization, but is little visible in the areas specializing in hunting, fishing, agriculture and forestry. The presence of specific types of natural resource economy determines the dynamics of budget revenues, taxes, fees and payments for the use of natural resources and the dependence of the economy on the world markets. It is for this reason that budget revenues from resource payments decreased in six of the twelve Northern constituent entities of the Russian Federation; these entities include Khanty-Mansi Autonomous Okrug, Krasnoyarsk Krai, the Republic of Komi, the Republic of Sakha (Yakutia), the Sakhalin and Magadan oblasts (Fig. 3).

Figure 3. Dynamics of revenues from taxes and fees for the use of natural resources received by the budget in the Northern regions of Russia in 2014–2016, million rubles



Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

Table 1. Structure of revenues from taxes and fees for the use of natural resources received by the budget in the Northern regions of Russia in 2016

RF constituent entity	Tax revenues, total	Mineral extraction tax			Water tax			Fees for the use of objects of fauna and for the use of objects of water biological resources			Land tax		
		Min. RUB	Share in total tax revenue, %	Share of RF constituent entity, %	Min. RUB	Share in total tax revenue, %	Share of RF constituent entity, %	Min. RUB	Share in total tax revenue, %	Share of RF constituent entity, %	Min. RUB	Share in total tax revenue, %	Share of RF constituent entity, %
Russian Federation	14386061	2929408	20.4	100	2270	0.02	100	2593	0.02	100	176417	1.23	100
Khanty-Mansi AO-Yugra	1700643	1233552	72.5	42.1	142	0.01	6.3	9	0.00	0.4	1467	0.09	0.8
Yamalo-Nenets AO	810744	537107	66.3	18.3	28	0.00	1.2	5	0.00	0.2	227	0.03	0.1
Krasnoyarsk Krai	371289	121384	32.7	4.1	94	0.03	4.1	29	0.01	1.1	1475	0.40	0.8
Republic of Komi	148441	68325	46.0	2.3	15	0.01	0.7	4	0.00	0.2	284	0.19	0.2
Republic of Sakha (Yakutia)	159646	63997	40.1	2.2	13	0.01	0.6	21	0.01	0.8	575	0.36	0.3
Nenets AO	61907	52014	84.0	1.8	3	0.00	0.1	10	0.02	0.4	30	0.05	0.0
Sakhalin Oblast	178249	8994	5.1	0.3	12	0.01	0.5	463	0.26	17.9	314	0.18	0.2
Magadan Oblast	18843	5050	26.8	0.2	2	0.01	0.1	46	0.24	1.8	46	0.24	0.0
Chukotka AO	15797	5044	31.9	0.2	1	0.01	0.0	41	0.26	1.6	18	0.11	0.0
Murmansk Oblast	79311	2250	2.8	0.1	5	0.01	0.2	317	0.40	12.2	401	0.51	0.2
Arkhangelsk Oblast	52981	2117	4.0	0.1	6	0.01	0.3	74	0.14	2.9	713	1.35	0.4
Republic of Karelia	25498	771	3.0	0.03	1	0.00	0.0	49	0.19	1.9	406	1.59	0.2
Kamchatka Krai	30428	602	2.0	0.02	21	0.07	0.9	568	1.87	21.9	297	0.98	0.2

Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

The structure of inflow of taxes and fees for the use of natural resources to the budget varies considerably throughout the Northern regions (Tab. 1), due to the difference in the types and volumes of natural resources involved in the economic turnover of the country. Namely, the total volume of production of hydrocarbons and other minerals in Khanty-Mansi, Yamalo-Nenets, Nenets and Chukotka autonomous okrugs, the Republic of Komi, Krasnoyarsk Krai and the Republic of Sakha (Yakutia) and other Northern regions of Russia allowed for collecting 2.1 billion rubles of mineral extraction tax. Thus, the Northern regions account for 72% of the total inflow of the tax into the budget. With the national average value of the proportion of mineral extraction tax being 20.4% the figure ranges from 2% in Kamchatka Krai to 84% in Nenets Autonomous Okrug. The proportion of water tax and fees for the use of wildlife objects and for the use of water biological resources in all the Northern regions is insignificant – less than 1 % (except for Kamchatka Krai – 1.89%), the proportion of land tax does not reach 2%.

Taxation of mineral extraction. Mineral extraction tax has the largest share among resource payments. Its dynamics in the Northern regions of the country varies considerably (Tab. 2).

Budget revenues from mineral extraction tax in Russia over the past 10 years increased in 2.4 times. In 2016, compared with the previous year, tax revenues decreased by 9.2%; this also happened in five (out of twelve) Northern subjects of the Russian Federation: in Khanty-Mansi Autonomous Okrug – by 15.5%, in Krasnoyarsk Krai – by 11.5%, in the Republic of Komi – by 12.4%, in the Republic of Sakha (Yakutia) – by 12.9%, in the Magadan Oblast – by 2.2% (Fig. 4). At the same time, the significance of the Northern subjects of the Russian Federation for the country as a whole is different. Despite the decrease in the absolute value of the tax, Khanty-Mansi Autonomous Okrug has the largest share – 42.1% of the total amount of mineral extraction tax in the country. The following factors influenced the decline in budget revenues from mineral extraction tax: the dynamics of world oil prices,

Table 2. Mineral extraction tax in the Northern regions of Russia in 2014–2016, million rubles

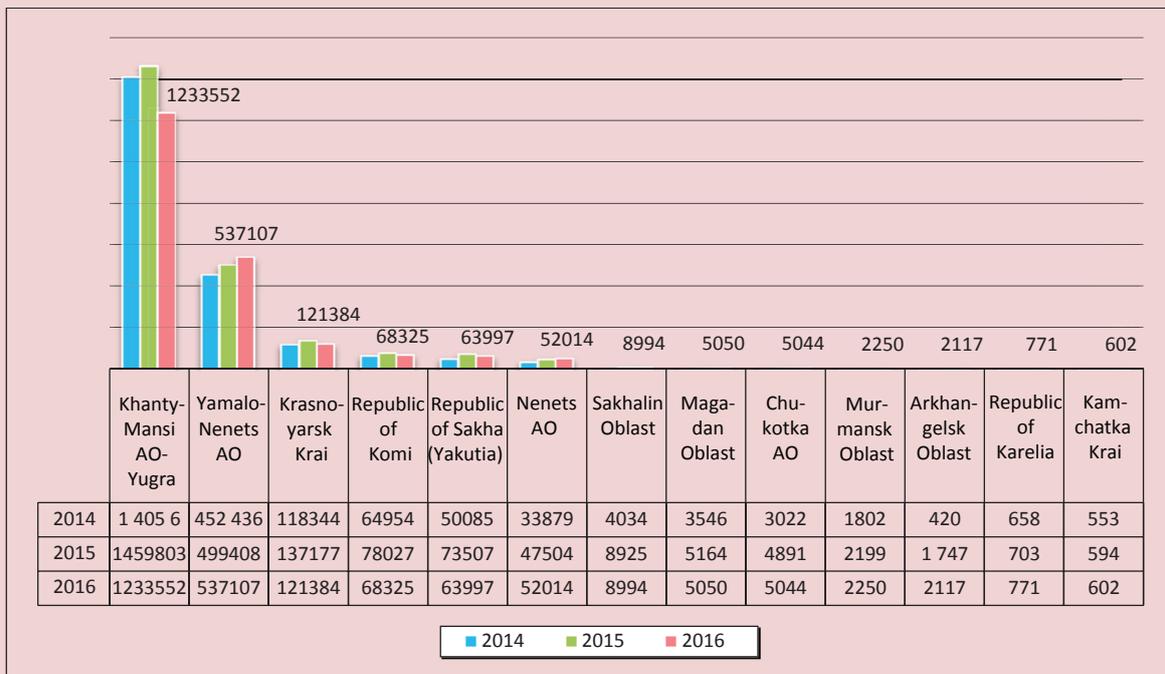
Constituent entity	2014	2015	Yearly dynamics, 2015 to 2014, %	2016	Proportion, %	Yearly dynamics, 2016 to 2015, %
Russian Federation	2 904201	3226831	111.1	2929408	100	90.8
Khanty-Mansi AO-Yugra	1405651	1459803	103.9	1233552	42.1	84.5
Yamalo-Nenets AO	452436	499408	110.4	537107	18.3	107.6
Krasnoyarsk Krai	118344	137177	115.9	121384	4.1	88.5
Republic of Komi	64954	78027	120.1	68325	2.3	87.6
Republic of Sakha (Yakutia)	50085	73507	146.8	63997	2.2	87.1
Nenets AO	33879	47504	140.2	52014	1.8	109.5
Sakhalin Oblast	4034	8925	221.4	8994	0.3	100.8
Magadan Oblast	3546	5164	145.6	5050	0.2	97.8
Chukotka AO	3022	4891	161.8	5044	0.2	103.1
Murmansk Oblast	1802	2199	122.0	2250	0.1	102.3
Arkhangelsk Oblast	420	1747	416.0	2117	0.1	121.2
Republic of Karelia	658	703	106.8	771	0.03	109.7
Kamchatka Krai	553	594	107.4	602	0.02	101.3

Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

underestimation of promising opportunities for the development of the manufacturing sector of the Russian economy, and tax administration.

Water tax. Its role in the budget revenues of the country and the Northern regions is insignificant (Tab. 3). The share of the

Figure 4. Dynamics of mineral extraction tax receipts in the budget of the Russian Federation from the Northern regions of Russia in 2014–2016, million rubles



Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

Table 3. Water tax in the Northern regions of Russia in 2014–2016, million rubles

RF constituent entity	2014	2015	Annual dynamics, 2015 to 2014, %	2016	Proportion, %	Annual dynamics, 2016 to 2015, %
Russian Federation	2201	2551	115.9	2270	100	89.0
Khanty-Mansi AO-Yugra	108	125	115.7	142	6.3	113.6
Krasnoyarsk Krai	71	71	100	94	4.1	132.4
Yamalo-Nenets AO	30	31	103.3	28	1.2	90.3
Kamchatka Krai	22	21	95.5	21	0.9	100
Republic of Komi	11	14	127.3	15	0.7	107.1
Republic of Yakutia (Sakha)	14	15	107.1	13	0.6	86.7
Sakhalin Oblast	10	10	100	12	0.5	120
Arkhangelsk Oblast	7	7	100	6	0.3	85.7
Murmansk Oblast	52	55	105.8	5	0.2	9.1
Nenets AO	3	3	100	3	0.1	100
Magadan Oblast	7	2	28.6	2	0.1	100
Republic of Karelia	1	1	100	1	0.0	100
Chukotka AO	1	1	100	1	0.0	100

Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

Northern regions ranges from 6.3% in Khanty-Mansi Autonomous Okrug to 0% in Chukotka Autonomous Okrug, due to the specifics of water use.

Water tax receipts to the budget in the Russian Federation for the period of 2007–2016 increased in 1.5 times: from 1,484 to 2,270 million rubles. Their volume and dynamics broken down by regions (*Fig. 5*) depend on the nature of production, number of population and tariff policy.

Among other factors, we note the following:

1. The authorities of the subjects of the Russian Federation lack the competence to change the elements of water tax as a federal tax. We should note that until 2005 the authorities of constituent entities of the Russian Federation were granted the right to adjust (depending on the physical-geographical, hydro-regime and other features of water

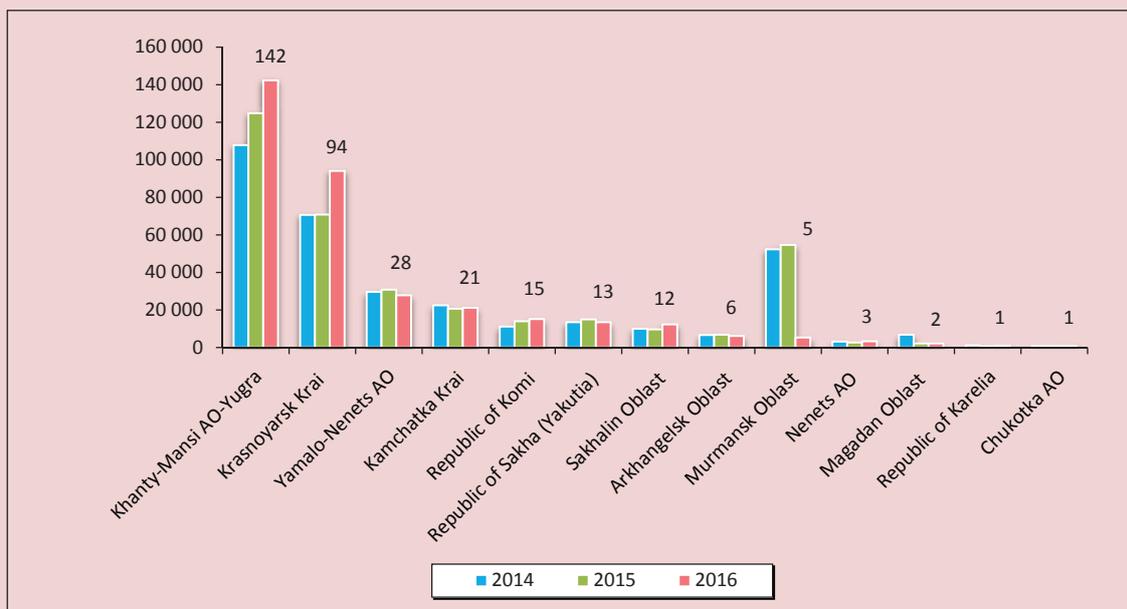
bodies) federal rates of payment within their maximum and minimum values. It is expedient to restore this right.

2. Underestimation of the ecological value of water tax. Thus, wastewater discharge is excluded from the object of taxation. A fee is charged for the discharge of pollutants into water bodies, which has no direct connection with the entire water management system.

3. Excessive tax administration.

These disadvantages are due to the lack or use of outdated measuring instruments necessary to account for the amount of water taken. Taxpayers determine this figure according to the amount of water registered in the invoices received by customers and also according to the norms of use of water by residents who do not have counters, excluding the losses during in its intake or in the networks of water pipes.

Figure 5. Dynamics of water tax receipts in the budget of the Russian Federation from the Northern regions of Russia in 2014–2016, million rubles



Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

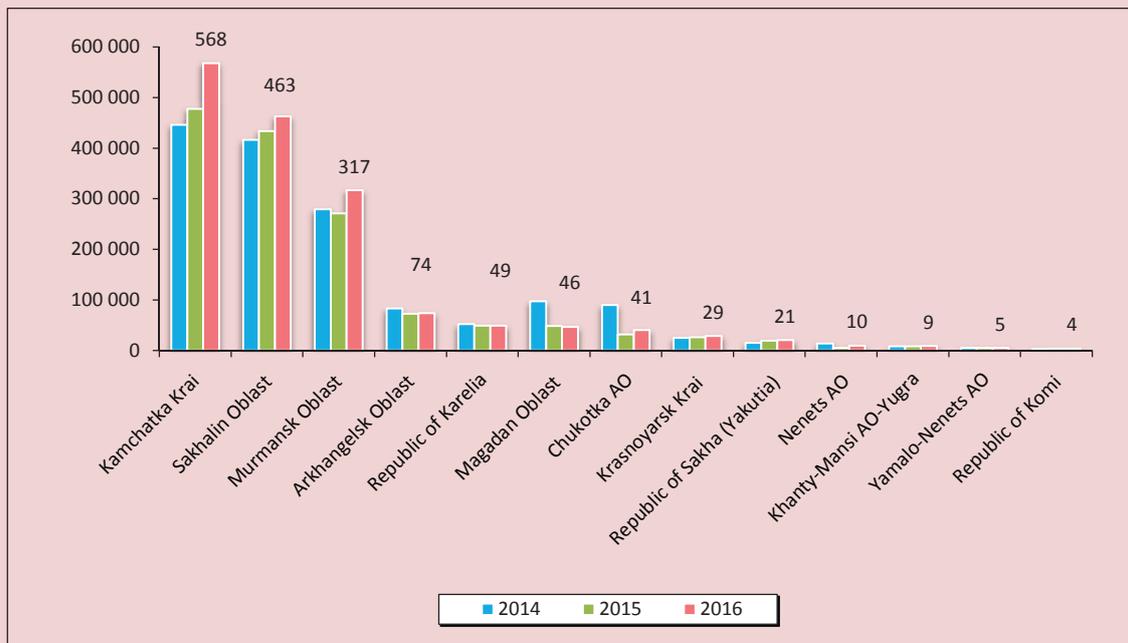
Charges for use of objects of fauna and objects of water biological resources. They are permissive and at the same time compensatory in nature, due to the state ownership of natural resources. Their role in the formation of budget revenues is insignificant (*Tab. 4*).

Table 4. Charges for use of objects of fauna and for use of objects of water biological resources in the Northern regions of Russia in 2014–2016, million rubles

RF constituent entity	2014	2015	Annual dynamics, 2015 to 2014, %	2016	Proportion, %	Annual dynamics, 2016 to 2015, %
Russian Federation	2386	2237	93.7	2593	100	115.9
Kamchatka Krai	446	477	107.0	568	21.9	119.1
Sakhalin Oblast	416	434	104.3	463	17.9	106.7
Murmansk Oblast	280	271	96.8	317	12.2	117.0
Arkhangelsk Oblast	83	72	86.7	74	2.9	102.8
Republic of Karelia	52	49	94.2	49	1.9	100
Magadan Oblast	98	48	49.0	46	1.8	95.8
Chukotka AO	90	32	35.6	41	1.6	128.1
Krasnoyarsk Krai	25	26	104.0	29	1.1	111.5
Republic of Yakutia (Sakha)	15	20	133.3	21	0.8	105.0
Nenets AO	14	5	35.7	10	0.4	200
Khanty-Mansi AO-Yugra	8	8	100	9	0.4	112.5
Yamalo-Nenets AO	5	5	100	5	0.2	100
Republic of Komi	4	4	100	4	0.2	100

Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

Figure 6. Dynamics of receipts in the budget of the Russian Federation of the charges for use of objects of fauna and objects of water biological resources from the Northern regions of Russia in 2014–2016, million rubles



Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

The receipt of the fees for the use of objects of fauna and objects of aquatic biological resources to the budget in the Russian Federation over the past 10 years increased slightly, only by 15%, and amounted (as of 2016) 2,593 million rubles. (Fig. 6). In 2016, compared to the previous year, the revenues increased or remained at the same level in eleven Northern regions of the Russian Federation out of twelve. The decrease in the fees occurred in the Magadan Oblast (by 4.2%).

The insignificant volume of receipts of the fees for the use of objects of fauna and objects of water biological resources to the budget from the Northern regions of Russia is caused by the following factors:

- lack of competence of the authorities of the subjects of the Russian Federation to change the elements of the fees, taking into account specific features of the region, including the possibility of increasing or reducing the rates of fees depending on changes in the population of wildlife in certain territories;
- problems of administration of fees associated with the complexity of accounting

for the population of animals and birds and objects of aquatic biological resources;

- the list of the objects of taxation of the objects of fauna and objects of water biological resources established by Article 333.3 of the Tax Code of the Russian Federation does not contain some types of objects of hunting widespread in the Northern regions of Russia, including ducks, partridges, geese, foxes, and hares;

– unlicensed use of objects of fauna and objects of water biological resources, under which the subjects of hunting and fishing do not calculate these fees and do not pay them to the budget.

Land tax. In the North, the importance of land tax for local budgets and for the national budget is small – less than 1% (Tab. 5).

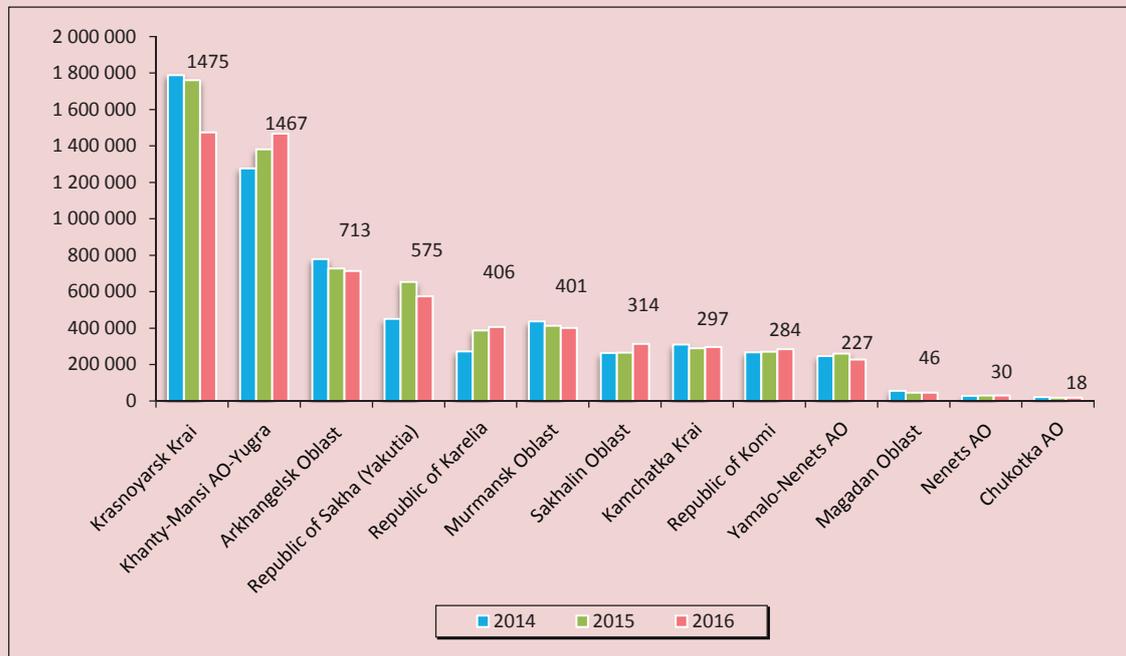
Land tax revenues received by the budget in the Russian Federation over the past 10 years increased in 2.6 times: from 68,943 million rubles in 2007 to 176,417 million rubles in 2016. Compared to the previous year, the tax decreased by 4.7%; it also happened in the six (out of twelve) Northern subjects of the Russian Federation: in Krasnoyarsk Krai – by 16.3%,

Table 5. Land tax, broken down by the Northern regions of the Russian Federation in 2014–2016, million rubles

RF constituent entity	2014	2015	Annual dynamics, 2015 to 2014, %	2016	Proportion, %	Annual dynamics, 2016 to 2015, %
Russian Federation	175299	185131	105.6	176417	100	95.3
Krasnoyarsk Krai	1789	1762	98.5	1475	0.8	83.7
Khanty-Mansi AO-Yugra	1277	1381	108.1	1467	0.8	106.2
Arkhangelsk Oblast	779	726	93.2	713	0.4	98.2
Republic of Yakutia (Sakha)	451	653	144.8	575	0.3	88.1
Republic of Karelia	272	386	141.9	406	0.2	105.2
Murmansk Oblast	438	413	94.3	401	0.2	97.1
Sakhalin Oblast	264	265	100.4	314	0.2	118.5
Kamchatka Krai	309	289	93.5	297	0.2	102.7
Republic of Komi	267	270	101.1	284	0.2	105.2
Yamalo-Nenets AO	247	260	105.3	227	0.1	87.3
Magadan Oblast	56	46	81.1	46	0.0	100
Nenets AO	28	30	107.1	30	0.0	100
Chukotka AO	22	19	86.4	18	0.0	94.7

Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

Figure 7. Dynamics of land tax receipts in the budget of the Russian Federation from the Northern regions of Russia in 2014–2016, million rubles



Source: Statistical tax reporting of the Federal Tax Service. Available at: <http://www.nalog.ru> (accessed March 14, 2018).

in the Arkhangelsk Oblast – by 1.8%, in the Republic of Sakha (Yakutia) – by 11.9%, in the Murmansk Oblast – by 2.9%, in Yamalo-Nenets Autonomous Okrug – by 12.7%, in Chukotka Autonomous Okrug – by 5.3% (Fig. 7).

Problems of taxation of land plots are due to a number of circumstances, such as: the lack of consideration of specific features of the zones of risky agriculture; incomplete accounting of the number of land plots and shares in the right to land plots; parallel effect of the right of lifetime inheritable ownership and the right of ownership, frequent changes in the structure of the total tax base; declarative nature of the valuation of land plots on which multi-apartment houses are situated; illegal use of preferential taxation at the rate of 0.3% for the land plots classified as agricultural land used for other purposes; information resources of tax

authorities and other state and local authorities are often not interrelated, the issues of their use for management decisions have not been resolved.

Discussion of the results

Scientific and analytical review of different types of taxation in the system of environmental management raises the thoughts about their role in the future. It is possible to highlight the underestimation of economic work in terms of land, water and forest resources. A bio-resource economy is now in the background of the mineral-raw materials and fuel and energy resources. But it will soon become of paramount importance for the organization of life in the regions of the Arctic and the North; and therefore it is necessary to create a new mechanism for the flow of capital from the mining industries to the sectors of

agriculture, forestry and water management. In our opinion, it is in this process that properly organized taxation of environmental management and improvement of budget activities can lead to the desired result of stable development.

Conclusion

Our study of the practical experience of taxation in the field of environmental management, taking into account the problems of natural resource-type regions, revealed some shortcomings both within the tax policy and in its insufficient role in stimulating the Northern territories.

We believe that it is necessary to implement the following measures:

- to conduct an “inventory” of the legislation of the Russian Federation on taxes and fees and other normative acts regulating social relations in the field of environmental management, in order to systematically link all its components;
- to develop guidelines for the definition, withdrawal and distribution of rental income using the typology of deposits, land, forest and water areas under the conditions of their development; the Ministry of Finance of Russia

can be a possible organizer and form a working group with the involvement of scientists and experts;

- to assess more thoroughly the environmental component in determining the tax burden on the users of natural resources, taking into account their participation in environmental protection at the expense of their own financial resources;

- to organize a special audit and independent examination of the reliability of indicators of the general tax base and tax potential in the field of environmental management;

- to improve intergovernmental fiscal relations in order to increase revenues of the budgets of subjects of the Russian Federation and municipalities, with the use of long-term stable standards;

- to take into account specific features of the Arctic and the North as much as possible; to stimulate rational use of natural resources within the framework of tax policy in extreme and difficult climatic conditions with the use of tax regulation tools (tax rates, adjusting coefficients to the tax base, tax benefits and tax deductions, tax credit, tax sanctions).

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