Restructuring of the economy of resource-extracting regions of the Russian North and the Arctic as a necessary condition for sustainable territorial development

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Abstract. The practice of developing foreign and Russian extractive northern and Arctic territories shows that many problems are based on the narrow-raw nature of the economy. A study of the dynamics of the sectoral structure of the oil and gas producing regions of the Russian North and the Arctic showed that the mono-industry orientation of the economy is growing, which makes the economic situation largely unpredictable and fraught with crisis phenomena. The article shows that already at an early stage of production it is necessary not only to predict, but also to take practical actions to solve the problem of the development of the territory. The authors proposed the main directions for the transition of the mining region from narrow-source specialization to diversified economy, including approaches to partial diversification and restructuring of the regional economy, the implementation of which will create the necessary prerequisites for sustainable integrated development of the region in the long term, including the time when raw materials will be exhausted. Diversification of raw materials industries is, first of all, expanding the sphere of activity in the extractive sector by creating deep processing industries for raw materials, as well as serving and auxiliary ones. Diversification should affect not only the raw materials industries, whose products are in demand on world markets, but also less profitable, but having a development base in the conditions of the raw materials orientation of the region. Restructuring of the region’s economy implies the emergence of new areas of specialization within the existing resource base, the development of high-tech and high-tech production, and the expansion of the service sector, including tourism, transport, computer science, communications.

1. Introduction

The importance of the North and the Arctic in the economic development of Russia is explained mainly by explored and promising mineral resources located on its territory. Here, 2/3 of the country’s resource potential is concentrated, including more than half of the forest, fish, and fur; 100% of diamonds are mined, 80% of gold, over 90% of natural gas, 75% of oil, which account for 50-60% of Russia's foreign exchange earnings. The north occupies more than 60% of the country's territory. About 8% of Russia's population lives here, but more than 25% of gross domestic product is produced.

It must be emphasized that the North is a special object of government with its pronounced specificity. At the same time, the specifics of the North, in general, and resource-producing regions, in particular, are poorly taken into account in the development and implementation of state regional policy. Moreover, there is still no unity of opinion on the strategy of socio-economic development of the North either in management or in scientific circles. There are two worldview attitudes containing fundamentally incompatible concepts.
According to the first approach, natural resources are the main, but not the only factor in the progressive development of the northern territories. First of all, it is a place of permanent residence of the population, the habitat of which must be preserved.

The second approach to the development of resource-producing regions of the North, which considers the resources of the North against the background of a systemic crisis in the Russian economy, is based on the principles of liberalism, according to which nature is seen as an object of intensive exploitation. Proponents of this concept, the North is perceived solely as a supplier of raw materials, a source of foreign exchange earnings and replenishment of the state budget.

In the presented article, the study proceeds from a conceptual approach, according to which the North and the Arctic are not only a place of extraction of natural resources, it should develop and be a place of permanent residence of the population in the long term. But since the non-renewable natural resources, which are so valuable for the North and the Arctic, are exhaustible, it is necessary to think now what will happen to the resource-producing regions of the North and the Arctic during the period of decline and then complete depletion of the most demanded natural resources on the world markets.

2. Research methods
The theoretical basis of the study is the work of domestic and foreign scientists on the problems of state regulation of a market economy, integrated regional development, the economy of the North and the Arctic, ecology and socio-economic geography [1, 2, 3, 4, 5, 6, 7].

In the process of work, the following research methods were used: economic and statistical; economic and geographical; comparative analytical; expert evaluations; balance; sociological. The analysis of development problems and the developed recommendations are based on materials collected by the authors during expeditionary studies of the problems of development of extractive regions using the example of the Nenets Autonomous Okrug (NAO). The empirical and information base, in addition to special literary sources and periodicals, was the official statistics of the Rosstat, its territorial divisions, as well as working materials of the Administration of the Nenets Autonomous Okrug.

3. The main directions of the transition of the Arctic oil and gas producing regions from narrow-source specialization to diversified economy
Firstly, the fluctuation of world prices for extracted raw materials, as evidenced by the latest global crisis. As a result of the crisis, demand has fallen sharply in the world for several months and prices for oil, gas and other types of minerals have declined. Of the northern regions, the regions that export natural resources have suffered the most, since rent-bearing natural resources are the main source of replenishment of the regional budget.

Secondly, the constantly changing ratio of rental income distribution between the center and the region (with enviable constancy not in favor of the region). Thus, in 2002, payments for the use of natural resources received by the federal budget increased due to the introduction of a mineral extraction tax (MET) more than 4 times (433.8%), while to the territorial budgets in the whole country - only 20%. Without going into details of inter-budgetary relations by year, we note that since 2002 the amount of mineral extraction tax left in the resource-extracting region has been gradually reduced from 20%, and from January 1, 2010 it began to go completely to the federal budget.

Thirdly, the possibility of vertically integrated oil companies to apply various schemes of “optimization” of taxation (the use of transfer prices, the use of preferential offshore zones to reduce the effective income tax rate, etc.), which negatively affects the formation of the regional budget and is one of the most effective levers of influence on regional authorities and their use in their interests.

Fourthly, the strengthening of the single industry nature of the economy, based on the exploitation of raw materials.

Fifthly, the inevitable future exhaustion of non-renewable natural resources most in demand on world markets and the extinction of extractive companies, as a result of which these regions are likely to be depressed with depleted resource potential, a disrupted ecosystem and a ruined traditional
economy. However, the region will begin to experience significant difficulties long before the resources are exhausted at the stage of falling production, since a certain degree of depletion of the field entails a drop in production profitability and a massive shutdown of oil wells [8].

To summarize what has been said, these are all the consequences of the mono-industrial nature of the economy, which is based on the exploitation of non-renewable natural resources.

An analysis of the dynamics of the sectoral structure and the problems of the development of resource-producing regions was studied using the example of the Nenets Autonomous Okrug.

The Nenets Autonomous Okrug is at an early stage of large-scale development of oil resources of the Bolshezemelskaya tundra and, apparently, in the future it will be the most promising oil producing region. Until recently, the regional budget and population incomes were growing in the okrug. At the same time, many problems arose in the district. Over the years, amid high oil prices, the local leadership has developed a false sense of security, which is why less profitable sectors of the economy were not given due attention. As a result, enterprises and entire industries that had previously developed fairly well began to decline. The economy of the district is becoming more and more mono-industry. Thus, the share of the fuel industry in total industrial production in 2016 amounted to 98.8%, and the share of tax revenues to the district budget - more than 70%. In other words, the well-being of the district is 70% dependent on the well-being of only one industry - the oil industry. And this trend is characteristic of all resource-producing regions of Russia, specializing in the extraction of non-reproducible natural resources and whose products are in demand on world markets. Unfortunately, the district administration does not seriously think about what will happen to the district in 20, 30 years? According to various estimates of oil in the NAO for 25-40 years of production.

To understand what is happening in the economy of the resource-producing regions of the North and the Arctic in crisis situations, let us turn to the results of the last world crisis. There was a sharp reduction in revenues to the district budget from income taxes, on income of individuals, on property of organizations. Thus, according to the calculations, income from income tax in 2009 should have decreased from 14 billion rubles. up to 5.8 billion rubles, i.e. 2.5 times. For 10 months of 2009, income tax income amounted to only 4 billion rubles. In the Khanty-Mansiysk Autonomous Okrug, which is the main oil base of Russia, the Okrug’s budget lost in 2009 - 78.6 billion rubles. revenue base, which makes up more than half of all previously planned revenues.

The analysis of foreign experience in the development of the northern and Arctic territories, which is important for us due to the lack of our own development experience in market conditions, the study of the problems of the development of the northern territories by the example of the Nenets Autonomous District, allows us to conclude that many problems (both modern and in the future) are at the heart of) lies the single-industry nature of the economy, based on the exploitation of raw materials. The main way out of the situation in foreign countries was seen in the comprehensive development of the resource territory by expanding the economic base mainly through restructuring and diversification of the region’s economy.

It should be noted that in practice, each country solved this problem in its own way. In the Canadian North, there have been attempts to rescue the declining labradorite centers of the iron ore industry, mining and timber centers in the provinces of Alberta and British Columbia, as well as the search for new livelihoods for the population. The range of measures to support economic development included: processing of raw materials mined in neighboring areas; the development of trade and transport activities, small business, tourism [9]. Restructuring of the economy was carried out in Canada in advance, when the mining industry was still in full swing, since the problem is easier to prevent than to have serious consequences in the future. In the province of Alberta, which specializes in oil and gas production (85% of the gross product), high-tech (high-tech) industries have been introduced. Undoubtedly, everywhere the restructuring was carried out with the support of the state. In Alaska, enterprises for the deep processing of oil (petrochemicals) have long been created and are being created. Here, the problem of diversification and restructuring of the economy is often called the problem of production of goods “import substitutes”, and import substitution means not only
goods, but also services [10, 11]. A diversified farm was established in the northern regions of Norway and Sweden.

However, regarding the development of a diversified economy in the North, there is no consensus among scientists. In the case of the development of non-core industries and occupations in the North, a departure from market criteria is required. Canadian scientists D.D. Gilchrist and L.V. St. Louis, using the example of the northern regions of Saskatchewan, analyzed the problems of restructuring, and came to this conclusion. Indeed, restructuring reduces dependence on resource sectors and increases the sustainability of the economy. However, what is more important for the state - the risk of narrow specialization with high profitability or stability, but low profitability or even loss making? The authors came to the following conclusion - restructuring in resource areas is a social rather than an economic problem [12].

In Russia there are examples of a fairly broad development of the economy in a number of regions of the European North, in the north of Western Siberia, in the Republic of Sakha (Yakutia), and even in the Magadan Region, where the first gold refining plant in the North was built.

In our country, the problems of determining the optimal structure of the economy in the North are largely similar to foreign ones. The initial intensive development of the North in our country began in the 30s of the last century. The North at that time developed comprehensively and harmoniously. Costing and profitability were ignored. I must say that there were positive results: for example, the construction of the Norilsk Nickel Plant, the laying of the Northern Sea Route.

In the 1950s, the policy of developing the North changed to a more pragmatic approach. However, until now the problem of the optimal structure of the economy in our science has not been sufficiently developed. An attempt was made to simulate the rational economic structure of the North S.N. Leonov. However, the scientist emphasizes that this can only be done within the framework of the northern industries. True, he recognizes that in the future a wider structure of the economy is possible, but only in the southern regions of the North [13].

The problem of the optimal structure of the economy of the northern regions is extremely complex. The Soviet approach, which relied on a comprehensive, diversified development of the northern territories, ignored cost calculations and profitability. From market positions, it is difficult to justify the integrated development of most of the country's resource regions. In the Soviet years, the location of the processing and manufacturing industries was specifically linked to the raw material bases of the North. Due to an overly export bank, this connection is now largely broken.

Based on the experience of foreign countries, the analysis of the development of resource-producing regions of the Russian North and the Arctic, a number of directions of state regulation of the development of raw regions can be proposed, the implementation of which will create the prerequisites for the transition from narrow-source specialization to diversified farming [14, 15, 16].

The main directions of the transition from narrow-commodity specialization to diversified farming can be as follows:

• providing conditions for mitigating the single industry orientation of the economy through its partial diversification and restructuring;
• development of economic sectors and industries necessary for the livelihoods of the local population;
  • formation of a modern regional and local infrastructure;
  • preservation and development of traditional forms of managing the indigenous population (with the undoubted preservation of the habitat);
• a clear legislative distinction between property rights to natural resources and income from their exploitation.

In the framework of this article, we will consider in more detail the main ones - the diversification of raw materials industries and the restructuring of the economy of the commodity region.

Diversification of raw materials industries is, first of all, the expansion of the sphere of activity in the extractive sector by creating deep processing industries for raw materials, as well as serving and auxiliary ones. An increase in the tax base due to specialization industries and an increase in the
revenues of regional budgets makes it possible to expand the manufacturing industry and other sectors of the economy, as well as infrastructure development of the territory. Diversification should affect not only the raw materials industries, whose products are in demand on world markets, but also less profitable, but having a development base in the conditions of the raw materials orientation of the region.

Restructuring of the economy of the commodity region implies the emergence of new sectors of specialization within the existing resource base, the development of high-tech and high-tech production, the expansion of the service sector, including tourism, transport, computer science, communications, etc. In other words, the development of everything that leads to an increase in the balance of the sectoral structure of the region.

In the Nenets Autonomous Okrug, for example, economic restructuring may be based on the exploitation of solid minerals, which are rich in the region's subsoil: fluorites, agates, amber, copper, nickel, cobalt, diamonds and gold, coal reserves (over 10 billion tons), etc. The intensive development of oil and gas fields and the subsequent development of auxiliary industries and transport infrastructure opens up fundamentally new opportunities for the revival of pre-existing and the organization of new mining enterprises (mines, quarries, mines, etc.). Thus, the restructuring of the economy of the district, may be based on the industrial development of solid mineral deposits. This will increase the number of branches of territorial specialization, will significantly expand the raw material base of auxiliary branches of the regional industry (in particular, the construction materials industry), and reduce the dependence of the Nenets Autonomous Okrug on the "northern delivery". Great potential has northern tourism [17].

It is obvious that structural restructuring consists in the fact that, without breaking the prevailing specialization of the region, development of production based, first of all, on local resources. This means that even in the first stages of production it is necessary to provide for deeper processing of natural resources, the expansion of the use of renewable resources, the construction of repair and maintenance industries, and the development of the services sector. In other words, rental income, as depleted of non-renewable natural resources, should transfer its value to the development of other sectors of the economy [18, 19].

The diversified structure of the economy, which during the economic crisis is very important for the commodity region, will reduce the dependence of the region’s economy on fluctuations in market conditions for the products of its main specialization.

In this case, two important points should be noted.

Firstly, the restructuring and diversification of the economy must be carried out at the stage of early production and maturity, while income from the exploitation of natural resources is significant.

Secondly, the transition to a diversified economy is impossible without resolving the issue of differentiating property rights to natural resources and without sharing rental income between the Russian Federation and the subject of the federation. However, this is a very serious topic and is not considered in this article [20, 21].

Thus, the difficult situation of the northern extractive regions, which was most clearly manifested during the period of the economic crisis, requires special attention of government bodies and the development of an adequate regional policy.

As for the territories where non-renewable natural resources are being developed, with their exhaustion the region is deprived of any economic development base at all, and therefore the state is simply obligated to foresee, and most importantly, take concrete measures to create opportunities for the development of the region in the future. This means that already at the first stages of the development of natural resources, the state should develop a system of measures to expand the economic base and sectoral structure of the region’s economy with mechanisms for their implementation.
4. Conclusion
Considering the development prospects, it can be confidently stated that in the foreseeable future, the resource orientation in the economy of the northern regions will become dominant, industries with a relatively narrow specialization will prevail - the extraction and enrichment of mineral raw materials, the extraction and partial processing of fuel and energy resources. In market conditions, such an orientation can cause serious problems in the economy of the northern regions, therefore, cardinal structural changes in the economy are simply necessary. Considering that the main industries of the resource regions are single-product oriented, high capital intensive, the territories have an underdeveloped production infrastructure, and, first of all, transport, substantial state assistance is needed for effective structural adjustment of the regional economy, expressed not only in creating a favorable institutional environment for normal development of the regions of the North and the Arctic, but also in the development of an effective mechanism for direct or indirect regulation development of their development.

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