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The current social and economic condition of the cities of the Yamal-Nenets Autonomous District and their innovative development¹



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Abstract. The main problems of the socio-economic situation of the cities of the Yamal-Nenets Autonomous District, which are primarily connected with the narrow raw material specialization of their economy, are considered in the article. The search for innovative ways of development of cities being resource centers of the Arctic zone of the Russian Federation was carried out. The authors substantiate the need to move from the old concepts of industrial development to neoindustrialization. The methodological basis for achieving the goals set in the article are the system approach and statistical methods of analysis.

Keywords: *The Arctic zone of the Russian Federation, livelihoods of the population, social and economic development, innovative development, sustainable development, neoindustrialization, spatial structure, coastal area*

The northern territories play an important role in the development of Russia. One of the key Arctic regions that make a significant contribution to the economic and energy security of the country is the Yamalo-Nenets Autonomous District (YNAD), which specializes in the extraction of fuel and energy resources.

The framework of the modern economy of YNAD has become its cities, in which 84% of the population lives. Most of the cities of the Yamal-Nenets Autonomous District were formed in the second half of the 20th century as resource centers for oil and gas production, therefore, their industrial structure is significantly different from the all-Russian structure by higher share of industries associated with the extraction of minerals, and a very low proportion of manufacturing enterprises, as well as enterprises focused on satisfying consumer demand.

The existing economic specialization of cities makes them dependent on fluctuations in world prices for hydrocarbon raw materials, on the intensification of oil and gas reserves, and on the import of necessary goods and services from other regions. In such circumstances, narrow

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specialization and the absence of economic diversification cause the instability of the cities of Yamal to crisis social and economic phenomena.

In the future, the economy of cities will be greatly influenced by the implementation of energy efficiency projects and projects for creating alternative energy sources. Already today in the autonomous district there is a decline in oil production due to the depletion of reserves [1, Larchenko L.V., Kolesnikov R.A., pp. 529–536] and the decline in gas production due to reduced demand from domestic and foreign consumers, as well as a reduction in supplies to power plants and boiler plants due to the introduction of nuclear power units and modern combined-cycle plants [2, Larchenko L.V., Kolesnikov R.A., pp. 72–78].

The economic crisis of recent years, which led to a worsening of the social and economic situation in mono-functional cities, sparked the outbreak of research aimed at finding ways to diversify and restructure the economy of such cities. However, in most cases, the authors of such studies discuss the issues of economic modernization closely with the search for new industries specializing in the industrial economic structure that could compensate for the current losses from the decline in activity in the main industry, without focusing on the fact that in the short term, in a rapidly changing market, data Industries can also become economically unprofitable [3, Larchenko L.V., Kolesnikov R.A., pp. 79–84; 4, Pytkin A.N., Zagoruiko I.Yu., pp. 132–137; 5, Khavina L.A., pp. 117–124]. In turn, many developers of social and economic development strategies of municipalities associate diversification and restructuring of the economy with the expansion of engineering infrastructure and the emergence of new social facilities [6, Zamyatin N.Yu., Pilyasov A.N., pp. 216].

In this regard, the research is gaining relevance, aimed at solving innovative search for ways of social and economic development of cities, creating an innovative environment conducive to constantly progressing innovative development.

The socio-economic situation of the cities of YNAD in the context of the economic crisis

There are eight cities located on the territory of the Yamal-Nenets Autonomous District, six of which are resource centers (Noyabrsk, Novy Urengoy, Nadym, Muravlenko, Gubkinsky, Tarko-Sale), Labytnangi was formed as a transshipment base for import of equipment, building materials, etc., Salekhard — the district capital, performs mainly administrative and management functions. In terms of population, six of the eight cities belong to small towns, two cities (Novy Urengoy and Noyabrsk) to large cities (Figure 1).

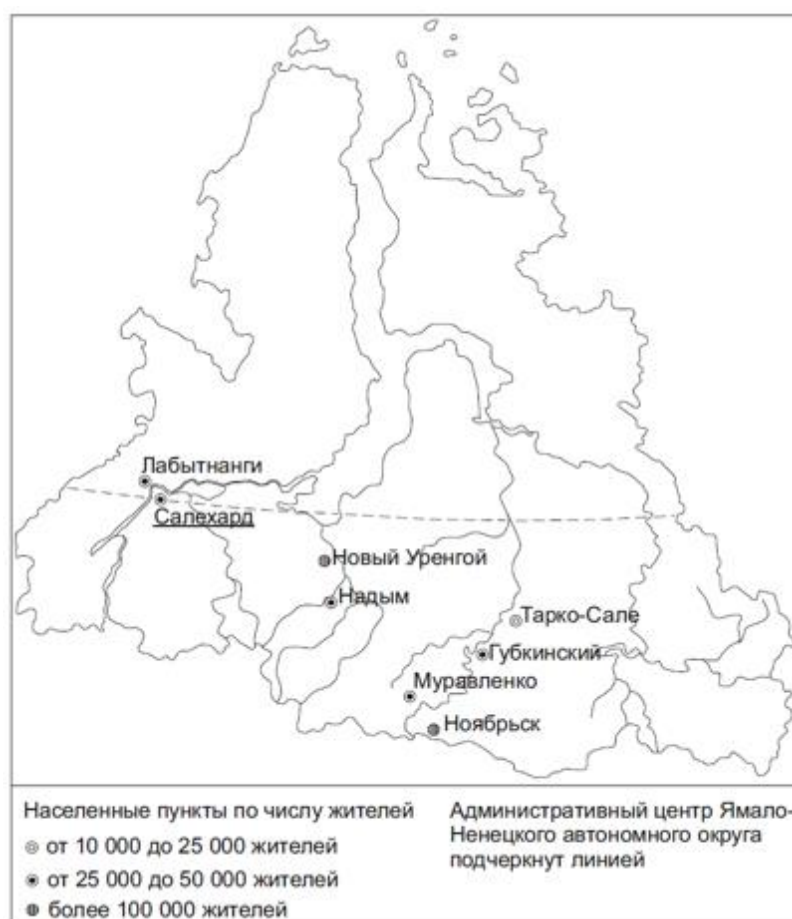


Figure 1. Map-scheme of the network of cities of the Yamal-Nenets Autonomous District and their differentiation according to the number of inhabitants. Grey: 10,000-25,000 inhabitants, grey with a dot – 25,000 to 50,000, and only 2 have more than 100,000 inhabitants (Novy Urengoy, Noyabrsk)

Features of the socio-economic development of the cities are related to the fact that in the Yamal-Nenets Autonomous District large vertically integrated companies are engaged in intensive extraction of hydrocarbon raw materials. On the one hand, this has determined some welfare of the socio-economic situation. For example, in the cities of Yamal-Nenets Autonomous District, the highest average incomes in Russia, which are 1.5–2 times higher than average expenditures (Figure 2). In addition, oil and gas companies often finance socially significant projects.

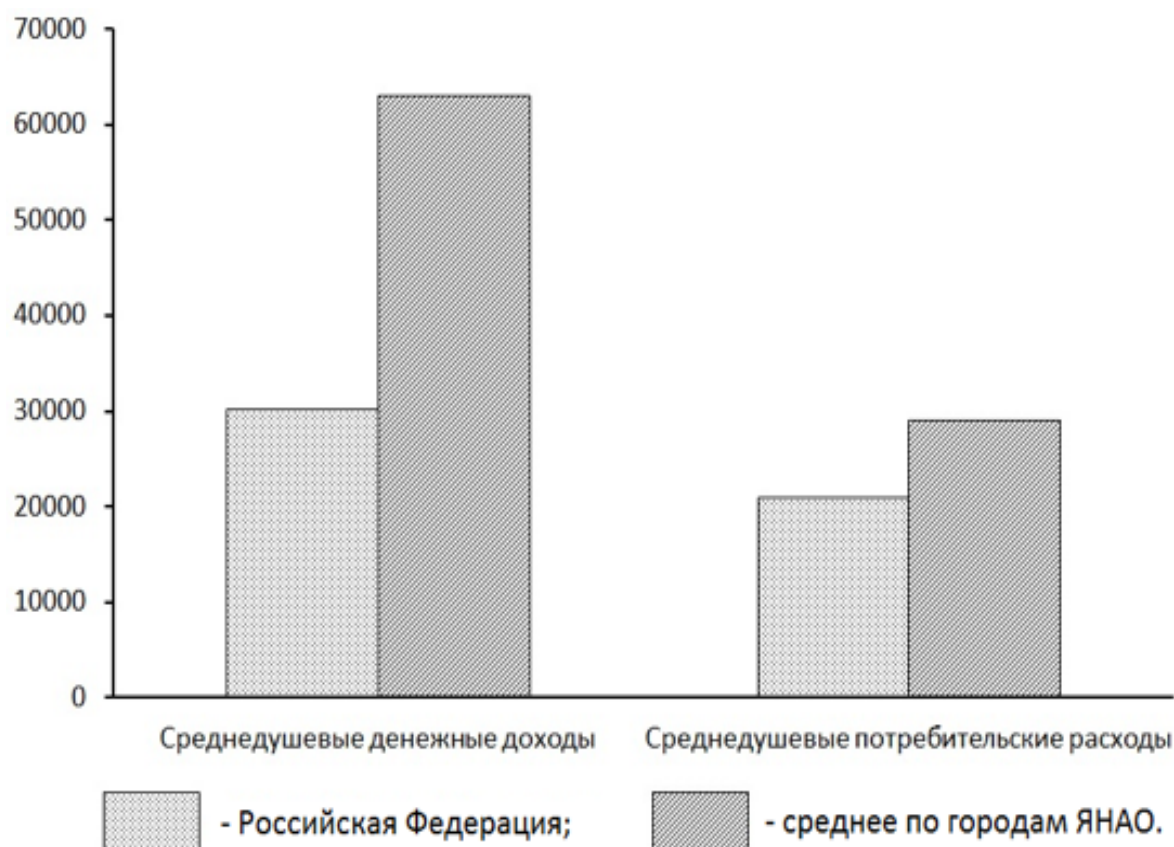


Figure 2. Average per capita monetary income and consumer spending of the population in cities of YNAD and the Russian Federation, 2015.

Average per capita monetary income (two columns in the left) and average per capita consumer spending (two columns in the right) are compared for the Russian Federation and the average per cities of YNAD. Both are bigger in YNAD.

On the other hand, a highly specialized monofunctional structure of the economy has been formed, based on the extraction of hydrocarbon raw materials, there are no other fully operating areas of specialization, there is practically no manufacturing industry, no science-intensive production, small business is ill-developed, etc.

The majority of the able-bodied population works in oil and gas producing enterprises or in organizations associated with them, as well as in the budgetary sphere. However, in those cities that are not resource centers (Salekhard, Labytnangi) or belong to resource-producing cities, but around which hydrocarbon reserves are depleted (Noyabrsk, Muravlenko), the majority of the population is employed in the budgetary sphere.

Table 1

*Average number of employees of organizations and enterprises
in cities of YNAD in 2015*

	Salekhard	Labytnangi	Novy Urengoy	Nadym	Noyabrsk	Muravlenko	Gubkinsky	Tarko-Sale
	% of the total number of employees of all organizations							
Agriculture and forestry, hunting	0.5	0	0	1	1	0	0	1
Mining	0.5	0	23	15	18	15	30	46
Manufacturing	2	1	1	3	5	4	6	5
Production and distribution of electricity, gas and water	6	11	5	6	8	9	7	4
Construction	3	4	17	12	4	3	5	11
Wholesale and retail trade; repairs	2	3	3	2	3	0.8	1.8	0.5
Hotels and restaurants	2	2	2	1	1	0.2	0.2	2
Transport and communication	15	25	16	27	16	9	5	8
Financial activities	3	1	2	1	2	1	2	0.5
Operations with the real estate, rent	10	4	11	13	6	11	10	8
Budgetary sphere	46	44	17	17	30	42	26	12
Municipal and social services	10	5	3	3	6	5	7	2

During periods of economic growth of the world economy, the mono-functionality of the region's cities that produce oil and gas, does not raise fears, but in the context of financial crises, during periods of lower prices for hydrocarbon raw materials, the social and economic situation of these cities is deteriorating sharply. It is significant that at this time, the own revenues of the budgets of cities fall: in 2009 by 15–19%, in 2014–2015 by 10–18% (Table 2).

Table 2

Own incomes from the total revenue of the local budget

City	2008	2009	2010	2011	2012	2013	2014	2015
	Billion rubles							
Salekhard	4.33	3.66	4.61	4.70	3.91	4.13	3.72	3.64
Gubkinsky	1.87	1.54	2.21	2.76	2.38	2.18	2.03	1.92
Labytnangi	3.74	3.16	3.69	4.40	3.06	2.93	2.55	2.42
Muravlenko	2.45	1.98	2.45	3.19	2.42	2.87	2.50	2.41
Novy Urengoy	9.48	7.98	9.25	9.74	7.13	6.74	5.76	5.62
Noyabrsk	6.32	5.19	6.44	9.37	6.87	6.76	5.79	5.51

The level of industrial production in crisis periods in resource centers also falls. For example, in the cities of Novy Urengoy and Noyabrsk in 2009–2010, it declined by 40–50% and has not been recovered until now. At the same time, in those cities that are not connected with the

extraction of minerals (Labytnangi, Salekhard), there is no decline in the level of industrial production.

The high degree of depreciation of fixed assets significantly aggravates the social and economic situation of cities. First of all, this negatively affects the cost of production due to additional costs, which reduces the competitiveness of the produced goods. It is interesting that, despite the relatively high investment in fixed assets, the depreciation of fixed assets continues to grow.

The low innovative activity in the cities of the Yamal-Nenets Autonomous District call attention to itself. If in Russia as a whole it is 9.9%, here is only 7.8%. There are no developments of advanced production technologies. Weak innovation potential also reduces the competitiveness of cities [7, Detter G.F., pp. 69–80].

The negative aspect of the socio-economic situation is that starting from 2009, despite the annual growth of wages, the real monetary incomes of the population are declining. This is due to a high level of inflation, a decrease in income from entrepreneurial activities.

One of the indicators of the social and economic well-being of cities are migration processes. Since 2009, in most cities of the Autonomous District there is a migration loss of population. The exception is the cities of Salekhard and Gubkinsky (Figure 3).

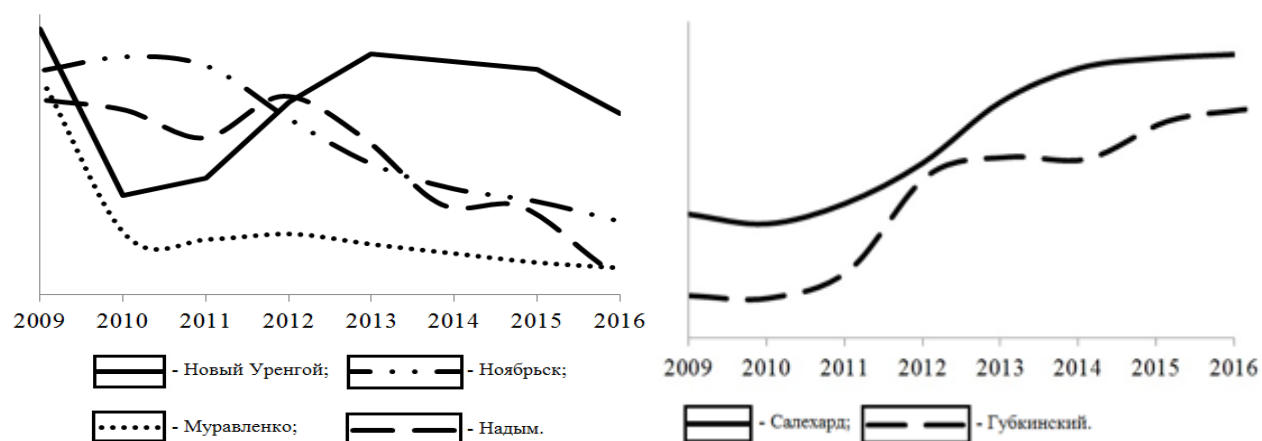


Figure 3. Population dynamics in the cities of Yamal-Nenets Autonomous District. Population grows in Salekhard and Gubkinsky only (in the right).

The main reasons for the outflow of population are following. First, in connection with the depletion of hydrocarbon resource base, oil and gas extraction from the old resource areas to new ones is being redeveloped, which are being developed on a rotational basis with the attraction of cheap labor from other regions. Secondly, there is a decrease in the real money income of the population of northern cities. Thirdly, the lack of higher educational institutions leads to the fact that almost all young people leave the city after graduation for the purpose of obtaining higher education and do not come back.

Thus, in terms of the totality of indicators, the socio-economic status of the cities of the Yamal-Nenets Autonomous District cannot be fully considered acceptable. In many ways, this situation is due to the existing budget system, which abolishes the financial independence of municipalities. Over the past decade, centralization of the budgetary system in favor of the federal budget to the detriment of local and regional budgets has occurred in Russia. Currently, federal taxes account for about 80% of consolidated budget revenues. As a result, the taxes of enterprises that receive huge profits from their activities in the Arctic zone do not go to the development of northern cities, but to the development of other regions. Local taxes do not cover even 10% of the expenditure powers of local self-government bodies. This situation has led to a slowing of the infrastructure, demographic and economic development of the northern territories.

Opportunities for the economic diversification

The main drawback of the existing social and economic situation of the cities of Yamal-Nenets Autonomous District is that during the prosperous state of hydrocarbon markets, no new production facilities were created in populated areas. The absence of manufacturing enterprises, as well as enterprises focused on satisfying consumer demand, led to the dependence of populated areas on the import of necessary goods from other regions of Russia and the countries of the world.

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The economy of cities is not developed, as mechanisms are being implemented, in which the funds earned on the extraction of minerals are immediately spent on the purchase of goods necessary to maintain the existence. Today, this seriously complicates the diversification of the economy and sharply reduces the ability of the cities of Yamal to resist the existing crisis phenomena in the economy.

Currently, the authorities of the municipalities of the Autonomous District are developing strategies for socio-economic development, in which they try to move away from narrow-specialization to a multi-sectoral economy by expanding the economic base and the sectoral structure of the economy. The analysis of these strategies shows that they basically mean the extension of engineering infrastructure, the construction of oil and gas chemical companies, the

organization of service companies, that is, they relate the modernization of the economy to the development of specialization industries of the old industrial economic structure, primarily to compensate for current losses from declining activity in the oil and gas industry without considering economic feasibility. In addition, in terms of rapidly changing market, industrial branches become economically unprofitable after a certain period of time and exacerbate the situation of resource-producing cities. Therefore, a new model of development of the cities of the Yamal-Nenets Autonomous District is required, which would be based not so much on the extraction of fuel and energy resources and new specialization areas within the available resource base, but on knowledge, human resources and networks.

In other words, neo-industrialization is required, educational infrastructure must be created at the first stage of it, on the basis of this infrastructure, a research infrastructure and a regional innovation system are formed. The next stage of neoindustrialization is support of innovative activity of small and medium-sized businesses, the formation of a technology transfer system and the reorientation to prospective production, as well as the growth of the services sector.

However, the transition to neoindustrialization should be based on the use of the potential of old industry and with large-scale government support, a high degree of administrative regulation and state financing, which should decrease consecutively.

Conclusion

The main features of the social and economic situation of the cities of the Yamal-Nenets Autonomous District are determined by the fact that their development directly depends on the extractive oil and gas industry, whose influence is manifested through fluctuations in world prices for hydrocarbons, the degree of depletion of oil and gas reserves, the level of demand for hydrocarbon raw materials from domestic and foreign consumers.

The narrow specialization and the lack of economic diversification have caused instability of cities to crisis phenomena and outflow of the population. Therefore, for sustainable development it is necessary to develop a model in which the result of economic diversification and restructuring would not be the emergence of new specialization industries for short-term alignment and the compensation of current losses from declining activities in oil and gas production, but the transition to a new economic order that allows them to adapt to a rapidly changing market. The basis of such a way should be knowledge, human resources, the technology transfer system, small and medium-sized businesses.

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