



Food Security of the North of Russia in Conditions of Sustainable Development

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Abstract

Food security is an integral part of the national security of any state, maintaining its sovereignty, improving the quality of life of its citizens through sufficient provision of high-quality and safe products. A significant contribution to ensuring national and global food security in the framework of sustainable development can be made by the northern and arctic 2/3 of the country. Ensuring food security in close connection with the sustainable development of the agricultural sector and rural areas, the creation of the necessary living conditions for their inhabitants, and the reduction of poverty of the population characterizes the scientific novelty of the study. Analyzing the current and future state of food self-sufficiency of the state, one should proceed from its natural and resource potential. The development of agriculture and the food industry, the sustainable development of rural areas and the eradication of poverty play a decisive role in ensuring food security.

Keywords: Agriculture; Food Security; Northern Territories; Sustainable Development; Staple Food

Introduction

The food security of the state is the ability of the agro-food complex to ensure food independence, guarantee physical and economic activity for all social groups of the population of safe food according to rational consumption standards. Achieving food security is associated with the sustainable development of the agro-food sector of the country and its regions, overcoming the dependence of the food market on imports, and increasing the solvency of the population.

When justifying the emergence of food security, it is necessary from this state: the self-sufficiency of the region should not be complete. With the self-sufficiency of food products in the regions, a restriction provided for the formation of a national food market, the economy would have a closed character with a tendency to naturalize the economy, which implies market protection of the economy, conditions for interregional and interstate labor choice [1,2].

In Russia, over the past decades, numerous scientific studies by prominent agricultural economists have been devoted to the issues of the country's food security [3-8].

Food independence primarily depends on the state of agriculture. In Russia, two stages in the development of the agricultural

sector can be distinguished: the first covers 1990-1999 and the second - 2000-2020. The first period is characterized by a protracted crisis in the industry and a sharp decline in the main types of agricultural products. During this period, the average annual rate of decline in grain production reached minus 8.1%, sugar beet - 8%, meat - 9.1%, milk - 5.9%, eggs - minus 3.9%. In the second period, the growth rate of grain was 3.7%, sugar beet - 4.5%, sunflower seeds - 6.4%, vegetables - 1.3%, meat - 4.6%, eggs - 1.4%.

At present, Russia can not only increase the level of food independence, but also become one of the leaders in the world food market. It has a huge agricultural potential. About 40% of the world's chernozem reserves, 20% of the world's fresh water reserves, about 10% of the world's fertilizer production, 8.9% of the world's arable land, and 2.6% of pastures are concentrated in the Russian Federation [9]. Russia occupies a leading position in the world in terms of the provision of agricultural land per capita, yielding in this indicator only to Australia, Kazakhstan, Canada and Argentina.

Ensuring the food security of the country and its regions in the context of international sanctions restrictions is associated with overcoming risks and threats. Let's note the main of them: decrease in investment attractiveness of agriculture and fisheries; shortage

of qualified personnel; low level of power supply; decrease in the fertility of cultivated agricultural land and an increase in the share of degraded land; decrease in the competitiveness of certain types of food products. Low availability of domestic animal and plant genetic resources; insufficient provision of storage facilities for agricultural products and the low level of infrastructure development of the domestic food market: social threats caused by differences in the level and quality of life of urban and rural populations.

Self-sufficiency of the region is possible only with those food products for the production of which there is a high bioclimatic potential, land and labor resources. Self-sufficiency in food is not feasible for regions with unfavorable conditions for the development of agriculture, primarily in the North and the Arctic.

The components of regional food security: the level of self-sufficiency in food products; economic availability of food for the population; physical accessibility; food quality and safety; formation of carry-over stocks of food resources.

The food security of the population of the region affected by the state of the local agro-food sector, the country’s food market, its relationship with the world market, as well as demographic, social and environmental factors. When developing specific approaches and methods for solving the problem of food security of the population of the northern and Arctic territories, it is necessary to take into account their specific features.

Due to unfavorable extreme conditions for development, local agricultural production is not able to provide the population of these territories with their own food. In 2020, the ratio of the level of consumption of own potato production per capita to rational consumption rates in the regions of the Far North and equivalent areas was 33.8%, vegetables - 14.2, meat - 17.4, milk - 20.1, eggs - 20.6%. The level of self-sufficiency is especially low in the Arctic zone of the Russian Federation (AZRF). Now these figures, a 2.6%, 0.5%, 8.1%, 4.7%, 2.2%, respectively (Figure 1).

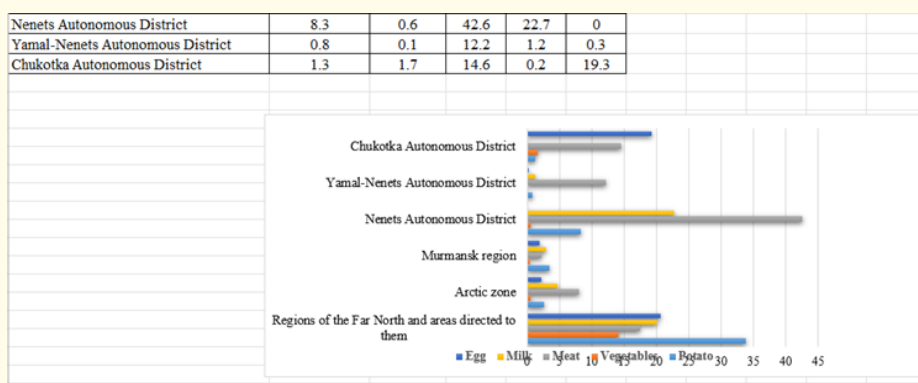


Figure 1: The level of self-sufficiency in agricultural products of the zone of the North and the Arctic in relation to rational consumption rates in 2020, %.

Note. The level of self-sufficiency calculated as the ratio of the production of local products per capita to rational consumption rates. Estimated: [10-12].

The basis of food supply for the population of the North and the Arctic formed by the import of food products from other regions and from abroad. An analysis of food imports to the Komi Republic showed that in 2020, 45.3 thousand tons of meat and meat products were imported, which is 177% of the size of its own production, 153.9 thousand tons of milk and dairy products (278%), 152 million eggs (122%), 57.1 thousand tons of vegetables and melons (208%). Now the share of imports of food products of animal origin in the size of domestic production significantly exceeds this indicator in 1990 (figure 2).

In 2020, the republic provided itself with meat and meat products by 38%, milk and dairy products - 27, eggs - 50, potatoes - 94, vegetables and melons - by 35% (figure 3).

For the zone of the North and the Arctic territories, a low rural population is characteristic. If in general in Russia the share of the rural population is 25%, then in the regions of the Far North and equivalent areas - 21, and in the Arctic zone - only 10% (figure 4).

With a small share of the rural population, its size in the zone of the North and the Arctic for 2000-2021 decreased by 477.7 thousand people. The average annual rate of decline was 6.6%. Analyzing the current and future state of food self-sufficiency, first, proceed from their natural and resource potential. Here, in comparison with Russia, the availability of biological resources is much lower, with the exception of the number of deer per capita. In the regions of the Far North and areas equated to them, there are 16.8 heads of reindeer per 100 people, in the Arctic zone - 84.3 heads, while in

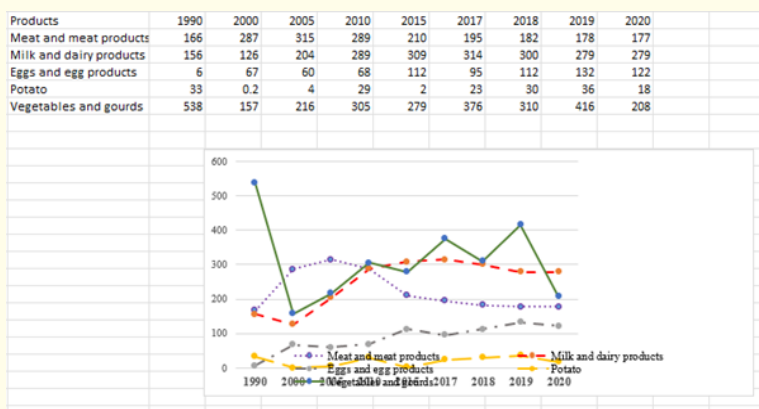


Figure 2: Food imports to the volume of own production in the Komi Republic, %. Calculated: [13].

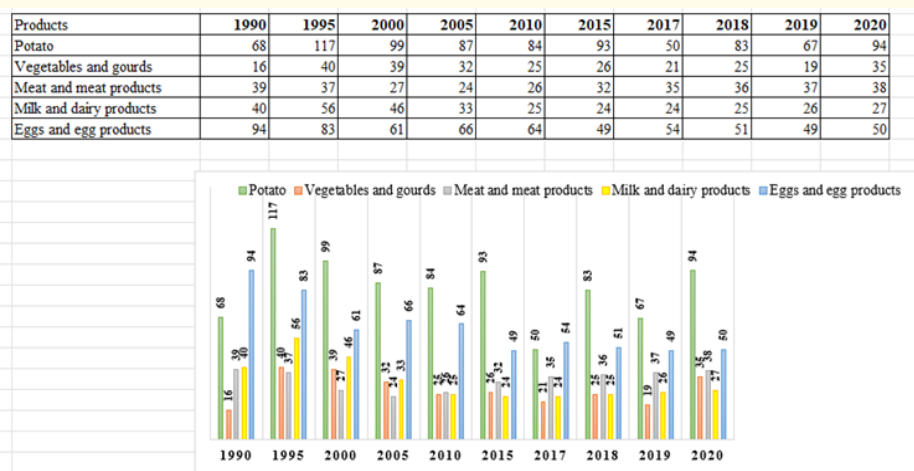


Figure 3: The level of self-sufficiency of the population of the Komi Republic main types of agricultural products, %. Calculated [13].

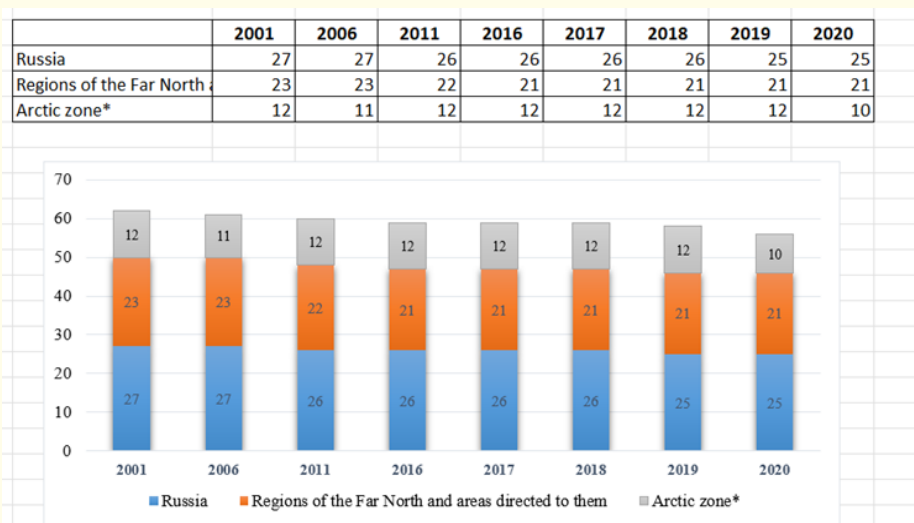


Figure 4: Share of the rural population as of January 1 of the specified year, %.

Note. Hereinafter, the data given for the Murmansk region, Nenets, Chukotka and Yamalo-Nenets Autonomous Okrugs, the territories of which are entirely included in the Russian Arctic.

Calculated: [10,14].

the whole country - 1.1. The reverse situation is with cattle, cows and pigs; their number in the north of the country is much less than in the country 6.8; 3.0 and 2.2, respectively, against 12.3; 5.4 and 17.6 respectively. The situation is similar with the sown areas for grain crops, potatoes and vegetables; the difference is 46.7; 2.0 and 3 times more, respectively.

In the Russian Arctic, compared to the Russian Federation, the per capita supply of potatoes is 20 times lower, vegetables - 60 times, cattle - 17.6, pigs - 35.2 times. Moreover, with a reduction in the population for 2000-2021 by 5%, the decrease in the sown area of potatoes was 3.6 times, the number of cattle - 2, pigs - 25.9 times.

Low availability of biological resources, unfavorable conditions for agriculture (lack of heat, short growing season, poor soils, and excessive moisture) hinder self-sufficiency of the population with local food products.

Let us also note other features of ensuring the food security of the population of the North and Arctic zones:

- Underdevelopment of the agro-food sector, social, engineering, transport and trade infrastructure, poor provision of storage facilities for agricultural products and food;
- Low transport accessibility and remoteness of the regions, which hinders the guaranteed and relatively uniform food supply of their population;
- Lack of stable links with areas of food production;
- Focal nature of settlement and seasonal delivery of food to certain areas. This requires the creation of the necessary stocks and reserves of food.

The key priorities for increasing the level of food self-sufficiency of the population are:

- Overcoming the low level of investment and innovation activity in the agricultural sector; reducing the fertility and degradation of agricultural land;
- Innovative modernization of the agro-food sector;
- Development of agricultural science, implementation of measures aimed at attracting and retaining scientific workers;
- Promotion of organic agriculture;
- Effective use of mechanisms and tools for the development of agro-industrial economy;
- Creation of conditions for expanded reproduction of labor resources and development of human capital in the countryside;

- Formation of enterprises for the processing of agricultural and fish products, non-timber forest resources (mushrooms, berries), infrastructure for the storage and sale of food products;
- Rational intra-regional distribution and specialization of agricultural production, linked to the development of processing of agricultural raw materials;
- Development of agricultural and consumer cooperation;
- Improvement of economic relations in the agricultural sector;
- Development of interregional relations in the field of food supply;
- Transition from solving current problems to long-term strategic planning.

The improvement of regulatory and legal regulation and control over the quality and safety of food products act as mechanisms for ensuring food security. This role, in order to protect the life and health of food consumers, should be performed by the state bodies of the regions of the North and the Arctic together with the federal center.

In contrast to the currently prevailing approach to ensuring food security, it is proposed to consider the solution of the food problem in close relationship and interdependence with socio-demographic processes, the state of transport, housing and communal, social, information and market infrastructure in the countryside. Sustainable development of rural areas - a new approach to ensuring food security.

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