The Improvement of State Regulation on Food Safety in the Republic of Sakha (Yakutia) under the Current Situation

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Abstract. The goal of this research is to rationalize the aspects of food safety assurance and determine the key actions to achieve food safety at the regional level taking into consideration the specific conditions within the region. The research is based on such methods as analysis, synthesis, generalization, analogy, comparison, as well as monographic and analytical methods. Continuous state support on the federal, regional, and local levels is a crucial condition for the sustainable development of agriculture and the provision of affordable and safe country-made food to the population. This article deals with solving the problems of regional food safety improvement through specific actions. The authors analyzed the actions taken to improve agricultural industries in Yakutia. Currently, it is necessary to focus on the food products consumed in regions. This problem is especially relevant today in the context of the pandemic and its consequences. The authors note that this situation requires support for the smooth operation of food chains.

1. Introduction

Food safety is one of the crucial factors in the sustainable development of a region. It is a key component of the economic and national safety of the entire country. The main goal of ensuring food safety of the entire country and its regions is the availability of food to all residents in terms of money, i.e. the affordability of sufficient amounts of quality foods produced within the country to satisfy people’s needs and ensure the best longevity. The problem of food safety in the northern regions of Russia is a strategic issue for the development of these territories, their economies, and the protection of the country's political interests. These territories hold the largest proportion of Russia's natural resources [8].

2. Relevance

The regions of the Russian Federation are significantly varied in terms of food self-sufficiency, which is due to several factors, including the differences in climate, as well as biological, production, and market capacities of their agriculture, and the efficiency of their use. To increase the residents’ consumption of the main food groups, it is necessary to develop an evidence-based food facility system for the regions and its state regulation taking into account their specific features. This is
especially relevant for the northern regions with harsh natural, climate, social, and economic conditions. The Republic of Sakha (Yakutia) is a typical representative of such regions [1].

During the research, we used the following methods: analysis, synthesis, generalization, analogy, comparison, as well as monographic and analytical methods. We collected the research material from the Federal State Statistics Service, the territorial branch of the Federal State Statistics Service in the Republic of Sakha (Yakutia), etc. Our research relied on the methodology laid out in the works on the general problems of the country's food safety by the following authors: A.I. Altukhov, S. V. Kisilev, A. B. Melnikova, A. V. Petrikov, V. V. Rau, I. G. Ushachev [2-7], et al.

3. Statement of problem

Today, assuring a sustainable development of agriculture requires a clear orientation on the use of a strategical management system. Concerning food safety assurance, some actions must be taken to ensure compliance with the technical regulations for agricultural products and fish, including imported, at all of the stages: production, storing, transporting, processing, and sales.

We shall continue aligning food safety parameters with the international standard requirements based on the basic research in nutritional sciences. This requires the improvement of the safety and quality assurance system for foods produced by agricultural companies, including the development of modern tools and methods [14].

4. Theory

Food safety can be interpreted as a state of the country’s economy, in which the country can guarantee the stable provision of sufficient amounts of quality food to its residents to support their active and healthy living.

The list of key elements of state regulations for a regional food safety assurance system includes the following:

- creating conditions for the fulfillment of the residents’ demand in rational nutrition, taking into account the local traditions, economic situation, and the current healthcare requirements;
- creating conditions for the formation of integrated regional structures uniting all stages of food production and sales;
- creating regulation mechanisms to facilitate the purchase and sales network;
- the improvement of innovation activities to increase the competitive properties of products and the degree of processing, and creating the new consumer quality;
- the improvement of the quality control system for food materials and products at all stages.

It is important that all of the players within the food system, including research and education institutions and structures, took part in the formation of a regional food safety strategy.

5. Results

The analysis showed that the average meat consumption in the republic was 17% higher than the all-Russian level, while the average milk consumption was 21% higher, and bread products 16% higher. The consumption of some other food groups was below the national average: eggs (-21%), vegetables (-35%), fruits, and berries (-21%) (Table 1).

Table 1. The per capita consumption of the main food groups in Yakutia and Russia.

| Products, kg                                             | Actual consumption in Yakutia, kg/year | Consumption in Russia, kg/year | The proportion of Yakutia and Russia values, % |
|----------------------------------------------------------|----------------------------------------|-------------------------------|---------------------------------------------|
| Meat and meat products (in meat equivalent)              | 87                                     | 87                            | 87                                          | 75                                          | 117.3                                      |
The local produce of the aforementioned product groups could on average provide only 30-70% of the recommended population demand quantities.

The research showed that the food market in Yakutia has some specific features:
- the republic is located away from the main internal and external markets, which leads to an increase in transporting costs for agricultural produce due to the extremely high tariff rates;
- the nature and climate conditions in the republic (risk farming area) result in high costs of agricultural production and cropping;
- increased environmental requirements and the related high production expenses and prime cost of products [10].

Nowadays, the demand for the main food groups of the residents of the northern territories is mostly fulfilled via the Northern Supply Haul from other regions and imports [11].

In 2018, the supply of the main food products of the total food market capacity in the republic amounted to 64.8 thousand tons of meat and meat products; 116.5 thousand tons of milk and milk products; 38.1 thousand tons of potatoes, and 43 thousand tons of vegetables. The balance of specific food products in natural units in the Republic of Sakha (Yakutia) for 2018 is shown in Table 2.

| Indicators                             | Meat and meat products | Milk and milk products | Potatoes | Vegetables |
|----------------------------------------|------------------------|------------------------|----------|------------|
| Stocks at the beginning of the year    | 13.8                   | 18.7                   | 38.4     | 22.8       |
| Production (cattle and poultry at slaughtering - carcass weight) | 21.3                   | 166.1                  | 82.9     | 28.5       |
| Resource import, including international | 64.8                   | 116.5                  | 38.1     | 43         |
| Total                                  | 99.9                   | 301.3                  | 159.4    | 94.3       |
| Industrial consumption                 | 0.1                    | 14.8                   | 38.3     | 3.7        |
| Losses                                 | 0.3                    | 0.4                    | 1.8      | 1          |
| Exports, including international       | 1.5                    | 0                      | 0        | 0          |
| Private consumption                    | 84.5                   | 267.1                  | 85.4     | 67.8       |
| Stocks at the end of the year          | 13.5                   | 18                     | 33.9     | 21.8       |

The specific weight of the local production of meat and meat products amounts to only 27%, milk and milk products – 60%, potatoes – 65%, and for vegetables – 48%. According to the state initiative on the Development of Agriculture and the Regulation of Agricultural Produce, Raw Material and Food Markets in 2020-2024 (hereinafter the Program), Yakutia shall achieve the following indicator values by 2024: up to 30% for meat, 61% for milk, 51% for vegetables, and 66% for potatoes [12] (Table 3).
Table 3. Goals (indicators) for the Self-sufficiency program on the main agricultural products.

| Indicators  | 2020  | 2021  | 2022  | 2023  | 2024  |
|------------|-------|-------|-------|-------|-------|
| Meat       | 26.6  | 27.0  | 28.0  | 29.0  | 30.0  |
| Milk       | 58.8  | 59.2  | 59.2  | 59.4  | 61.0  |
| Eggs       | 59.0  | 61.3  | 61.3  | 62.5  | 65.0  |
| Potatoes   | 64.5  | 64.9  | 64.9  | 65.1  | 66.0  |
| Vegetables | 50.2  | 50.8  | 50.8  | 51.0  | 51.0  |

To achieve these values, the Program requires a 2020-2024 budget of 42.8 billion rubles, including 39.41 billion rubles from the budget of the Republic of Sakha (Yakutia), and 3.26 billion rubles from the federal budget.

The overall funding for the previous state program of the Republic of Sakha (Yakutia) dedicated to the Development of Agriculture and the Regulation of Agricultural Produce, Raw Materials and Food Markets in 2012-2021 reached 59.9 billion rubles obtained from the budget of the Republic of Sakha (Yakutia). The amount of funding obtained from the federal budget in 2012-2018 was 6.9 billion rubles; 40% of those were spent on the development of rural areas (2.7 billion rubles), and 36% were spent on production problems (2.4 billion rubles) [13]. We can see that the funding for the current state program is smaller than for the previous one.

We believe that the insufficient state support for agriculture and sustainable development of rural areas, along with the imperfect mechanisms of its provision, lead to the unwanted differentiation of Russian regions and hinder import substitution.

Thus, the Republic of Sakha (Yakutia) must have a specific structural system for agricultural production. It is necessary to mitigate possible emergencies in the agricultural sector and ensure its steady and sustainable development.

The problems with food supply are becoming more pressing in the context of the pandemic. This is due to several factors, including the speculative demand during the lockdown, shifts in consumer preferences, break-ups in logistic and supply chains, changes in purchasing methods, and the impact the pandemic has on transport flows and the supply of spare parts and machinery, as well as the work of industrial enterprises. New hygiene measures and social distancing hold back custom clearance and product deliveries. There is a discrepancy between the demand and the offer. Due to the speculative demand, cereals, salt, sugar, and some other basic-needs products went out of stock in shops for a short period of time. The prices for buckwheat and sugar increased. The number of home deliveries increased as well.

Therefore, it is vital to assure the seamless supply of resources and the timely preparation of equipment and technologies, provide easy-term loans, and guarantee the protection of employees’ health. The support for the smooth operation of food production chains is also necessary. The government must provide monetary allowances and reliable food distribution channels in order to protect vulnerable social groups. It is crucial that the authorities focus on the elimination of bottlenecks in the domestic and international production chains to achieve the seamless food supply within the country.

6. Conclusions
The results of the analysis performed help rationalize the areas of improvement for the regional agricultural policy to achieve its food safety: it is necessary to increase the self-sufficiency indicators for milk and meat products through stimulating the development of traditional livestock breeding. It is also necessary to maintain the physical and economic availability of food for the residents.

To improve the efficiency of state support for agriculture, the following points are deemed compulsory:
- increasing the state support of this sector up to the WTO limits;
- observing the principle of special priority of agriculture; commensurate the volume of state support for agriculture with the possibility of achieving the goals set in this sector;
- improving the efficiency of state support by employing better organizational and economic mechanisms.

Food safety assurance is primarily associated with the increased innovation-and-investment activities within the branches of the agricultural industry that can accelerate import substitution, increase the exports of food products and agricultural materials, and improve the quality of life in rural areas. However, since food safety assurance is one of the key problems of the state, the government must be responsible for its solution and it has to prevent or mitigate various internal and external risks, threats, and challenges.

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Acknowledgments
This article has been prepared as part of a Public Contract for research works on Social and Economic Security of Eastern Arctic Regions: Interdependency and Transformation in the Context of Today; Monitoring, Assessment, and Design of Public Effort to Improve Security in the Republic of Sakha (Yakutia), No. AAAA-A17-117031410034-1.