

Strengthening a Financial Component of Enterprise Economic Security as a Factor of Providing Food Security in the Russian Federation Arctic Zone

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ABSTRACT

Ensuring food security and improving agriculture are the primary goals of sustainable development of the Arctic zone of the Strategy for the Development of the Arctic Zone of the Russian Federation and ensuring national security within the period up to 2035. The main methods of government provision of food security of the Arctic territories are analyzed within the framework of the study. The authors identified the main crop production enterprises and forming food self-sufficiency of the regions. The influence of these enterprises on the regional food security included in the Arctic zone of the Russian Federation is revealed based on investigating the Chukotka Autonomous Area.

Keywords: food security, region, arctic zone, economic security, enterprise, Chukotka Autonomous area.

1. INTRODUCTION

Developing the Arctic territories is currently one of the priority tasks of all levels of government of the Russian Federation. This is confirmed by the fact that in 2020 the Strategy for Developing the Arctic Zone of the Russian Federation and Ensuring National Security for the period up to 2035 was adopted.

Within the framework of the Strategy, the main risk factors affecting the socio-economic development of the Arctic territories are considered as “unfavorable climatic conditions, population decline, dependence of economic activity and life support of the population on supplies from other regions, low competitiveness of economic entities, etc.” [1].

Undoubtedly, the achieved level of agricultural development in the regions of the Arctic zone of the Russian Federation poses a threat both to ensuring food security of the territories, preventing further development, and to the country as a whole.

2. MATERIALS AND METHODS

The main methods of ensuring food security of the regions of the Arctic zone located in the Russian Federation, from the standpoint of state regulation, are “systems of state support for the import of ... food” [2]. The established practice of providing the population

with food in the Arctic regions, from the authors’ point of view, contradicts the mechanisms of ensuring food security enshrined in the All-Russian Doctrine of food Security [3]. Namely, the government is focus on establishing independence of imported products and the self-sufficiency in food in the regions. This contradiction forms an incorrect vector of territory development, reduced manufactured food and slows down the main economic processes of the region.

Currently, there is no unified methodology for assessing food security and regional food security on the territory of the Russian Federation. Therefore, the subjects of the Federation are forced to independently conduct an assessment focused on the all-Russian indicators of the assessed territory which prevents a uniform interpretation of regional food security and supply.

In previous works the team of authors proposed their own universal assessment methodology which is used in the study. It is the result of analyzing current methods of assessing the regional food security as well as the analysis of the current methods of food security of the Arctic zone regions located in the Russian Federation [4, 5].

According to the chosen methodology [4] overall assessment of the region is directly affected by the financial condition and efficiency of organizations

producing agricultural products. This influence is reflected in some food security indicators in the region:

1. *Indicator 1.* Production volumes of agricultural ... products ...;

2. *Indicator 2.* Volumes of food sales ...;

3. *Indicator 3.* State support for legal entities and individuals engaged in the production of agricultural products, ..., based on the rouble of products sold.

When assessing the financial component of the economic security of the enterprise given in this work the methodology of the Ural School of Economics is used [6].

3. RESULTS AND DISCUSSION

The food security of the Arctic territories located in the Russian Federation largely depends on a relatively small (compared to other non-Arctic regions) number of enterprises producing food.

According to the Doctrine of Food Security the main products within the framework of self-sufficiency are [3]:

1. Grains;
2. Potato;
3. Vegetables of open and closed ground;
4. Milk;
5. Meat.

The issue of animal-based food self-sufficiency is not urgent for the Arctic territories because such industries as reindeer husbandry and fishing are traditional activities for this area. In turn, the low level of plant-based food self-sufficiency poses a potential threat to the food security of the regions. As grain, fruits and berries in the Arctic climate are labor-intensive and extremely expensive to produce, and the profitability is negative, these types of food are expected to be imported from other regions on a regular basis.

However, considering all the problems mentioned above, crop production territories located in the Arctic zone are self-sufficient enough and do not require significant government intervention. For example, households provide the main volume of potato production in the Arctic regions.

In the course of the study the authors selected agricultural organizations operating in the regions of the Arctic Zone of the Russian Federation that produce crop production, vegetables of open and closed ground (Table 1).

According to statistical information, a higher number of these organizations are located in the European part of the Arctic zone, i.e. the Yamalo-Nenets Autonomous Area and the Arkhangelsk Region.

Table 1. Number of crop-growing organizations in the regions of the Arctic zone of the Russian Federation, 2020, units [7].

№	Region	Quantity of crop production organizations
1	Murmansk region	2
2	Nenets Autonomous Area	-
3	Yamalo-Nenets Autonomous Area	5
4	Chukotka Autonomous Area	1
5	Arkhangelsk Region (without Nenets Autonomous Area) (9 municipalities)	8
6	Republic of Karelia (6 municipalities) Komi	-
7	Republic (4 municipalities)	1
8	Republic of Sakha (Yakutia) (13 municipalities)	2
9	Krasnoyarsk Territory (4 municipalities)	-

For further analysis, the Chukotka Autonomous Area is selected as a subject that has 1 enterprise which produced from 30% to 45% of vegetables in various periods of the economic activity. This enterprise is convenient for analysis as organizational and legal form is a municipal unitary enterprise (municipal unitary enterprise) and is more controlled by government bodies whereas private enterprises are located in other subjects of the Arctic zone of the Russian Federation. The choice is also justified by the remote region for suppliers and the high-cost food delivery. As a result, the issue of self-sufficiency raises more debates in this region than in any Russian other region.

The assessed financial component of the economic security of the Municipal Enterprise of the Bilibinsky municipal district, vegetable factory “Rosinka” showed an increase in financial indicators (Table 2). The organization could be classified as Class 3 (acceptable level of economic security) based on the level of economic security in 2018-2019, i.e., the financial condition of the organization was assessed as satisfactory. In 2020 there was an increase in the level of economic security to Class 2 (an appropriate level of economic security) due to an improved coefficient of enterprise autonomy. There is a zone of acceptable risk and acceptable liquidity.

The main reason for increased financial indicators is productivity growth (indicator 1), i.e., an increase in the production of vegetables of open and closed ground (Table 3).

Table 2. Assessed food security of the MPBMR of ROSINKA, 2018-2020. [6, 7].

Indicator	2018		2019		2020	
	actual value of coefficient	quantity of scores	actual value of coefficient	quantity of scores	actual value of coefficient	quantity of scores
L2	1,44	20	1,92	20	6,19	20
L3	1,54	18	2,09	18	6,54	18
L4	3,88	16,5	5,03	16,5	13,11	16,5
U1	0,51	17	0,53	17	0,63	17
U3	-0,32	0	-0,26	0	0,21	7
U4	-0,54	0	-0,45	0	0,43	0
Total		71,5		71,5		78,5

Table 3. Production of open and closed ground vegetables in the Chukotka Autonomous Area, 2018-2020. [8-11].

	2018		2019		2020	
	tn	%	tn	%	tn	%
all crop production enterprises	85	51,3	104	39,8	116	43,1
“Rosinka”	76	45,5	88	33,6	97	35,9
others	9	5,8	16	6,2	19	7,2
economies	77	46,2	101	38,4	97	35,8
K(F)X, i.e.13 IE	4	2,5	57	21,8	57	21,0
Total:	167	100	262	100	270	100

The analysis of the financial statements showed an increase in sales volumes which led to an increase in the volume of food sales - indicator 2 (Table 4).

There are no risks in the activities of this enterprise that may adversely affect the production cycle. However, the negative factors that cause a low level of economic security are formed by a low level of self-sufficiency, dependence on stocks. Taking into account the risks, the column “Other income” is under consideration in the financial statements which include government subsidies. On the one hand, government support is one of the factors of the organizational development; on the other hand, it forms dependence on additional sources of funding.

Table 4. Financial report MPBMR OF “ROSINKA”, 2018-2020, thousand roubles. [7].

Title	2018	2019	2020
Revenue	33 118	35 552	44 397
Cost of sales	43 074	49 715	52 307
Gross profit (loss)	-9 956	-14 163	-7 910
Sales Profit (loss)	-12 749	-17 025	-10 648
Other revenues:	11 003	17 871	20 641
compensation for loss	7 436	15 644	18 150

Subsidies for “Rosinka” were directed within the government program “Development of the agro-industrial complex of the Chukotka Autonomous Area for 2014-2020” and the departmental target program “Development of closed ground vegetable growing” [12].

The main activities subsidized for the period 2018-2020:

1. Financing expenses made on energy resources purchased by greenhouse organizations;
2. Financing the costs of delivering greenhouse vegetables.

These measures have a positive impact on 3 indicators of food security assessment. The indicator is calculated as the ratio of subsidies and revenues and shows a growing trend (Table 5).

Table 5. Government support of the enterprise based on the ruble of products sold, 2018-2020, % [7, 13-16].

	2018	2019	2020
Indicator 3	22,5%	44,0%	40,9%

Before assessing the influence of organizational economic security as a factor of ensuring food security in the Arctic zone of the Russian Federation, a number of assumptions implemented in the study should be mentioned:

1. The 5 types of food mentioned above used as the basis for the overall assessment of food security;
2. In 2018 (considered as a base period) 1 point was set for all indicators according to the methodology (as a point for maintaining the current position).

Table 6. Cumulative assessment of food security of the Chukotka Autonomous Area in 2018 and 2020, score

N indicator	Maximum score	2018	2020
1	10	5	5
2	10	5	5
3	10	5	5
4	10 (each type of products)	5	6
5	10 (each type of products)	5	6
6	10	5	5
7	10	5	5
8	2	1	1
9	2	1	2
10	4	2	2
TOTAL	78	39 (50%)	42 (53%)

Thus, strengthening food security in the medium term by 3% is possible due to improving the financial security of 1 enterprise.

Indicators are to be considered as part of the methodology for assessing the regional food security. It is not possible to calculate an indicator as an indicator of economic accessibility due to the lack of statistical

data on the consumption of particular food products. The indicator of available open and closed ground vegetables due to the activities conducted by “Rosinka” in the Chukotka Autonomous Area showed an increase (Table 7) by 3%.

Table 7. The indicator of availability of vegetables for the population in the Chukotka Autonomous Area in 2018-2020. [11].

	2018	2019	2020
Indicator of availability	10,85%	12,6%	13,9%

When assessing the food security in the Chukotka Autonomous Area according to the system of indicators 1 enterprise is regarded to have an immense impact on the whole region.

4. CONCLUSION

The research conducted has shown that due to a small number of agricultural enterprises located in the regions of the Arctic zone of the Russian Federation, the activities of each organization significantly affect food security in the region as a whole. Special attention should be paid to government support which in turn is to meet needs of the organization, and not to disrupt the self-sufficiency balance of financial assets.

We consider the main recommendations for strengthening the food security of the Arctic zone of the Russian Federation to be:

1. Strengthening the financial component of all agricultural organizations producing vegetables in the region;
2. Using the experience of the Chukotka Autonomous Area by other regions included in the Arctic zone of the Russian Federation;
3. Providing regional subsidiary support;
4. Focusing on increasing regional domestic products instead of importing vegetable products.

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