

Regional Agri-Food Policy of The Russian Federation in The Framework of The National Food Security System

M.A. Ananiev, O.M. Ananieva, S.P. Burlankov, N.V. Sedova



Abstract: *The objective of the study is to clarify the theoretical provisions of strategic management mechanism for the development of regional food security systems in the Russian Federation, considering the specifics of their status and conditions, under which the systems operate. The research aims to strengthen the mechanism's presence in the food market and clarify the parameters of management influence based on the justification of the main provisions of the regional agri-food policy.*

Keywords : *Agri-food policy, resource potential, regional differentiation, food security, Russian Federation, systematic approach.*

I. INTRODUCTION

The productive potential (and level of its use) of regional food security systems is determined by the national food market characteristics: fill rate level and quality of products.

The development of a strategic mechanism of food security management based on the approach sensitive to the specifics of the national food security system and the assessment of its prospects predetermines agri-food policy research aimed to determine the tendencies and priorities of development. Therefore, the object is primarily the state of the productive potential of this sector of the economy, problems in the field of food security and areas of development considering particular features of operation [1].

II. LITERATURE REVIEW

The research team from the UK and Italy, including D. Gagliardi, F. Niglia and C. Battistella [2], considers the development of innovative policy in the agro-industrial sector of Italy using sophisticated agent-oriented modelling techniques.

Revised Manuscript Received on August 30, 2019.

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The academic paper is based on the analysis of the Rural Development Program of Puglia (Italy) for 2007-2013. It assesses the impact of alternative methods of innovative policy on the agro-industrial complex system, in which they are implemented, and its participants.

The innovative policy is based on the implementation of a regional government's document, for example, in terms of developing organic agriculture and growing non-GMO products, the introduction of a "zero food miles" strategy and new regulations and control measures to prevent falsification of agricultural products [3].

The outcomes of modelling, which show a trade-off between alternative paths of growth and the overall structure of the agricultural sector, are presented and discussed in the paper. The "easy approach" has a positive impact on smallholder farmers, associations of small-sized enterprises and the local retail sector, offering shorter and more profitable access to regional food markets.

The authors of the paper note that a more aggressive implementation of innovation policy in the regional agro-industrial complex of Italy will lead to a shift in the focus of economic activity towards larger enterprises in the primary sector and manufacturing and towards the expansion in retail sales, while smallholders and associations of small-sized businesses would become more marginalized.

III. METHODS

A. General description

The materials of this research include the official statistics of Rosstat, our mathematical calculations, as well as analytical scientific materials provided upon official requests carried out as part of the implementation of a scientific project funded by the Ministry of Science and Higher Education of the Russian Federation.

Rosstat statistics for 2014-2017 were used for the grouping of regions in federal districts of the Russian Federation by the relative share of agricultural products as part of national totals, by the relative share of fixed investment for the industry "Agriculture, Hunting and Fishing" per ha of agricultural land and by the level of use of the average annual production capacity of the enterprises producing certain kinds of products.

B. Algorithm

Analysis, as well as systematic and graphic methods, were used in the paper to clarify the methodological approaches of regional agri-food policy in the national food security system in the Russian Federation. The research is based on the understanding of tendencies in the field of regional food security system development, justification of forecasts and setting of parameters for the problem sectors of the food market, which are based on a comprehensive analysis of the state of the regional food security system, identification of existing problems and elaboration of proposals aimed to optimize production capacity with consideration of the needs of the region's food market.

IV. RESULT ANALYSIS

The features of the national food security system include the following:

- Dispersion of resource potential (social, production, technological, organizational and natural by climate zones), which seems to be the most important factor influencing the differentiation of agricultural production [4];
- Impact of regional differentiation on the use of resource potential (the state and quality of natural, climate, land, labour and organizational and technological resources) can be seen in the level of impact of the regions-constituent entities of the Russian Federation on the production of raw materials and products of the national food market, parameters of sustainability, competitiveness (Table 1).

Table 1. Grouping of regions by federal districts of the Russian Federation taking into account the relative share of agricultural products as part of national totals in 2015/2017, %.

Federal district	Relative share of the federal district	Number of regions in the group						Number of constituent entities
		From 0.1 to 1.0	From 1.1 to 1.5	From 1.6 to 2.0	From 2.1 to 3.0	From 3.1 to 4.0	From 4.1 and above	
Central	26.0/25.5	8/8	4/4	3/3	1/1	1/1	1/1	18/18
Northwestern	4.7/4.4	8/8	-/-	1/1	-/-	-/-	-/-	9/9
Southern	15.9/17.4	3/4	2/-	-/-	1/-	-/-	2/2	7/7
North Caucasian	7.9/8.6	5/5	-/-	1/-	-/1	1/1	-/-	7/7
Privolzhsky	22.8/23.3	6/5	3/4	2/1	1/2	1/-	1/1	14/14
Ural	6.0/6.3	1/1	2/2	-/-	1/1	-/-	-/-	4/4
Siberian	12.2/11.3	6/7	2/2	3/2	1/1	-/-	-/-	12/12
Far Eastern	3.2/3.2	9/9	-/-	-/-	-/-	-/-	-/-	9/9
Total:	100.0	46/47	12/12	10/7	5/7	3/3	4/4	80/80

Note: 1. Data for 2017. 2. Data on autonomous districts that make up the regions were not used for the calculations.

The problems of strategic management of the development are particularly significant due to the inevitability of increasing impact of the regions of the Russian Federation on the parameters of the national food market and the creation of a sustainable environment of the national food security system, addressing food security issues and improving

competitiveness in the global food market. Growth of the productive potential of regional food security systems and reduction of differentiation in the level of their impact on the national food market are major challenges for agri-food policy [5].

Table 2. Grouping of regions in federal districts of the Russian Federation by relative share of fixed investments for the industry "Agriculture, Hunting and Fishing" per ha of agricultural land in 2017, thousand roubles per ha.

Federal district	Average for the federal district	Number of regions in the group					Number of constituent entities
		Up to 1.0	From 1.1 to 2.0	From 2.1 Up to 4.0	From 4.1 to 6.0	From 6.1 and above	
Central	5.15	2	2	6	1	7	18
Northwestern	4.91	-	1	4	1	3	9
Southern	1.51	4	1	1	-	1	7
North Caucasian	1.99	5	-	1	1	-	7
Privolzhsky	1.30	4	5	5	-	-	14
Ural	1.45	2	-	2	-	-	4
Siberian	0.63	10	-	2	-	-	12
Far Eastern	4.00	2	1	2	1	3	9
Total:	100.0	29	10	23	4	14	80

Note: 1. Data for 2017. 2. Data on autonomous districts that make up the regions were not used for the calculations.

Ignoring the problems of further improvement of the facilities of regional food security systems (data of Tables 2 and 3 indicate the imperfection of the investment mechanism,



which, in view of demand for food products in the market, predetermines further development of the production capacity structure of agriculturally significant resource-based industries) may negatively affect the state of domestic cattle husbandry (outputs of cattle meat production), dairy production, production infrastructure and sheep breeding in the future [6, 7]. The bimodal industrial structure of agro-industry as the dominant sector of large business influences investment processes through the development of

high cost-effective farming (poultry and pig husbandry) and the necessary infrastructure (grain storage barns). The increase in production at large agricultural holdings leads to a production increase in the industry and a reduction in labour demand, which contributes to a lack of demand for labour resources in rural areas. Ignoring the problems of socio-economic development of the agricultural sector of the economy in the future can lead to negative consequences in the sphere of small business and labour force endowment.

Table 3. Use of the average annual production capacity of Russian enterprises producing certain kinds of food products (2017, %).

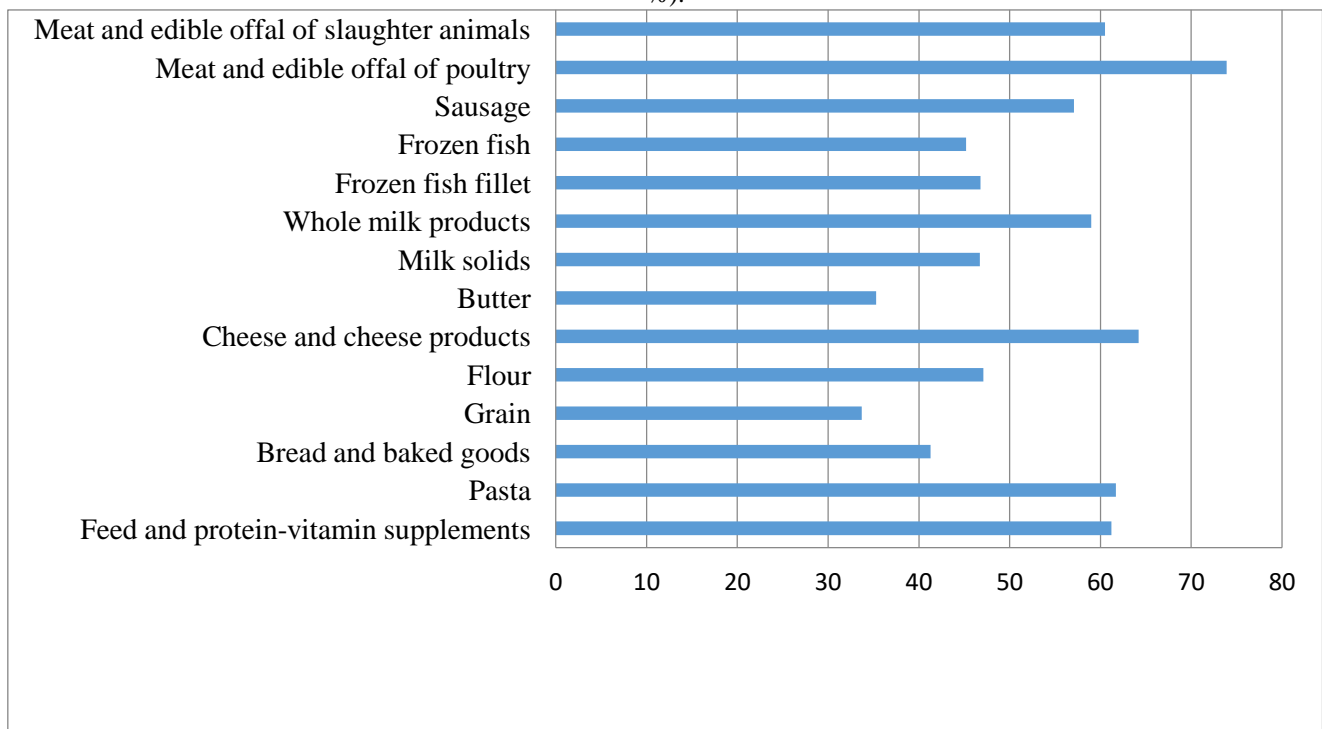


Table 4. The rate of usage for an average annual production capacity of enterprises producing certain kinds of products in 2014/2017* (%).

Production industries	Rate of the usage of the organization's average annual production capacity, %
Beef, pork, lamb, goat meat, horse meat and meat of other animals of the Equidae family, venison and meat of other animals of the Cervidae family, steamed, cooled or chilled	66
Poultry meat and by-products	76
Sausage, including baby food sausage	57
Canned meat (meat-containing), including baby food canned meat	59
Canned fruit and vegetables	47
Vegetable oils and their unrefined fractions	59
Milk, except for unpasteurized	50
Butter and butter paste	38
Cheese	48
Condensed dairy products	68
Grain, vegetable and other plant crop flour, their mixture	52
Grain	37
Non-durable bread and baked goods	42
Pasta, couscous and similar flour products	63
Solid white beet sugar without flavour or colour additives	95
Confectionery	61
Beverage production	
Beer, except for brewing waste	54
Natural mineral drinking water and drinking water, packaged in containers, not containing additives of sugar or other sweetening or flavouring substances	48
Other non-alcoholic beverages	33

*Excluding small business entities.

V. DISCUSSION

On the basis of the foregoing it can be suggested that the most appropriate approach that ensures the fulfilment of the functions of rationalizing territorial production food structure within the framework of agri-food policy is the one which enables for the development management strategy to have a comprehensive impact on its state, providing for the priority of the allocation of development resources [8]. This statement predetermines the need for a systematic approach to the management strategy related to the state of the food market in the context of limited resources in accordance with the principles of priority and relevance in order to create an organizational and economic model of the food product sector of the national economy as a product and production cluster of the food security system. In accordance with this, the processes that ensure the development of all elements of the regional food supply systems seem strategically important.

- Development of territorial sector-based systems (federal management strategy for regional food security systems);
- Development of functional sector-based systems (development programs for regional agri-food structure, agro-industrial complexes and infrastructure complexes);
- Development of territorial economic production systems (enterprises, industries at the local (municipal) level);
- Development of socio-economic systems (increasing the level of satisfaction of needs for food resources and vital parameters at a personal level) [9, 10].

The proposed methodological approach to solving such problems in strategic management, taking into account the scale of the problem and the complexity of the facility, includes a set of measures:

- Assessment, description and analysis of the problem situation in the national food security system and the development of regional food markets (ontological approach);
- Prediction of the sequence of changes in regional management models; the methodological approach to improving the territorial sector-based structure and optimizing its parameters suggests, as a rule, the establishment of an economic complex in accordance with the current layout of processing plants, development challenges and analysis of the impact on the market (process approach);
- Determination of the level of development resources, their allocation (by priority, industry and sphere, time) and management methods (simulation approach);
- Assessment of performance, alternativeness (cognitive approach).

VI. CONCLUSION

The need to further build the productive potential of regional food security systems in managing the strategic development of the national food security system is a fundamental function of the agri-food policy [11]. In the future, it will allow for a comprehensive transition to a methodological approach to improving the territorial and sector-based structure and optimizing its parameters. Moreover, it will contribute to the establishment of an economic complex in accordance with the current layout of

processing enterprises and optimization of raw material zones, as well as the formation of a regional food production structure.

ACKNOWLEDGMENT

This study was carried out within the framework of the main part of the state order. Project No. 1.9544.2017/BCH of the Ministry of Science and Higher Education of the Russian Federation.

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