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Features of economical development of agriculture in the regions of the Russian Federation and the Chechen Republic

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***Abstract* — The problem of differentiation of Russian regions in terms of socio-economic development becomes urgent and has an intense scope in present-day conditions. In this context, the internal growth factors of most regions become a disincentive for improving their situation.**

Therefore, it becomes important to determine the specifics and priorities of the formation and capacity-building of the regional economy, to highlight its advantages, features of historical development.

The paper presents the results of the analysis of the economic development of agriculture in the regions of the Russian Federation and the Chechen Republic. The authors have noted that the features of the development of agriculture are predetermined by the specific characteristics of the region itself: climatic, geographical, production and economic, resource and others.

Having studied the main indicators of agricultural development, the regional features of the industry were summarized. The analysis of gross added value of agriculture proved the agricultural specialization of the Southern Federal and North Caucasian Federal districts.

This is also evidenced by the maximum rates of fixed assets input, which is justified for such specialization. These indicators have low values in the Chechen Republic. The authors conclude that innovation activity is the dominant condition for accelerated socio-economic development of the Chechen Republic. Taking into account the specifics of the region and the possibility of using its potential, the directions of innovative development of the Chechen Republic are proposed.

Keywords*— *gross value added, basic funds, innovation, innovative activities, economic and social development, agriculture

I. INTRODUCTION

Improving competitiveness of agro-industrial complex in the country, in particular the regions, is a solution to the problems of its further development.

Currently, the uneven economic development of the regions is a problem if there is a lag behind the development of other regions in certain indicators.

Regional inequality is influenced by various factors that can be defined as external and internal. The first are conditioned by the natural environment and climatic potential, as well as by geographical location, others are related to the socio-economic situation, adaptation to the manifestations of crisis.

The development of the industry that is most optimal in terms of natural and geographical features and capable of ensuring product and production safety is the priority for the regions of the Russian Federation.

It is interesting to consider the features of the economic development of agriculture in the regions of the Russian Federation. We will pay special attention to the Chechen Republic.

Thus, the increased need for food production in the required volume, variety and appropriate quality, and in accordance with the adopted standards and norms, in the Chechen Republic is derived from the growing demographic situation not only in the region, but also in the North Caucasian Federal district, as well as from ensuring food security through accelerated import substitution.

Ensuring food security through accelerated import substitution is one of the priorities set by the Russian Federation. Since most of the country's territory is characterized by risky agriculture, the Chechen Republic, as a region with unique natural environment and climatic

characteristics, is not only responsible to supply the demand for food, but also to create conditions for building the capacity of domestic exports.

Innovative activity of the Chechen Republic based on the use of modern science and technological progress, advanced technologies and inventions becomes the dominant condition for accelerated socio-economic development of the region.

Various aspects of innovation in the agricultural sector of economic are considered in scientific papers of A.I. Altukhov [1, 2]., A.V. Golubev [3]., V.I. Nechaev [1]., I.V. Pavlenko [4]., I.S. Sandu [5]., I.G. Ushachev [6] and others. The policy of innovative development of Russia and its regions is studied in the works of Z.V. Bragina [7]., E.G. Kirsanov [8]., I.K. Kiselev [7].

The purpose of this study is to identify the distinctive features of the current state of agriculture in certain regions of the Russian Federation, including the Chechen Republic, to determine the specific directions of their innovative development, resource potential and the state of innovation infrastructure.

The achievement of this goal predetermined the solution of the following tasks: 1) to consider the features of economic development of agriculture in the regions of the Russian Federation, including the Chechen Republic; 2) to propose possible directions of innovative development of the Chechen Republic.

II. Materials and Methods (Model)

The information and empirical base of the research consists of official statistical materials of the Ministry of agriculture of the Russian Federation, the Ministry of agriculture of the Chechen Republic, the Federal state statistics service; analytical, review developments of researchers published in the printed media and on the Internet.

This research is based on the study and generalization of theoretical and factual materials on the economic development of agriculture in the regions using various methods: system, comparative, as well as tabular and graphical methods of data processing and presentation.

III. Results and Discussion

Gross value added is an important indicator that is used in the study of the efficiency of the economy, to determine the contribution of certain economic activities (in our case, agriculture) and branches of industry to GDP growth [9]. Gross value added reflects the generation of primary income from the production of goods and services.

Let us analyze the indicators of gross value added in the agricultural sector of the districts of the Russian Federation (see Table 1).

The highest rates are presented in the South Federal and North Caucasus Federal districts. Taking into account the climatic potential and geographical position of these regions, as well as the presented indicators of gross value added, it can be noted that they tend to the specialization of agricultural nature.

The unique natural and geographical conditions of the Chechen Republic make it possible to do profitable farming and agricultural economy. The region step by step develops a special production specialization aimed at the cultivation of crops that are grown in small amounts in other subjects of the North Caucasian Federal district [10]. This is one of the main competitive advantages of agriculture in the Chechen Republic.

TABLE I. Dynamics of gross value added in the districts of the Russian Federation (on current basic prices; as percentage of total).

District of the Russian Federation	2005	2012	2013	2014	2015	2016
Central Federal District	2,9	2,9	2,8	3,3	3,6	3,4
Northwestern Federal District	3,8	2,1	2,1	2,5	2,4	2,3
Southern Federal District	13,1	10,3	9,8	10,8	12,8	13,6
North Caucasian Federal District	18,9	13,3	13,4	14,0	15,5	16,4
Privolzhsky Federal District	8,3	6,1	6,2	7,1	7,6	7,7
Ural Federal District	2,4	2,0	2,1	2,1	2,2	2,2
Siberian Federal District	7,3	5,2	5,8	5,9	6,2	6,2
Far Eastern Federal District	5,7	3,3	3,2	3,5	3,4	3,4

compiled by the authors based on the research materials

The agro-industrial complex of the Chechen Republic is represented by the following economic activities: crop production, animal farming, other agricultural products, fish farming and fishing, food production.

The performed analysis of the gross value added of the regions of the North-Caucasus Federal District shows low indicators for the Chechen Republic.

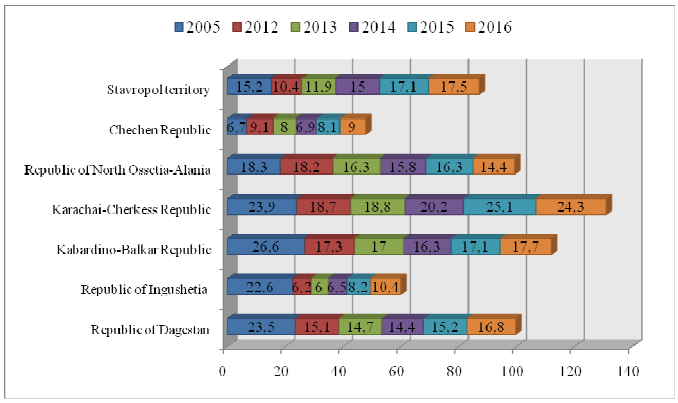

Fig. 1. Dynamics of gross value added of the subjects of North Caucasian Federal district (on current basic prices; as percentage of total (compiled by the authors based on [11-13])

The basic funds are an important component of the production capacity, they are repeatedly involved in the process of agricultural production, and the state and efficiency of them determine the performance data of the agricultural company operations (see Table 2).

TABLE II. CARRYING INTO EFFECT OF BASIC FUNDS (AS PERCENTAGE OF TOTAL VOLUME OF BASIC FUNDS CARRIED INTO EFFECT) OF THE DISTRICTS OF THE RUSSIAN FEDERATION

District of the Russian Federation	2005	2012	2013	2014	2015	2016
Central Federal District	4,1	4,6	4,5	5,8	6,1	4,1
Northwestern Federal District	2,4	2,3	2,6	2,1	3,8	2,4
Southern Federal District (starting from 2016 data on Sevastopol and Republic of Crimea are also taken into account)	3,6	4,6	5,4	7,0	7,7	3,6
North-Caucasian Federal District	8,1	7,2	11,2	11,8	14,5	8,1
Privolzhsky Federal District	6,6	5,5	5,8	6,5	6,5	6,6
Ural Federal District	1,8	1,8	2,0	1,3	1,5	1,8
Siberian Federal District	4,6	4,6	4,4	5,8	6,6	4,6
Far Eastern Federal District	1,6	1,7	1,9	2,4	5,4	1,6

compiled by the authors based on the research materials

As a rule, basic funds are represented by a significant part in the structure of fixed capital stock of subjects engaged in agricultural production.

The need for renewal of capital assets in sufficient quantity and on appropriate technical level is a topical concern in modern conditions of economic development.

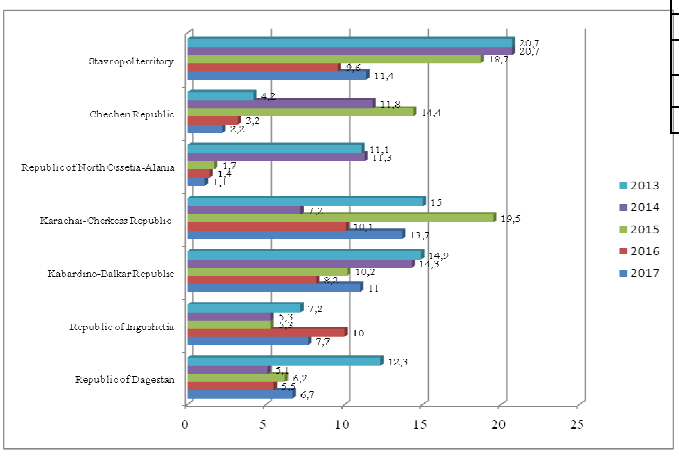

Fig. 2. Carrying into effect of basic funds in North Caucasian Federal District (as percentage of total volume of basic funds carried into effect) (compiled by the authors based on [13-18])

The maximum indicators of input of basic funds of the North Caucasian and Southern Federal districts reiterate the priority of agricultural specialization of these districts. Figure 2 shows mainly low performance of basic funds in the Chechen Republic; only in 2014 and 2015 their relative growth is observed.

The next indicator of interest in relation to this study is a degree of depreciation of the basic funds (see Tables 3, 4).

TABLE III. DEGREE OF DEPRECIATION OF THE BASIC FUNDS, % OF THE DISTRICTS OF THE RUSSIAN FEDERATION

District of the Russian Federation	2013	2014	2015	2016	2017
Central Federal District	33,7	35,1	36,1	35,6	37,3
Northwestern Federal District	37,4	37,7	39,9	42,4	44,2
Southern Federal District (starting from 2016 data on Sevastopol and Republic of Crimea are also taken into account)	40,2	41,0	42,0	41,8	42,4
North-Caucasian Federal District	39,0	41,2	38,1	38,7	40,6
Privolzhsky Federal District	35,1	36,2	37,8	38,5	39,5
Ural Federal District	34,1	33,5	37,7	36,1	36,0
Siberian Federal District	37,9	38,6	40,2	41,9	42,5
Far Eastern Federal District	39,4	40,8	41,6	42,4	47,1
Crimea Federal District	-	36,6	33,4	н.д.	н.д.

compiled by the authors based on the research materials

TABLE IV. DEGREE OF DEPRECIATION OF THE BASIC FUNDS, % OF THE DISTRICTS OF THE RUSSIAN FEDERATION

The subjects of North-Caucasian Federal District	2013	2014	2015	2016	2017
Republic of Dagestan	35,3	35,6	33,4	34,3	29,9
Republic of Ingushetia	27,7	26,2	32,8	41,0	48,2
Kabardino-Balkar Republic	31,1	32,0	34,4	40,6	46,0
Karachai-Cherkess Republic	44,2	45,9	40,2	39,1	39,0
Republic of North Ossetia-Alania	61,5	68,7	76,0	80,8	66,1
Chechen Republic	48,3	47,0	32,1	34,9	43,1
Stavropol Territory	38,8	41,6	39,5	38,8	40,7

compiled by the authors based on the research materials

Insufficient economic security and high depreciation of basic funds have an impact on the technology of agricultural production, agricultural terms, reducing the volume and quality of products, which leads to an increase in its cost.

One of the key factors in improving the efficiency of the economy is innovation, the introduction of which is able not only to consolidate the position of the region (the country as a whole), but also strengthen them in comparison with competitors.

Innovations of technical and technological character, according to academician of RASKHN Ushachev I.G., "provide improvement of technical and technological potential

of agribusiness sectors on the basis of the use of energy-and resource-saving equipment, as well as science-intensive technologies that can spike productivity and efficiency of agricultural organizations." [6].

The volume of agricultural production is an important indicator characterizing both the activities of agricultural enterprises and the region as a whole (Table 5, fig. 3).

TABLE V. PRODUCTION VALUE OF AGRICULTURAL PRODUCTS, MLN. RUBLES.

	2013	2014	2015	2016	2017	2018
The Russian Federation (calculation)	3790822	4168290	5037184,4	5625996	5653953	5 119756
North-Caucasian Federal District	302411,4	334361,9	390351,4	452326,1	463584,4	449470,8
Republic of Dagestan	77071,3	86508,6	99335,6	112454,6	123119,1	124012,1
Republic of Ingushetia	4224,5	5304,2	5699,7	7859,3	8488,1	10230,4
Kabardino-Balkar Republic	32847,0	34066,8	38653,6	43831,4	46232,7	46890,5
Karachai-Cherkess Republic	23348,9	22451,0	28005,0	32315,6	32254,7	28057,0
Republic of North Ossetia-Alania	25146,9	25155,5	25767,0	24781,9	24747,6	25814,0
Chechen Republic	14966,4	14898,9	17221,7	20120,6	24865,8	24124,1

compiled by the authors based on the research materials

On figure 3 it is clearly seen that the output of agricultural production of the Chechen Republic and the Republic of Ingushetia are the lowest.

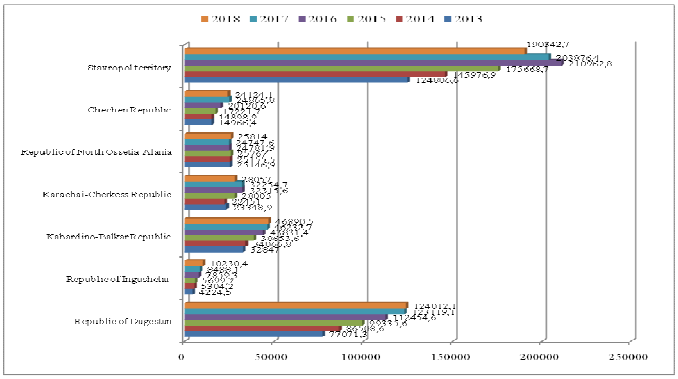

Fig. 3. Output of agriculture products of the North-Caucasian Federal district, mln. rub (compiled by the authors based on [13,14,15,16,17]).

Relatively low indicators of agriculture development in the Chechen Republic came out of the lost social and economic potential which took place before manifestation of political and socio-economic crisis of the 90th of the XX century.

IV. CONCLUSION

Despite the historically formed agricultural specialization of the Chechen Republic, low indicators characterizing the agriculture development are defined in the region.

This proves the need to modernize the conditions (they are quite favorable in the region), contributing to the full implementation of such role of agriculture as meeting the nutritional demands of the population, and supplying industry with raw materials. The achievement of the goals defined by the Doctrine of food security of the Russian Federation is possible through the modernization and innovative development of agriculture and agro-industrial complex in general.

Detailed developing of the innovation process structure will contribute to the innovative system formation, which will require to improve the regulatory and legal framework of innovation activity; to develop a better mechanism to stimulate innovation; to introduce innovative management methods; to develop an innovation and investment policy that ensures simple and expanded reproduction in the industry. [2].

One of the most effective tools for accelerating the innovation process can be the establishment of information and consulting center with enterprises of the regional agro-industrial complex of the Chechen Republic for innovation and implementation of innovative projects.

The structures of such a center should be given the authority not only to collect and systematize innovative projects, but also to fulfill consulting, information, legal support of ready-made innovative business projects, business ideas in order to improve them up to the state suitable for commercialization.

Acceleration of agro-industrial complex development is possible only through the use of advanced technologies in the field of crop production. It involves wide application of methods and techniques of crop production based on complex application of scientific and technical progress achievements and directed on fuller use of resource potential of the Chechen Republic – bioclimatic and production and economic one.

For effective development of the agricultural organizations today it is necessary to regenerate the destroyed base of resource potential, as well as acquisition of new machinery and equipment allowing conducting agricultural production on the basis of modern innovative technologies.

Sustainable replenishment and innovative renewal of the material and technical foundation is impossible without the use of a flexible system of state support for these processes, providing, first of all, support for innovation and investment activities in the material and technical sector of agro-industrial complex.

It is advisable to continue improving state support measures aimed at technical and technological modernization of agriculture, which in turn will contribute to the innovative development of the Chechen Republic. These are: the mechanism of financial lease (leasing), subsidization of part of the costs of agricultural goods producers for the purchase of equipment, providing subsidies for reimbursement of part of the costs of payment of interests on investment loans for the purchase of agricultural machinery, active performance of departmental special-purpose programs "Support for starting

farmers" and "Development of family livestock-rearing farms on the basis of peasant (farm) enterprises».

Renewal of the agricultural machinery fleet is not the only direction of innovative agriculture development. Innovations can be manifested in breeding work, and the use of new types of fertilizers and modern management methods.

The potential of innovative development is not limited exclusively to the proposed areas. The obtained results do not claim to be comprehensive disclosure of all aspects of the problems of economical agriculture redevelopment in the Chechen Republic.

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