



Monitoring of Efficiency of Russian Agricultural Enterprises Functioning and Reserves for Their Sustainable Development

VLADIMIR IVANOVICH TRUKHACHEV¹, IGOR YURIEVITCH SKLYAROV²,
YULIYA MIKHAILOVNA SKLYAROVA³, SERGEI MIKHAILOVICH GORLOV⁴,
and ANNA VLADIMIROVNA VOLKOGONOVA⁵,

¹ Professor of Stavropol State Agrarian University, rector

² Professor of Stavropol State Agrarian University isklyarov@yandex.ru

³ Professor of Stavropol State Agrarian University isklyarov@yandex.ru

⁴ Professor of North-Caucasian Federal University

⁵ Lecture of Stavropol State Agrarian University, Master of Economics, Master of Business Administration in Agri-business and Commerce, +7(961)4750000, anna.volkogonova@yandex.ru

ARTICLE INFO

Received June 11, 2018

Revised from June 28, 2018

Accepted August 25, 2018

Available online September 15, 2018

JEL classification:

O14, Q14, R11.

DOI: 10.14254/1800-5845/2018.14-3.7

Keywords:

Efficiency,
agriculture,
agrarian sector,
agro industrial complex,
agricultural resources.

ABSTRACT

The article deals with the actual problem of finding reserves and developing measures to improve the efficiency of agricultural enterprises for the Russian agrarian sector, which is in a situation of shortage of financial and material resources. As the authors point out, despite the great interest in researching reserves to improve the efficiency of agricultural enterprises, there remain many unresolved problems of improving the management tools, monitoring, and diagnosing the effectiveness of the functioning of agricultural enterprises. In this regard, a study on this topic has been conducted and its results are presented in the article. Results of an estimation of economic efficiency of agricultural production of the Stavropol Territory have been given, the rating of an estimation of efficiency of an agricultural production has been submitted, and directions for improving the mechanism of state support for agriculture has been proposed, based on the results of a differentiated evaluation of the efficiency of agricultural production, adapted to modern business conditions.

INTRODUCTION

The economic reforms carried out in the country revealed a number of systemic problems of socio-economic, market-conjuncture, environmental-technogenic, and food, technical and technological nature. The unstable nature of the macroeconomic and microeconomic processes and the dynamics of their key indicators in the post-crisis development phase require an explanation of the reasons for the current instability, the systematization of a set of factors that

hinder the pace of improving the efficiency of the functioning of agricultural enterprises as the most important elements of the production sphere of the agro industrial complex.

In this connection, the category “economic efficiency” should be considered in the context of the principle of “unity in diversity”, which predetermines the delineation of conceptual, methodological and applied aspects of identification, monitoring and regulation of structural components of the economic category under study. In addition to financial and economic aspects, social, environmental, production and personnel aspects of the efficiency of agricultural production are becoming increasingly important. The study of these issues in a complex allows timely and correctly respond to changes in the internal and external environment, as well as to improve the efficiency of the functioning of the agro-industrial complex of the country as a whole.

Systematic study of scientific literature on selected themes has showed that in this interpretation the studies were not conducted, which explains its staging and search character, determines the relevance and timeliness not only in the scientific plan, but also in the context of practice. The questions of improving the methodological tools for monitoring and diagnosing the structural components of economic efficiency, developing recommendations for improving the state agro-food policy, taking into account the differentiation of the subjects according to this criterion, as well as the development of an effective tool for solving complex multifaceted problems of the development of the agricultural sector of the economy, which determines the relevance of the study.

Despite the great interest in the problem under investigation, many issues remain to be solved, such as improving the tools for monitoring and diagnosing the performance of agricultural enterprises, which requires further theoretical and scientific methodological generalizations in order to develop practical recommendations that contribute to improving the efficiency of agricultural production in general. All this has predetermined the choice of the topic of the study.

The aim of the study is to generalize and develop theoretical provisions and practical recommendations for improving the economic efficiency of agricultural enterprises. To solve the formulated goal, the following problems were set and solved in the study: to develop the foundations of the theory of the effectiveness of agricultural activities and to substantiate the need for demarcation of analytical procedures for diagnosing the effectiveness of agribusiness entities; give organizational and methodological recommendations for improving the system of state regulation of the agrarian sector of the economy.

The subject of the study was instruments for monitoring and diagnosing the effectiveness of agricultural enterprises from the perspective of various categories of economic entities in the agricultural sector of the economy. The object of the study is the agricultural enterprises of the Stavropol Territory of Russia with different levels of efficiency.

1. LITERATURE REVIEW

In the conditions of the market, enterprises face both the problem of increasing the efficiency of activities in general and the efficient management of certain types of resources. Their solution is impossible without the development of new theoretical provisions, methodological approaches, assessment tools and methodological support for the analysis of effectiveness.

It is significant that already one of the first representatives of management theorists G. Emerson considered efficiency the main task of management. So, in 1900, he published the book “Efficiency as a basis for management and remuneration of labour” and in 1912 “The Twelve Principles of Efficiency”, considered his main work in the field of management. Emerson made an extremely important contribution to the development of this concept. He saw in efficiency something that was absolutely not revealed by economists - its connection with functionality, which then began to be perceived as something self-evident (Emerson, 2010).

The spread of the essence of the concept of “efficiency” to other spheres of activity was promoted by theoretical developments related to actions in general. In economic science there are the everyday and scientific notions of efficiency. In the ordinary sense, it means that “production takes place with minimal costs, effort and loss” (Dolan, 1994). In some cases, this understanding is also recognized in science. For example, it is argued that economic efficiency “characterizes the relationship between the number of rare resource units that are used in the production process and the resulting quantity of any required product” (McConnell, 1992).

In microeconomics, the concepts of technical and economic efficiency are identified. Technical efficiency is understood as the possibility of achieving the set goals (output of a certain volume of products) at the lowest cost, if such factors of production as labour and capital do not limit production. Economic efficiency means choosing a combination of factors of production that are available in a limited size, which allows you to achieve results at the lowest cost. Thus, the enterprise chooses on the basis of prices input factors of production (economic efficiency) in order to achieve maximum production (technical efficiency - Cole, 1973).

Later, when the pollution of the Earth’s water and air basins, and the irreplaceable consumption of natural resources, and the accelerated wear of the human body under conditions of intensification of production were forced to be attributed to costs, as well as many other factors not previously considered, then as the initial and basic category of the public production began to consider the socio-economic efficiency.

The analysis of attempts to introduce criteria for socio-economic efficiency (or simply efficiency) suggests that all of them can be attributed to two main areas. In the first of them, they tried to continue to determine efficiency, based only on economic criteria, so it was not accidental that it was developed mainly by economists. Within the framework of this direction, socio-economic efficiency, as a rule, was treated as an algebraic sum of direct and indirect economic effect. Such a way out of the narrow economic scope of the concept of “efficiency” required the introduction of a new criterion basis, in the definition of which there is still no unanimity in views and approaches (Alekseeva, 2003).

Representatives of the second direction proceed from the fact that in determining the efficiency should be taken into account not only and even not so much the economic aspects as socio-political, psychological, etc. This position seems more adequate, taking into account the “multidimensionality”, the multi-aspect of the concept of “efficiency”. It’s true; in this case, the authors do not have the opportunity to offer convenient and universal criteria for determining effectiveness, which reduces the practical importance of efficiency as a means of comparing ways, methods, and tools of activity (Pjerotic et al, 2017; Serban et al, 2017).

In management, one of the most significant criteria of activity is success, which was philosophically justified by representatives of pragmatism. According to the position of W. James, “*the truth is created by the successes of this experience*” (James, 1997). Therefore, it was necessary to find and highlight that indicator of the activity that would be associated with the success. Efficiency claims the role of such an indicator. It is not by chance that Kotarbinsky T. used the concept of efficiency as one of the central.

In accordance with K. R. McConnell and S.L. Bru (McConnell and Bru, 1992) investigating the problem of the effective use or management of limited production resources in order to achieve the maximum satisfaction of the people material needs: “*...Economic efficiency also addresses the problem of ‘input – output’. Specifically, it characterizes the relationship between the number of rare resource units that are used in the production process and the resulting quantity of any required product. A large amount of product, obtained from this amount of costs, means an increase in efficiency. A smaller volume of product from a given amount of costs indicates a decrease in efficiency ...*”

The problem of efficiency attracts the attention of many academic economists. However, opinions on this issue differ significantly. For example, V. Ya. Feodoritov considers the efficiency of production as an objective category that has independent qualitative and quantitative indicators, as a category that has a historical character (in any case, when the results of work were compared with its costs, its efficiency was revealed, i.e., efficiency is the reaction of the economy to modern social needs and technological progress). It is difficult to disagree with the position of V. Ya. Feodoritov. Along with the resource concept of production efficiency, the supporter of which is V. Ya. Feodoritov (1984) have a costly concept. This point of view was shared by L. M. Konstantinova and Z. V. Sokolinsky (1987), who believed that the concept of economic efficiency should determine the degree of use of resources or costs in social production. Noting that the degree of use of productive resources depends on the economic laws in force in the society and on the ability to use them, the authors made the right conclusion, in our opinion that the study of efficiency and its dynamics falls within the scope of problems and science such as political economy.

According to L. I. Abalkin (1990) the concept of resource efficiency of production is not only a comparison of costs and results. This does not provide an exhaustive description of the economic efficiency of production, since the costs do not fully represent production resources, and the cost-effectiveness factors may not coincide with the resource coefficients. It is quite legitimate for the author's assertion that the essence of the economic efficiency of production is not only in digital relative quantities, but also determined by the production relations.

Only on the basis of a steady increase in the efficiency of production is it possible to achieve the main goal of economic reform - the creation of an efficient economic system capable of ensuring the dynamic development of the economy (Atkociuniene and Kiausiene, 2017). Increasing the efficiency of production is not only the result of the achieved level of development of the productive forces, but also the indicator of their use. In order to disclose potential opportunities for increasing production efficiency, it is required to measure efficiency itself, the concept of which is closely related to the scientific justification of its criterion. Therefore, in order to properly determine the most important areas for increasing the economic efficiency of social production, it is necessary to formulate a criterion and indicators of effectiveness.

2. METHODS

The methodological and theoretical basis of the study is presented by the works of domestic and foreign scientists and specialists in the field of theory and methodology of assessing and improving the economic efficiency of agricultural activities, as well as relevant legislative and regulatory acts of the Russian Federation and the Stavropol Territory. To obtain scientific results of the research, a systematic approach to the analysis of the phenomena under consideration has been used, as well as statistical and econometric methods, computational-constructive, monographic, abstract-logical and morphological analysis and expert evaluations. The information base for the study was provided by the Ministry of Economic Development, the Ministry of Agriculture of the Stavropol Territory, the Federal State Statistics Service of the region, the materials of scientific publications, expert-analytical assessments of Russian institutes and individual leading scientists in the field of agricultural sector efficiency, primary accounting and reporting data of agricultural organizations, as well as data obtained by the authors as a result of personally conducted studies.

2.1 Empirical data and analysis

The conducted study and the conclusions made allow us to clarify the semantic meaning of the economic category "efficiency of agricultural production". In our opinion, it can be defined as the ratio of the costs incurred to achieve a set of significant social, financial, economic, environmental, production and personnel results of economic activity of the subjects of agricultural activities, obtained not only in

the context of satisfying the interests of all subjects of the agrarian economy, but also taking into account the realization of the socially useful function of education, reproduction or preservation of agrarian socio-natural economic systems. The efficiency of agricultural production should be considered not only from the positions of a particular enterprise, but also from all subjects of the agrarian economy (Figure 1). The basis of economic relations between them is their interests. The efficiency of the functioning of any agricultural organization is determined by the degree of satisfaction of the interests of all subjects of the agrarian economy. At the same time, the subjects of each group pursue their goals and are interested in various aspects of the efficiency of the enterprise (Miroshnichenko, 2012).

Specific features of agricultural production, in one way or another, in our opinion, cause problems and threats to the development of enterprises of the agro-industrial complex, which in turn inhibit the movement forward and directly affect the efficiency of their functioning. Despite the fact that in recent years, Russia's agriculture has gradually begun to overcome the protracted crisis, primarily thanks to state support and the inclusion of agriculture in priority sectors of development in the agro-industrial complex, there are still a number of significant problems (Miroshnichenko, 2013). In our opinion, all existing problems of the agro-industrial complex are to be grouped into five main groups: macroeconomic, microeconomic, industrial-technological, social and environmental. The study has showed that in the country's agro-industrial complex there are a large number of problems and threats to its development, this indicates the need for rational use of resources to increase the efficiency of agricultural enterprises. Consequently, the activity of any business entity, regardless of the organizational and legal form and form of ownership, in the modern national economy, should be cost-effective, with the goal of achieving an appropriate level of income and investment, ensuring independence and further development (Miroshnichenko, 2013).

2.2 Results and discussion

The efficiency of agriculture as an economic category expresses not only the result of the development of the subjects of the agrarian economy, but also the qualitative characteristics of the factors that conditioned the optimization of the result obtained. The constant increase in the efficiency of agricultural production contributes to the achievement of the main goal of economic reform, which assumes the formation of an effective system of management that can provide dynamism in the development of the economy. The increase in the productivity of agricultural production is determined not only by the level of development of the productive forces achieved, but also by the indicator of their use. Thus, in order to identify possible ways to increase the efficiency of agricultural production, it is important to correctly determine the effectiveness obtained.

The above statements concerning the effectiveness of agriculture are confirmed by the results of monitoring and analysis of the agricultural sector of the economy by the example of the Stavropol Territory, one of the largest agrarian regions in Russia. In general, large and medium-sized agricultural enterprises of the region in 2017 received a profit of 7607 million roubles or 2.6 times more than in 2012 (Table 1). There is a decrease in the effectiveness of entrepreneurial activity in agricultural production. The total number of large and medium-sized agricultural enterprises declined by more than 6.4% during the period under study. However, it should be noted that the net result, namely the profit from the sale of agricultural products for the period under review, increased by 2.4 times, which indicates a more efficient functioning of agricultural enterprises, as evidenced by the positive trend in reducing unprofitable organizations, the number for the study period decreased by 84%.

Figure 1. Dialectical conditionality of interests of agrarian economy subjects and structural components of agricultural production efficiency

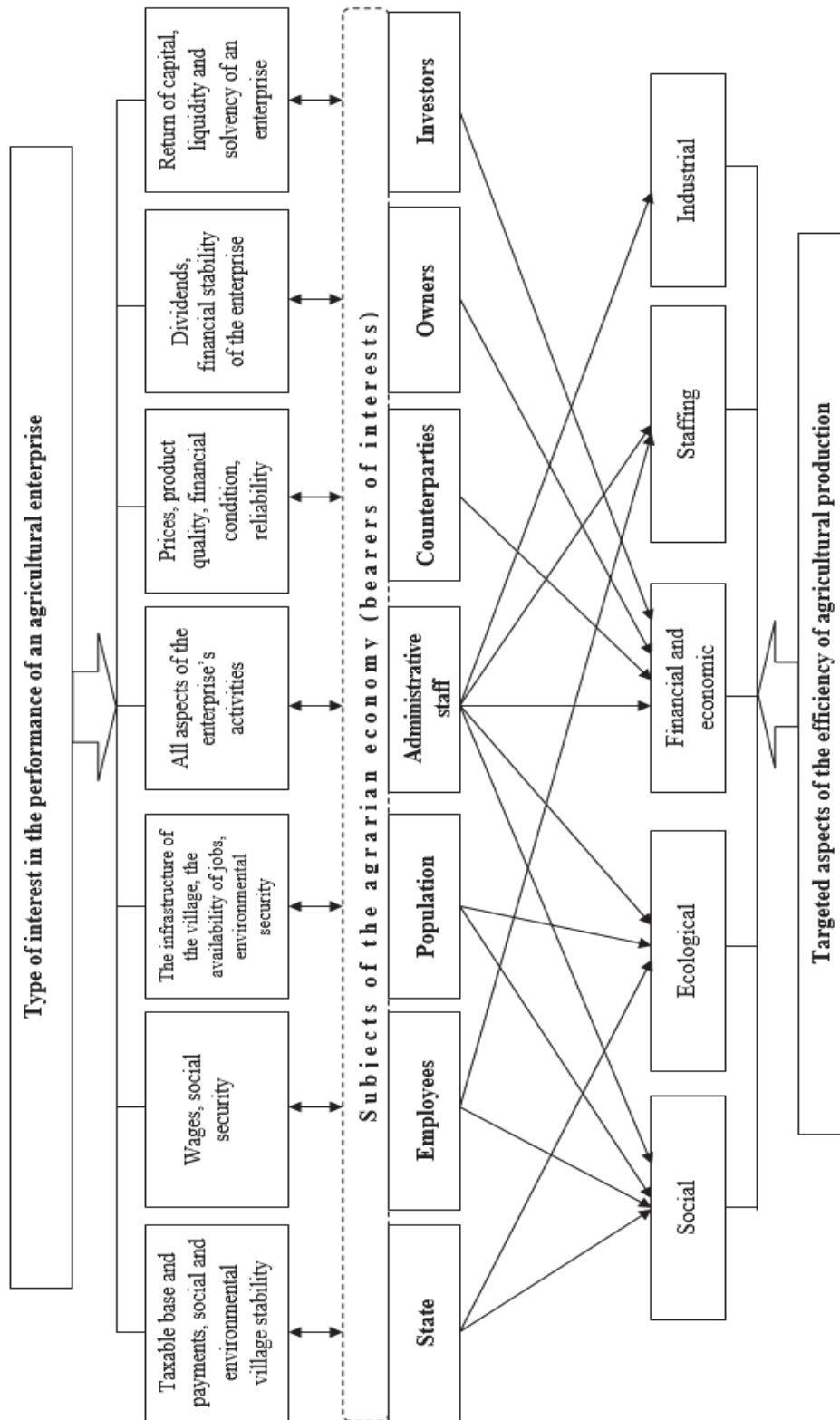


Table 1. Financial performance of large and medium-sized agricultural enterprises in the Stavropol Territory

<i>Indicators</i>	2011	2012	2014	2015	2016	2017	2017 in %, 2012
The balanced financial result (profit minus the loss) of agricultural enterprises, million roubles.	2789	1627	6318	2886	4862	6863	in 2.4 times
including received:							in 2.6 times
- profit,	2858	2421	6775	3732	5249	7607	
- loss.	69	795	457	846	387	743	100.1
Level of profitability, %	23.1	12.4	23.7	11.5	18.1	20.9	x
Number of large and medium-sized agricultural enterprises, including:	442	438	434	439	433	414	93.7
- profitable,	323	365	366	399	416	395	122.3
- loss-making.	119	73	68	40	17	19	16.0

In order to develop a holistic theoretical basis for subsequent scientific and applied research, through which the integration of efficiency assessment tools into a single system, it is necessary to form a unified concept. The developed structural-logical scheme of the rating evaluation of the efficiency of agricultural production, maximally adapted to the specific features of agro-industrial production, presupposes the successive implementation of a number of procedures that, in interrelation, make a comprehensive assessment of the category being studied. The conducted research of activity of agricultural commodity producers of various municipal areas allowed to come to a conclusion that the most optimal is the taxonomic method of rating the most important values – indicators of assessing the effectiveness of agricultural production, which allows you to combine the accounting of both internal and external factors that affect the performance indicator, as well as the ordering and classification of multidimensional objects of different nature. Further calculations assume the ordering of multidimensional units. The resulting rating places of the regions by the types of efficiency of agricultural production have been summarized. The smallest amount of rating places means the highest level of efficiency of agricultural production of the territory, the largest - the lowest level. The results of the calculations are shown in Table 2.

In the study, we purposefully have presented the observation matrices and determined the rank of the municipal districts for each of the considered types of efficiency, as this gives a visual representation of the existing situation in the region in the required analytical section. It can be seen from the table that the leading position in the region is occupied by the Kochubeevsky district, which is on the first place in terms of the types of efficiency of functioning of the regional agro-industrial complex. Leading positions are also occupied by Novoaleksandrovsky, Trunovsky and Georgievsky districts. However, it should be noted that for example, Trunovsky district ranked fifth in the assessment of production efficiency, while the results of calculations of financial and economic efficiency showed that this area is on the second place. Therefore, the use of a comprehensive rating assessment allows to obtain a general characteristic of the category under

study and a clear understanding of the situation in the area under study and to determine the directions for improving the efficiency of agricultural production.

Table 2. Rating of agricultural production of municipal regions of the Stavropol Territory

Name of municipal district	Production efficiency					Financial and economic efficiency					GENERAL RATING
	Per 100 ha of agricultural land of the output, thousand rubles.	Per 100 ha of energy capacity, fl	Returns on assets	Potential of natural and climatic conditions	Rank	Total profitability of production	Profitability of production	Absolute liquidity	Financial independence	Rank	
Aleksandrovsky	0.32	0.72	2.19	0.56	7	125.20	0.10	0.02	0.40	7	6
Andropovsky	0.75	1.33	0.21	0.50	19	447.10	28.90	0.59	0.41	26	23
Apanasenkovsky	0.99	0.61	0.48	0.15	20	338.30	1.70	0.04	0.09	17	19
Arzgirsky	0.89	1.14	0.44	1.52	24	330.00	7.70	0.59	0.19	16	20
Blagodamensky	0.49	0.03	0.53	1.01	18	225.60	3.00	0.01	0.10	11	13
Budennovsky	0.44	0.08	0.25	0.85	16	243.30	8.30	0.52	0.20	13	15
Georgievsky	0.47	1.13	0.14	0.80	4	50.20	2.40	0.48	0.12	4	4
Grachevsky	0.35	1.13	1.72	0.34	15	428.30	27.00	0.44	0.45	25	22
Izobilnensky	0.76	1.19	0.05	0.48	3	116.20	13.30	0.03	0.24	6	5
Ipatovsky	0.39	0.54	0.70	0.13	21	230.60	5.40	0.36	0.39	12	17
Kirovsky	0.36	1.00	0.53	0.21	10	59.30	3.00	0.32	0.00	5	7
Kochubeevsky	2.94	1.68	0.64	2.41	1	420.80	5.20	0.54	0.27	1	1
Krasnogvardeysky	0.99	1.16	0.87	1.66	6	296.10	22.80	0.03	0.36	15	10
Kursky	0.95	0.92	0.27	0.54	23	381.00	15.30	0.34	0.06	23	24
Levokumsky	1.09	1.60	0.87	0.85	25	368.90	6.70	0.50	0.16	21	26
Mineralvodsky	0.08	0.09	1.04	0.33	17	222.60	26.70	0.46	0.18	10	12
Neftekumsky	1.11	1.47	0.83	2.11	26	345.20	1.50	0.71	0.02	18	21
Novoaleksandrovsky	0.83	1.43	0.18	1.90	2	179.00	1.40	0.01	0.05	3	2
Novoselitsky	0.39	0.32	0.51	0.18	11	206.20	2.20	0.38	0.12	8	9
Petrovsky	0.38	0.08	0.72	0.42	13	360.30	19.40	0.19	0.26	19	16
Predgorny	1.75	0.94	1.26	0.22	12	280.30	23.10	0.37	0.22	14	11
Sovetsky	0.13	0.63	0.47	0.11	8	207.00	7.40	0.00	0.13	9	8
Stepnovsky	0.57	0.17	3.05	1.05	14	378.00	20.10	0.10	0.02	22	18
Trunovsky	0.23	1.62	0.22	1.03	5	206.50	12.80	0.03	0.01	2	3
Turkmeny	0.93	0.86	0.65	0.09	22	381.50	13.30	0.16	0.28	24	25
Shpakovsky	1.90	0.39	0.70	0.25	9	363.30	26.50	0.50	0.51	20	14

The system of test indicators offered to the management and regulation bodies of the agro industrial complex is oriented to assessing the efficiency of the functioning of the agrarian sector of the regional socio-economic system as a whole. At the same time, it is important for the management bodies, along with issues of economic efficiency of agricultural enterprises, to diagnose the dynamics of the development of rural areas and in particular the state of social infrastructure in rural areas, assess the efficiency of spending budget funds, labour market dynamics and other aspects of the organization and functioning of the agricultural sector (Miroshnichenko, 2013).

The system of test indicators for management bodies and regulation of the development of the agro industrial complex makes it possible to differentiate territories according to the level of development of the agricultural sector and contains the most key indicators of its effectiveness.

The system of test indicators for the agricultural enterprises should be differentiated by efficiency categories, among which the key ones in our opinion are the following: personnel effectiveness - characterizing the labour potential of the enterprise and its qualitative improvement; production - consisting of indicators of production activity and sustainability; environmental - characterizing the degree of concern of the enterprise about the environment; social - characterizing the level of social responsibility of the business structure to the population of the territory; financial - consisting in the stability of financial indicators of the business entity.

Thus, the totality of these evaluation criteria will fully indicate the effectiveness of the functioning of the business entity. With the purpose of more complex study of the effectiveness of the functioning of the agrarian and industrial complex of the Stavropol Territory, several typical representatives of agricultural production from 8 municipal districts of different natural and economic zones have been selected as research objects, which allowed them to extrapolate their activities to agricultural enterprises of the entire region (Table 3).

As a result of the study, the following laws have been formulated with respect to test and diagnostic evaluation of the efficiency of the agro-industrial complex in the model territories of the Stavropol Territory:

- only in two out of eight municipal districts the population estimates the effectiveness of the functioning of the agro-industrial complex as “average”, in none of the municipal districts has it been noted that the “high level” has been hit;
- in the remaining territories the population estimates the efficiency of the AIC as low, which indicates a low level and quality of life of the population and an insufficient level of development of the social infrastructure;
- the majority of municipal districts were included in the group with an “average” level of development of the AIC, while the nature of the identified state of development of the AIC in the assessment by different categories of users in them is not uniform, which implies an individual approach to solving the problems of each of the territories.

The choice of the optimal strategy for the development of production and technological processes should be based on the appropriate mechanism of information and consulting support for agribusiness, which acts as a supportive component of the mechanism of state regulation. From this perspective, the consolidation of the potential of the information and consulting services of the agro industrial complex created with our system of test and diagnostic assessment of the processes of forming the economic efficiency of the agro industrial enterprises is scientifically important; in practical terms is a significant task. Modernization from these positions of information and consulting services is a significant addition to the existing mechanism of state regulation of the development of agro economics.

Table 3. Results of the test and diagnostic evaluation of the efficiency of the agro industrial complex of the districts of the Stavropol Territory

<i>Indicators</i>	<i>Ipatovsk y district</i>	<i>Kursky district</i>	<i>Novoaleksandrovsk y district</i>	<i>Izobilnensky district</i>	<i>Kirovsky district</i>	<i>Arzgirsky district</i>	<i>Turkmensky district</i>	<i>Predgorny district</i>
Number of questionnaires processed	15	15	15	15	15	15	15	15
Agroclimatic zone	II	II	III	III	IV	I	I	IV
The sum of points of the test and diagnostic evaluation of the management bodies	91	105	135	62	107	54	43	110
Efficiency of the agro-industrial complex proceeding from interests of management bodies	0.51	0.58	0.74	0.34	0.63	0.32	0.24	0.61
	middle	middle	high	low	middle	low	low	high
The sum of scores of the test and diagnostic evaluation of the population	120	90	165	105	77	76	99	62
The effectiveness of the AIC based on the interests of the population	0.47	0.35	0.64	0.41	0.31	0.30	0.38	0.24
	middle	low	middle	low	low	low	low	low
The sum of the points of the test and diagnostic evaluation of the employees of the agricultural enterprises	405	480	542	375	327	255	235	312
Efficiency of the agro-industrial complex proceeding from the interests of the agricultural enterprises	0.54	0.64	0.73	0.50	0.43	0.34	0.31	0.41
	middle	middle	high	middle	low	low	low	low
The average integral level of the development efficiency of the territory's agro industrial complex	0.503	0.52	0.71	0.42	0.46	0.32	0.31	0.42
	middle	middle	high	middle	middle	low	low	middle
Number of parameters of inefficiency (getting into a group with a low level in the evaluation of each user group)	0	1	0	2	2	3	3	2

The most promising direction for increasing the efficiency of the functioning of the agro industrial complex is the process of updating production facilities on the principles of reproduction, which we understand in the agro-industrial complex as a continuous process of updating the main production resources, taking into account the rational use of morally and physically obsolete means of production, viewed as a reserve for reducing the costs of the economic entity for the acquisition of new means of production. The reproduction process is aimed at stimulating the renewal of basic production resources, the ecologization of production and the sphere of waste management of industrial and commercial activities, the activation of the sphere of production of means of production, the increase in the competitiveness of manufactured products, and the development of the business sector, incl. in the field of collection and utilization of production and processing facilities in agriculture (Feodoritov, 1984).

The essence and features of the proposed system of reproduction has been revealed when we consider a set of its immanent characteristics and principles of functioning:

- The proposed system is a corrective-complementary tool of the state agrarian policy, fully oriented toward increasing the technical and technological equipment of the agro industrial complex subjects;
- The functioning of the reproduction system provides additional benefits from rational management of disposed means of production for all subjects of the agro industrial complex (the state, as a macro regulator, the subjects of agricultural production - as users, the population - as consumers of the final product);
- The reproduction system must take into account a set of input conditions that affect the parameters of production processes, such as the overall level of capital-labour ratio, the pace of technical and technological regeneration of the industry, compared with individual parametric features of the identified components of economic efficiency of economic entities (personnel, production, environmental, financial and social efficiency);
- The reproduction system should be oriented at ensuring the renewal of only those production capacities that ensure the implementation of the basic technological processes in the production sector that can produce the greatest increase in the efficiency indicators of the production and technological process, that is, have a certain selectivity and achieve maximum savings in resources and re-use them;
- The proposed system is characterized not only by the initiation, implementation and control of technological renewal in the field of agricultural production, but also includes rational measures and actions for the utilization and partial processing of the means of production and its by-products, which generally fits into the paradigm of a balanced ecologically-oriented development of industries and complexes of agro industrial complex (Trukhachev et al, 2016);
- The strategic goal of the reproduction system is to increase the efficiency of the functioning of the agro industrial complex subjects, which in the end improves the living standards of the rural population and the competitiveness of this sector in the context of Russia's accession to the WTO.

Currently it is generally recognized that the search for reserves to increase the economic efficiency of the functioning of agro industrial complex subjects lies in the rational use and reproduction of financial capital, land resources, means of production, human potential. The results of the research has shown a low efficiency of using reserves in the regional economy in conditions of resource scarcity, so in the Stavropol Territory only 89.2% of agricultural lands are used, of which 61.6% are arable land. The increase in the area of crops is the main reserve for the increase in the output of agricultural products (Table 4).

Table 4. Level of resource use in agriculture in the Stavropol Territory, %

<i>Indicators</i>	2013	2014	2015	2016	2017
Agricultural land in total land area	89.2	89.2	89.2	89.2	89.2
Arable land in agricultural land	61.6	61.6	61.6	61.6	61.6
Crops in arable land	70.4	70.4	70.4	70.4	70.5
Used production facilities of processing enterprises	42.9	38.6	40.0	41.9	43.7
Used capacity of elevators	34.8	42.2	36.1	37.1	33.9
Use of agricultural machinery in a calendar year	22.1	23.9	20.1	29.0	30.3
Workers of agricultural enterprises in relation to the population of working age in rural areas	14.6	14.4	13.4	13.2	13.0

In the structure of reproduction processes financing sources in the agro industrial complex, three main areas can be identified: state support funds (subsidies, subventions, and budgetary allocations), private capital and the means of the enterprise itself. Without dwelling in detail on the mechanisms of using financial resources in reproduction processes we note only that in modern conditions, the issues of scientific and methodological substantiation of approaches to the allocation of production facilities to the maximum extent become more urgent, using knowledge, innovation and technology as complementary and often the most important sources of economic growth. Their identification and also carrying out of researches on an estimation of their contribution to maintenance of industrial-technological stability can reveal required reserves the use of which will serve as an additional factor in increasing the efficiency of production activities.

As an applied tool for the solution of the task, a matrix can be used to compare the results of traditional and extended (on the basis of testing) methodologies for assessing the efficiency of the functioning of the agro industrial complex allowing to allocate synthetic types of enterprises and substantiate the relevant essential features of the applied policy of saving resources and their reproduction. The proposed system of agrarian reproduction of resources has been characterized by high efficiency for each of the subjects of agrarian relations.

The computational justification of the cost parameters of the benefits and losses presented is difficult, since in each subject there is a different need for updating the technical and technological sphere, fluctuating market conditions in the agro technical sphere and others. At the same time, the proposed system can realize its practical potential with due coordination at the federal level, rational performance at the regional and ubiquitous participation of representatives of municipal authorities.

CONCLUSION

As a result of the research, the following conclusions and proposals have been made.

Within the framework of the consideration of conceptual and theoretical positions of the theory of the effectiveness of social production, the category in question has been identified with the process of correlating the costs carried out to achieve a set of socially significant social, financial, economic, environmental, production and personnel performance results of economic entities obtained not only in the context of satisfying their interests, but also taking into account the realization of the socially useful function of education, reproduction or conservation of agrarian socio-natural economic systems.

Agrarian reproductive and economic environment is a set of synchronous-acting factors and conditions that permanently exert influence on the processes of increasing efficiency. Their integrated accounting requires the development of such an approach, which would take into account not only their origin, but also the nature of the activity. This is necessary for the development of preventive measures, response or compensating tools in the system of sectoral strategic management. In this connection, the research has suggested an approach based on taxonomy methods that allow classifying the initial infinite space of factors influencing efficiency, which complements the theory of functioning of agrarian socio-economic systems in terms of expanding the toolkit of fundamental and empirical research.

On the basis of the analysis of the state of the agricultural sector in the work, it was concluded that different territories of the region are developing differently and differ in the degree of efficiency of agricultural production. In this connection, the research has suggested a method of objective evaluation of the efficiency of agricultural production. This method is based on a rating evaluation of the efficiency of agricultural production, which allowed ranking the municipal districts of the region depending on the level of their development into homogeneous typological groups, which in turn can be used to develop a mechanism for state support to agriculture based on a differentiated evaluation of efficiency.

Taking into account the atypicality of certain structural components of the "efficiency" category, the idea and organizational and methodological support are proposed as a supplement to the developed structural and logical scheme of the rating evaluation of the efficiency of agricultural production. Its use in the regime of permanent diagnostics makes it possible to identify changes in hard-to-formal components of the efficiency of agricultural production in terms of environmental, social, staffing and production efficiency, as for the governing bodies, and for the population and subjects of agrarian business.

In conclusion, it should be noted that the lack of resource support for agriculture minimizes the ability of the subjects of the agrarian business to move to a higher stage of the technological order, which significantly reduces opportunities to increase the level of economic efficiency and sustainable development of agriculture. In order to technically modernize the industry, it is necessary to introduce an agrarian recycling system, oriented on the re-equipment of agricultural enterprises. This makes it possible to reduce the operating costs for using the outdated technical and technological base and accelerate the formation of new ones, maintenance and preservation of existing agro-natural and socio-economic systems of agricultural type and ensure rational use of resources.

REFERENCES

- Abalkin, L. I. (1990), *Economic Efficiency of Agricultural Production. Production*, Agropromizdat, Moscow (in Russian).
- Alekseeva, A. I. (2003), *The history of the present state of Russian statehood in the regions of the North Caucasus SPA*, Edited by V. A. Kaznacheev, Pyatigorsk, Publishing house Pyatigorsk State Technological University, (in Russian).
- Atkociuniene, V., Kiausiene, I. (2017), "Scenarios of Development of Rural Social Infrastructure: The Case of Lithuania", *Transformations in Business & Economics*, Vol. 16, No 3 (42), pp. 73-89.
- Cole, Ch. L. (1973), *Microeconomics: A Contemporary Approach*, Under the Editorship of William J. Baumol, Harcourt Brace Jovanovich, New York.
- Dolan, E. J., Lindsay, D. (1994), *Microeconomics*, translate from English, St. Petersburg.
- Emerson, H., *Twelve principles of efficiency*, Ch. I. URL: <http://orel.rsl.ru/nettext/ekonomik/emerson/12pr002.htm> (accessed 27 January 2010).
- Emerson, H., *Twelve principles of efficiency*, Ch. II. URL: <http://orel.rsl.ru/nettext/ekonomik/emerson/12pr003.htm> (accessed 27 January 2010).
- Emerson, H., *Twelve principles of efficiency*. Ch. VIII. URL: <http://orel.rsl.ru/nettext/ekonomik/emerson/12pr008.htm> (accessed 27 January 2010).
- Feodoritov, V. Ya., Brodskaya, T. G. (1984), *Regional reproduction in the system of socialist*
- James, W. (1997), *Pragmatism: The Will to believe*, Moscow.
- Konstantinova, L. M., Sokolinsky, Z. V. (1987), *Economic efficiency of production: analysis of statistical indicators*, Statistika, Moscow (in Russian).
- McConnell, K.R. (1992), *Economics: principles, problems and politics: transl. from English*, 11th ed., Republic, Moscow.
- McConnell, K., Bru, C. (1992), *Economics: Principles, problems and politics*, Baku.
- Miroshnichenko, N. A. (2012), "Theoretical aspects of economic efficiency of agricultural production" *Economics and Entrepreneurship*, No. 6, pp. 169-172
- Miroshnichenko, N. A. (2013), "Classification of factors affecting the efficiency of agricultural production", *Economic sciences*, No. 9, pp. 27-31.
- Miroshnichenko, N. A. (2013a), "Increase of efficiency of functioning of agro industrial complex subjects on the basis of activation of reproductive processes in technical and technological sphere", *Economics and Entrepreneurship*, No. 7, pp. 672-679.
- Pjerotic, L., Delibasic, M., Joksiene, I., Griesiene, I., Georgeta, C. P. (2017), "Sustainable Tourism Development in the Rural Areas", *Transformations in Business & Economics*, Vol. 16, No 3 (42), pp. 21-31.
- Serban, A. C., Aceleanu, M. I., Saseanu, A. S. (2017), "Constraints of Transition to Ecological Agriculture in a Sustainable Development Society. Romanian Perspective", *Transformations in Business & Economics*, Vol. 16, No 3 (42), pp. 56-73.
- Trukhachev, V., Sklyarov, I., Sklyarova, Yu. (2016), "Current Status of Resource Potential of Agriculture in the South of Russia", *Montenegrin Journal of Economics*, Vol. 12, No. 3, pp. 115 - 127.