

## An effective strategy for the development of agro-industrial complex in an open economy

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**Abstract.** A characteristic feature of the present world economic development is the transition of leading countries to a new phase of building an innovative economy based on generating and using of knowledge, new scientific and technological results, upgrading production, which is a prerequisite for innovative growth and development of separate, the most important sectors of the Russian economy, due to the fact that there is no significant groundwork in many of them. The authors found that the main obstacles to achieving world-class development of production and industry, providing competitiveness of priority sectors of the Russian economy is the lack of elaboration of mechanisms of their strategic development, which, in turn, raises a number of problems that require immediate solutions, especially in some regions of the country.

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### Introduction

Accumulated problems in the agricultural sector, the growing negative trends in the economy, strong competitive pressure from suppliers of imported foodstuffs, subjective errors in the agro-industrial policy has led to the fact that the agriculture as a monopoly industry with long seasonal production cycle found itself in deep systemic crisis. Today the situation is such that about 80% of the agro-industrial complex does not have the capacity for simple reproduction. With limited financial resources, the formation of Russia's food security system is connected with the creation of new conditions for the sustainable development of agriculture, the development of new technologies and effective forms of interaction between science and producers. The authors considered the main directions of production diversification in the regional agro-industrial complex, proposed a system of indicators that characterize the economic and social benefits of diversification, identified the main directions of the diversification strategy of the regional economy.

One of the urgent problems of the Russian economy from our point of view is the problem of food security, the independence of Russia and regions. In this regard, issues of paramount importance to find ways and reserves of increase and growth of food potential of the country and regions. To a large extent, this conclusion applies to industries and sectors of agriculture, which are characterized by serious underdevelopment. One of the serious problems of the economy, including the agricultural sector is the lack of modern strategies of development and management. Examples of research in this area is a

number of foreign scientists' works such as Clealand D. 1982, Thompson, A.A., Strickland A.J. 1998, King W., Pasquier M. 1998, Lehman R. 1994, etc.

Increased competition requires not only deepening of specialization and integration, but also the development of diversification. Research shows that the study of the diversification processes of enterprises, industries, and regions, is not something temporary, caused by the features of modern economic conditions, market imperfections, it is a common theory and practice in many sectors of the country and its regions [1].

Food potential of the region is largely dependent on the development of its branch structure, assortment policy of agricultural enterprises and its material and technical base. Market relations, competition naturally require deeper specialization, savings in terms of better use of resources. This objective law of economic regions is implemented in all countries, and then these differences are more significant, than territorial specialization of production is more profound. But in modern conditions there are not purely market relations but also institutional, including relations of food security. It demands from the regions the products that are necessary for sustainable, stable food supply of the region population at lower prices. In this regard, we should consider promising diversification of production in the regional agro-industrial complex.

Agroindustrial complex in an open economy.

The basis of the Russian economy is agroindustrial complex which consists of agricultural enterprises, organizations, households, businesses related to transportation, storage and processing of

agricultural products, trade, scientific and educational institutions. Last years it gradually restored and developed, in 2011 agricultural production increased by 47 percent in comparison with 2005 (Table 1).

**Table 1: Agricultural production and growth rates in Russia (Source: Russia in Figures. Brief statistical compilation, 2013)**

	2005	2006	2007	2008	2009	2010	2011
Agricultural production, billion rub.	774,5	961,2	1028,3	1154,9	1345,2	1495,4	1617,1
Growth rates, %	107,7	107,9	101,5	101,3	103,0	102,4	102,8

At the same time there is a significant increase in total production of major food products. During the period 2006-2012, in Russia production of most major types of food products increased: meat and offal - 1.8 times, sausage products - 2 times, dairy products 1.6 times and vegetable oil in 1.9 times (Table 2).

**Table 2: Production of major types of food products in Russia (Source: Russia in Figures. Brief statistical compilation, 2013)**

	2006	2007	2008	2009	2010	2011	2012	2012 to 2006, %
Meat and offal, thousand tons	1193	1284	1456	1677	1776	1857	2104	1,8p.
Sausage products, thousand tons	1052	1224	1468	1700	1865	2014	2132	2p.
Butter, thousand tons	267	271	279	285	276	254	274	103
Milk production, thousand tons	6,2	6,7	7,7	8,5	9,0	9,7	10,0	1,6p.
Vegetable oils, thousand tons	1375	1281	1197	1598	1895	2193	2566	1,9p.
Bread and bakery products, thousand tons	9,0	8,6	8,4	8,4	8,2	8,0	7,7	86
Flour, thousand tons	12,1	12,0	10,9	11,2	10,9	10,4	10,2	84
Groats, thousand tons	932	994	951	890	890	960	966	104
Commodity food fish production (excluding canned fish), million tons	2,8	2,8	2,7	2,8	2,7	3,1	3,0	107

Agricultural sector, despite its obvious technological progress continues to be quite complex and time-consuming sector of the Russian economy. Workers constantly emphasize that the work on farms is heavy, there is no mechanization, some work has to be done manually, there is heavy duty daily work, they have to get up early and leave work late; cadres often understaffed, they have to combine responsibilities, while wages remain low, there is little youth. Agricultural production is very sensitive to market requirements: transport and processing, implementation conditions, the production has a great season, a relatively short storage time some products are difficult to transport over long distances. Negative points create a lack of investment attractiveness of this economic sector, both for Russian and foreign investors, uncompetitive position in the inter-industry competition for capital, credit, labor and even for government subsidies. Investors usually mark high capital intensity, long duration of the payback period of capital investment, which is particularly unacceptable for business during the initial accumulation of capital. Under these conditions, more

than ever there is a need to develop and use effective model of economic, social and environmental development of the agro-industrial complex and undoubtedly modernization should become the core of it. If in relation the industry we try the model of pure liberal economy, it seems that it will not help it. Agricultural production is quite a specific sector, its effectiveness depends on many natural and economic and social factors, physiology of animals.

Despite increasingly industrial state of complex, advances in animal breeding, feeding and care in the sector, there is still a considerable amount of systemic problems such as lack of scientific and technical support, the need for major reconstruction of working conditions, increasing both current and long-term incentives, enterprise system needs a balanced development. Under these conditions, forming a development model it is important not to oversimplify its economy, it is still quite complex, needs a solid scientific and technological progress, the transition from extensive options for the investment and innovation type, based on the comprehensive mechanization, electrification and automation, improvement of social infrastructural conditions of working and living of workers and specialists, integrating production with science and education, creating effective conditions for wage increases. The creation of agricultural complexes of industrial type is considered to be a promising direction development of agro industrial complex. They should be based on new technologies and state collaborative innovation, capable by increasing the concentration, intensification and diversification of production significantly to improve the competitiveness of the sector [2, 3].

Kursk region also has some interesting experience of the kind. Built in the framework of the priority of national project livestock complexes for production of pig and cattle meat and milk have made it possible to increase production significantly, reduce production costs, increase labor costs and profitability. The analysis of the existing trends in the Russian economy indicates that both currently and in the future this complex will be the most important indispensable sector of modern economies. Many countries predict its growth, increase of production including such products as butter, cheese, skimmed milk powder, whole milk and as a consequence rising incomes and quality of life, the development of trade and restaurant. In the Russian economy this trend is also evident, but its implementation requires, above all, overcoming the lag of our complex from developed countries complex systems, especially in terms of its effectiveness.

The sociological study of managers and specialists of agricultural enterprises allows to

conclude that in the sector there are still many unsolved problems: there was a significant reduction in human resources; outdated, cumbersome, unattractive technology remain, the high cost of purchase of feed, equipment, fuels and lubricants increases, great difficulties with realization, purchase prices are not always justified; there is low salary level. All this indicates that modernization should be comprehensive, include not only technological advances, but also the improvement of working conditions, overcoming the monopoly, the maintenance of equivalent exchange between all links, expansion of demand. It is equally important to resist the seizure of the Russian market by transnational companies, which often prone to solve problems of profit maximization not only by growth in production volumes but mainly by monopolizing products markets and increasing of retail prices, often accompanied by a decline in demand and underconsumption of essential food products, especially in poor families.

Diversification of production in the regional agro industrial complexes.

One of the main objectives of diversification of the agro industrial complexes economy is expanding supply of goods, improving the competitiveness of organizations, systems, sectors and clusters. Socio-economic benefits of diversification of economy and projects in agro industrial complex lies in the fact that it allows to increase the concentration of production, to reduce costs and seasonal availability of labor, to conquer new market segments, to form the basis for economic and food security, to increase production, to use raw materials more complex, to expand assortment of products.

In current practice of functioning of agro industrial complex there are several major directions of diversification of economy, management decisions and strategies. There is extending diversify of economic sectors and the range of products, investment projects, suppliers and buyers of products, markets and regions, sold products, training of human resources, banking and insurance services, transport services. In the context of Russia's WTO accession diversification extends to foreign economic activity, it allows to pursue a policy of import substitution, to use import policy more efficiently for selecting the most effective equipment and machinery, international and interregional mobility of capital, the use of different transport options.

Different levels of economic diversification can be distinguished across the country, region, clusters, and organizations. As for Russia as a whole,

tasks of diversifying of the national economy are defined as the direction of the country's transition from a predominantly raw orientation - oil, gas, wood and metals, - to create a modern innovative industry with deep processing of raw materials and production of finished products. This approach is fundamentally important for the regions. In relation of their economies, including industries and systems, diversification issues remain slightly solved. Agro industrial complex of Kursk region has great potential for economic diversification. With significant amounts of raw materials, they have the ability to significantly increase the production of finished products, that is necessary on the world market, and many, many CIS countries and territories of Russia especially the northern. It can be products of grain processing: bakery products, cakes, rusks, flour, cereals, mixed fodder, alcohol. Great opportunities exist in this regard in sugar beet production, which, along with the sugar production may be adjusted production of numerous other products. For example, sugar mills of the USA, EU countries offer more than 160 different types of finished products that are in demand, derived from sugar raw material. The Russian sugar industry also has some interesting experience of the kind. Sugar factories arrange fattening as well as sugar production, pulp, molasses. for example LLC "Ivolga" in Kursk region. Russian sugar factories, including Kursk, are enterprises, where you can organize the production of dozens of other kinds of products, including one that is imported. It can be: dried pulp, confectionery, namely, marshmallows, candy, bread yeast, alcohol, syrup, citric acid, etc. Poultry farms, vegetable processing enterprises also have great potential for diversification of production, sales. This may be the expansion of production of ecologically clean luxury products, goods for populations with different purchasing opportunities and specific consumption. Studying of the experience of production diversification in the EU countries points to the immense social and economic efficiency of this direction of the economy, not only in large enterprises, but also in small farms, which, even with a modest resource base, establish the production of bakery products, butter, sausages, smoked, fodder, beer, develop eco-tourism. Despite fierce competition from large companies, they consider this approach to activities as a promising and useful.

For a clearer assessment of the effectiveness of region economic diversification the authors suggest a special system of indicators that reflects the economic and social effects of its implementation (Table 3).

**Table 3: Indicators of socio-economic efficiency of diversification strategy in the region**

Indicators of region diversification	Role of calculated indicators to assess the effectiveness of region diversification	Methodological approaches to the calculation of indicators
Capital productivity	It allows to determine the level of efficiency of attachments and use of investments, fixed assets, to determine the profitability of production, recouping costs.	It is calculated as the ratio of the gross regional product (GRP) to the value of fixed assets
Labour productivity	It allows to determine the effectiveness of the organization of labor and production, the possibility of wage growth.	It is calculated as the ratio of the GRP to the average annual employment in the regional economy
Ecological compatibility of production	It allows to assess the environmental suitability of the region products.	It is calculated as the quotient of GRP on amount of harmful emissions into the atmosphere emanating from stationary sources
Investment potential of the region	It allows to conclude a cyclical dynamics of the economic component of the investment attractiveness of the region	It is calculated as the ratio of investment returns to investment.
The level of food security in the region %	It characterizes the capacity utilization of enterprises and industries, level of the population provision by products	It is calculated as the ratio of profit to sales of products and services, multiplied by 100%
Social efficiency of production	It characterizes the business impact on employment, wage level, the state of the social sphere	It is calculated based on the number of employees, on indicators of social services and on indicators of income distribution in the region

First of all, agricultural production in agricultural enterprises, farms and smallholdings should be developed on the basis of new technologies mechanization and automation of labor-intensive processes, chemicals, increasing of crop yields and livestock productivity. However, no matter how important agricultural industry is, enterprises closing associated with them are no less important. This is procurement, transport organization, storage and processing companies, retail. They are essential. Weak development of this enterprises system leads to the loss of agricultural and food production, reducing its quality and price rise. Many regions of the country, including the Kursk region, have weak development of this production infrastructure. Here disparities between agricultural production, storage and processing of its products are traditionally stored, so there is a decrease of productive resources using. Lack of necessary infrastructure sizes leads to the fact that large amounts of agricultural products go to other regions for processing, thereby reducing tax revenues, opportunities of employment and revenues increasing. It is important to develop a system of consumer cooperatives enterprises; private procurement firms which capable of harvesting agricultural raw materials, transportation, and storage. They must take on a very important function in storage and bringing products to processors, wholesale buyer. Currently, there are many

unscrupulous market entities seeking to monopolize these relations. De-monopolization of these relationships should be considered as a priority task of modern development of agro industrial complex in the region. There is formation of the transport services market, which is an objective requirement AIC development of regions, the condition for their optimal functioning. In these circumstances, the establishment of the system of paved roads from farms to major markets, the establishment of production facilities for processing farm products (flour, cereals, oil) becomes very important.

Processing of agricultural raw materials traditionally carried out in Russia and abroad in the dairy, meat, flour, canned food and other food industries. It allows to achieve the production of higher quality food products, integrated use of raw materials, to increase labor productivity and income. At the same time on the whole in some regions, especially those located in the vicinity of the towns there are lagging of this sector of food production. Difficulties of regional economy diversification are seen in the weak market research, lack of investment capital, underestimating the additional production for solving social and environmental problems, in the business orientation for a quick profit. Diversification of the economy, especially at the enterprise level, requires additional competencies, complicates management, especially in the early stages, needs

state support. In modern conditions of development of the economic strategy it should be combined with the deepening of specialization, expanding the range of products, including the processing of crop and livestock production. In EU countries the following policy is usually implemented - everything must go out from the regions only in a processed form: grain - into fodder - fodder into meat - meat into sausage, tenderloin, smoked, the finished product on the market. The markets in the Russian regions also have the opportunity to establish production of finished products. This approach opens up great opportunities to expand exports, not only grains, but also many other ready-made products. Great opportunities in this case are open for interregional exchange as well as for solving food security issues.

Diversification of the economy, increase of the competitiveness of products in conditions of Russia's participation in WTO are the main exit factors for region enterprises to the world market. Considerable work on the diversification of regional agro industrial complex should be held in parts of the rehabilitation and development of sheep, goat, seed, fruit, flower, vegetable growing, beekeeping, etc. Many products from these subsectors may be exported, including the EU countries [4]. It would be naive to assume that all these difficult issues can be resolved spontaneously, due to the so-called "invisible hand of the market", it needs a strong government support. Adopting a program of economic diversify of the region, its enterprises and organizations would be reasonable in the development of strategy of socio-economic development of the Kursk region for the period 2020. A major role in their implementation should be given to ambitious enterprises, improving the quality of human capital, the integration of production with science and education [5]. Managers and specialists, business owners should be motivated to carry out the processes of economic diversification, but no less important to encourage them in this approach in part of management, it is especially important in the agricultural economy, characterized by a greater risk. State, local administration need to solve a number of fundamental questions regarding the establishment of facilities and infrastructure for the realization of final products. Program of diversification of region economy and agro industrial complexes should include socio-economic and institutional mechanisms for their promotion. These could include the forms and methods of market monitoring, integrating production with science and education, economic and material stimulation of workers for making progress in implementing this strategy, some privileges on innovation patents of diversification, innovation subsidies, business activity, as well as economic risks

insurance, institutionalizing the new economic and social relations and their results. Today the food and processing industry in Kursk region is increasing the rate of development. So, at the beginning of 2013 the share of food and processing industries in manufacturing industries was 35.8% (32.5% in the comparable period in 2012). The index of industrial production for the period under review amounted to - 119.4% (118.5% for the comparable period last year). The volume of food production in current prices compared to the same period in 2012 increased by 3.5 billion rubles and reached 27.1 billion rubles. The region has mastered 44 new products that further created 620 new jobs. General positive results of this sector were made possible by the persistent work of enterprises of technical upgrading of production and the development of new resource-saving technologies, increasing the volume of production at a number of existing and newly introduced plants.

Today's tasks in the food industry are seen in its transition to more advanced technology, in clarifying the range of products, in enhancing its quality, in creating large processing plants, in establishing mutually beneficial relationships with agricultural producers, transport enterprises, finally the retailer. Naturally, these relations should be based on the principles of market economy, competition, harmonization of economic interests, overcoming of monopoly, equitable distribution of income. Forms of interaction that create equal economic conditions for their reproduction on a contractual basis or in the form of various holdings should be considered as the most appropriate ones [6, 7].

Finally the most important diversification direction of the region production is the development and implementation of food products. This sets the final demand for labor and food products of sub complex, its ability to meet the needs of the population in high-quality food. At the moment it is the most dynamic sector of the Russian economy. Its problems are seen in the lack of demand due to high prices, inflation, significant dominance of imported products. There is a tendency to create processing enterprises of own retail network, which are to obtain additional profit [8, 9]. The experience of developed countries shows that as income grows, the formation of the special value of free time, time in the household for cooking will be reduced, and the role of the food sub complex will increase. Development of a subject system of regional production sub complex is supported by capital mobility, business development. Taking into consideration that supply and demand for food depend on climatic and socio-political conditions, as well as the importance of food in society.[10]

### Conclusions

Summarizing it all up we should note that the economy must constantly develop and improve the quality and efficiency of the existing potential which is especially important for the Russian economy and regions. It may contribute to the presence of huge and diverse resource potential. It is also important because the domestic industry is highly vulnerable because of the backwardness of many industries. Diversification of the national economy as a whole and its sectors will more widely and efficiently use the existing potential for improving the efficiency of sectoral policies, development of a competitive market and strengthening its position in the world arena. Another advantage of diversification of the national economy is that it is a factor in the formation of effective competition in both domestic and overseas markets, contributes to the weakening of economy monopolization. For many reasons, the use of the diversification strategy is especially useful in sectors of industry and agriculture.

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