REPORTS OF THE NATIONAL ACADEMY OF SCIENCES
OF THE REPUBLIC OF KAZAKHSTAN
ISSN 2224-5227 https://doi.org/10.32014/2019.2518-1483.102
Volume 3, Number 325 (2019), 261 – 265

UDC 338.431.001.76

A.M. Balkibaeva [1], G.M. Mukasheva [2],
M.S. Tolysbaeva [3], A.M. Aralova [4], Zh.Zh. Gabbassova [5]

[1,2,3,4]Kazakh Agrotechnical University named after S.Seifullin;
[5]West Kazakhstan Agrarian Technical University named after Zhangir Khan
ambal1974@mail.ru, gulzhan74@mail.ru, tolysbaeva76@mail.ru, altyn.ar@mail.ru, Dzhuma1981@mail.ru

INNOVATIONS IN THE ECONOMY OF THE AGRARIAN SECTOR

Abstract. In modern conditions, one of the main factors of agricultural development, which helps in ensuring the sustainable development of the agro-industrial complex, is innovation. Its effectiveness depends on the state of the external and internal economic environment, the availability of the necessary conditions for the introduction and rational use of innovative products. An innovative approach in relation to the agrarian sphere consists of: first, a study of the role and degree of influence of institutions that ensure the success of the transformation process in the agrarian sphere as a whole on the basis of modernization. Secondly, the creation of the necessary institutional environment and, finally, thirdly, the implementation in economic practice of the results of research and development in the form of new forms of organization and management, financing and crediting of production; new approaches to training, retraining and staff development; new technologies, new equipment, new fertilizers, etc.

Keywords: innovations, agriculture, economics, modernization, technology.

INTRODUCTION

The problem of sustainable economic growth of agricultural production on the basis of its consistent transfer to the innovative path of development in recent years has been extensively studied in domestic agro-economic science, analyzes the current state of the industry, the main directions for restoring and further developing the material and technical base of crop production and animal husbandry, the role of agricultural science in innovation. However, a number of theoretical, methodological, methodological and practical issues related to the processes that are taking place still need to be resolved and argued. These problems are of particular relevance at the present time, when, on the basis of innovation in the agricultural sector, the tasks of ensuring sustainable development of rural areas, improving the quality of life in rural areas, and further increasing the efficiency of agricultural production will have to be addressed.

MAIN PART

In the agro-industrial complex, the innovation process is a constant stream of transformation of research and development into new or improved products, materials, new technologies, new ones.

The development of the agricultural sector of the economy is influenced by global processes characterized by inconsistency and ambiguity. Firstly, overproduction of agricultural products, raw materials and food in highly developed countries and malnutrition in developing countries. Secondly - the expansion of the production of environmentally friendly products and the growth of agricultural production through the use of GMOs. Thirdly, the reorientation of a part of the population towards the consumption of bioproducts and the hiding of information in commercial networks about products grown with the use of genetically modified seeds, etc.

Over the past 20 years, there has been a steady decline in prices on world food markets. This was facilitated by: growth in agricultural production in low-cost countries (Brazil, New Zealand); increased financial support for agricultural producers in the United States, European countries, and others. In recent

years, they have been growing for several reasons: the drought of recent years in several regions of the world (in Australia for 6 years) has led to a twofold decrease in grain production; the rapid demand for biofuels, due to rising fossil fuel prices. As a result, up to 40% of the corn harvest was sold as fuel, and not as food or feed grains.

Economic growth on a global scale provided an increase in demand for food, especially in China, India - for dairy and meat products, as a result, a rise in prices not only for livestock products, but also for grain. Adverse climate change in recent years and rising energy prices have led the US and European governments to develop measures to renew financial support for agricultural producers in order to increase biofuel production. In the US, it produces how much gasoline in Russia.

Moreover, in the economy there is a change in the mode of production - industrial is replaced by information, based on the "production and productive application of information" [4, p. 6]. In such conditions, it is necessary not only to understand the current situation, but also to be able to see the future in the development of agricultural production, to evaluate possible threats and risks.

Innovative activity in the agricultural sector has its own characteristics and the main difficulties associated with them in the development and implementation of innovations. They are distinguished by a variety of regional, sectoral, functional, technological and organizational features. At the same time, some researchers call not the creation of fundamentally new products in the industry as the main feature of the innovation process in the agro-industrial sector, but the development of new technologies based on the achievements of science and technology in related industries in the economic practice.

Innovation process - the process of creating, distributing innovations, which consists of 5 stages:

1) fundamental theoretical research, conducting research R & D, and the result - the discovery and new theoretical knowledge;

2) the implementation of knowledge, the search for areas of practical use and implementation in the practical field, the search for investors;

3) research and development (OCD);

4) commercialization, introduction to the market;

5) the innovation process ends with the disposal of the product.

Consider the GDP by type of economic activity for 2018.

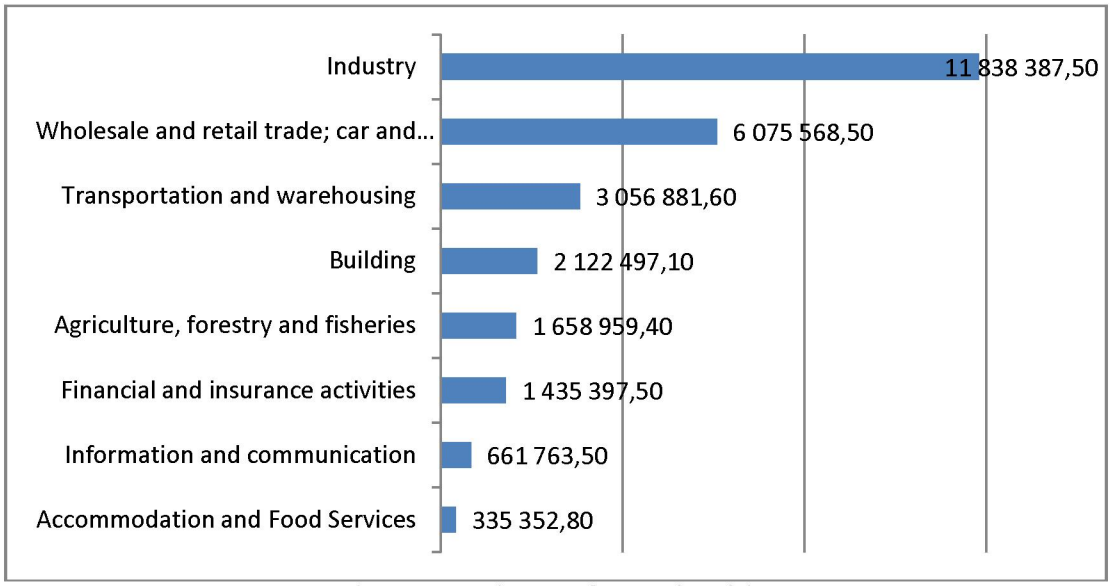

Figure 1 - GDP by type of economic activity

The leader in the GDP of the Republic of Kazakhstan is industry 11838387.5 million tenge, the share of agriculture is 1658959.4, which indicates a small share. Modern production largely depends on the quantity and quality of information used, ensuring its productive materialization in technical and technological processes. Economic growth as a whole is no longer reduced to the well-known types of growth (extensive and intensive), but the formation of a new informational type of economic growth

(includes some features of known types of growth). Informational growth occurs due to qualitative changes caused by the use of scientific and technical information in agricultural production.

Information technologies are one of the means to increase the efficiency of public administration, since their use improves the quality and speed of processing and transferring information flows, and this helps to ensure national interests, improve economic manageability, develop high-tech industries and high technologies, increase productivity, improve socio-economic relations, enrichment of the spiritual life of society.

The conceptual basis of informatization of the agro-industrial complex provides for information and analytical support for the agro-industrial production, the activities of the government bodies of the agro-industrial complex; agrarian market; information and consulting services for agroindustrial production; informatization of enterprises and associations of agriculture; research and educational activities and improvement of the information and library service system.

Information support of the management of the agricultural sector is aimed at:

• creation of a state network of information and marketing centers for the implementation of information services, conducting research and ensuring the development of the electronic market and the latest state planning system by drawing up industry and intersectoral balances;

• creation of an automated information and analytical system for monitoring the performance of socio-economic development indicators of the agricultural sector on the basis of information and marketing centers;

• inventory of electronic information resources and the creation of an integrated information and reference (search) network; creation of a single information and analytical center [7].

The sectoral structure of income generation by types of economic activity for January-September 2018 is presented in Table 1.

Table 1 - Sectoral structure of income generation by type of economic activity for 2018
in percents

	salary	other taxes on production	gross profit / gross mixed income
Agriculture, forestry and fisheries	25,4	0,1	74,5
Industry	23,2	2,7	74,1
Mining and quarrying	17,0	3,8	79,2
Manufacturing industry	28,6	1,3	70,1
Electricity, gas, steam and air conditioning	38,6	1,7	59,7
Water supply; sewage system, control over the collection and distribution of waste	56,1	2,1	41,8
Building	41,3	0,4	58,3
Wholesale and retail trade; car and motorcycle repair	31,7	0,3	68,0
Transportation and warehousing	40,1	1,2	58,7
Accommodation and Food Services	40,7	0,5	58,8
Information and communication	48,1	1,6	50,3
Financial and insurance activities	27,5	0,9	71,6
Real estate transactions	8,8	0,6	90,6
Professional, scientific and technical activities	49,5	0,7	49,8
Administrative and support services	54,7	0,6	44,7
Public administration and defense	78,6	0,1	21,3
Education	72,4	0,1	27,5
Health and social services	58,4	0,2	41,4
Arts, entertainment and recreation	59,9	0,3	39,8
Provision of other services	22,2	0,1	77,7
Activities of households employing domestic servants and producing goods and services for their own consumption	51,6	0,2	48,2
Total by industry	32,5	1,2	66,3

The share in the sectoral structure of education income by type of economic activity is wages observed in government and defense 78.6%, education 72.4, health and social services 59.9%. Minimum taxes are on agriculture, forestry and fisheries, public administration and defense, education 0.1%, the

maximum figure for mining and quarrying is 3.8%. Gross profit is maximal in mining and quarrying 79.2%, in agriculture, forestry and fisheries 74.5% and in industry 74.1%, while other services 77.7%.

One of the acute problems of agro-industrial production is the low efficiency and effectiveness of management decisions made due to insufficient development of the intellectual and cultural environment in rural areas, insufficient use, including local business practices, and new information technologies.

Agriculture is an ideal environment for the application of information technology (IT). In this regard, for the effective and sustainable functioning of economic entities of the republic in the new conditions, it is necessary to apply advanced information technologies to identify their internal reserves, attract external investments, as well as carry out the restructuring of organizational structures and reengineering management systems. The idea is to optimize decision making on the local application of fertilizers and pesticides to the soil using the most heterogeneous data to increase the productivity of agricultural production.

Modern IT allows farmers to receive advice, recommendations, regardless of the time and place of their location. A farmer can describe his problems through ordinary speech, illustrated with photographs or videos. In this case, the time and location of the farmer are determined automatically. Then he can send his materials via e-mail to the supporting agricultural services and get an answer after a while, or he can solve his problem online through the Internet.

The expansion of information databases is an important but not sufficient condition for their effective use in farms. Baseline information should be convenient for assessing biological and physical systems in order to develop useful knowledge of the current state of the farms, as well as forecasting results in the implementation of various scenarios. The accumulated knowledge in agricultural research over the years must be applied to obtain practically useful information by processing databases. This means that IT is an indispensable source for the implementation of research and development.

CONCLUSION

A number of factors contribute to the growth of IT investments in the region: ongoing economic reforms, privatization, growth in foreign direct investment, significant demand from small and medium-sized businesses, and individual users for personal computers and software.

General conditions for the effective development of the agrarian sector of the economy are also technological re-equipment of the farms of the entire agro-industrial complex; introduction of energy and resource-saving technologies for the production, storage and processing of agricultural products; reproduction of soil fertility, prevention of all types of their degradation; creation of a modern system of information and infrastructure support for innovation in the agricultural sector of the economy; introduction of affordable insurance systems for agricultural producers; strengthening the role of government organizations in enhancing innovation; development of regional and municipal innovative development programs, etc.

УДК 338.431.001.76

А.М.Балкибаева[1], Г. М. Мукашева[2],
М.С. Толысбаева [3], А.М. Аралова [4], Ж.Ж. Габбасова [5]

[1,2,3.4]С.Сейфуллин атындағы Қазақ агротехникалық университеті ;
[5]Жәңгір хан атындағы Батыс Қазақстан аграрлық-техникалық университеті

АГРАРЛЫҚ СЕКТОР ЭКОНОМИКАСЫНДАҒЫ ИННОВАЦИЯЛАР

Аннотация. Қазіргі жағдайда агроөнеркәсіп кешенінің тұрақты дамуын қамтамасыз етуге көмектесетін ауыл шаруашылығын дамытудың негізгі факторларының бірі инновация болып табылады. Оның тиімділігі сыртқы және ішкі экономикалық ахуалдың жай-күйіне, инновациялық өнімді енгізу мен ұтымды пайдалануға қажетті жағдайлардың болуына байланысты. Аграрлық салаға қатысты инновациялық көзқарас: біріншіден, жаңғырту негізінде аграрлық саладағы трансформация процесінің жетістігін қамтамасыз ететін институттардың рөлі мен дәрежесін зерттеу. Екіншіден, қажетті институционалдық ортаны құру және, ақыр соңында, үшіншіден, шаруашылық практикасында ғылыми зерттеулер мен әзірлемелердің нәтижелерін ұйымдастыру және басқарудың, қаржыландырудың және несиелеудің жаңа нысандары түрінде енгізу; кадрларды даярлау,

қайта даярлау және қайта даярлаудың жаңа тәсілдері; жаңа технологиялар, жаңа жабдықтар, жаңа тыңайтқыштар және т.б.

Түйінді сөздер: инновациялар, ауыл шаруашылығы, ауыл шаруашылығы, экономика, жаңғырту, технологиялар.

УДК 338.431.001.76

А.М. Балкибаева [1], Г. М. Мукашева [2],
М.С. Толысбаева [3], А.М. Аралова [4], Ж.Ж. Габбасова [5]

[1,2,3.4]Казахский агротехнический университет им. С. Сейфуллина;
[5]Западно-Казахстанский аграрно-технический университет имени Жангир хана

ИННОВАЦИИ В ЭКОНОМИКЕ АГРАРНОГО СЕКТОРА

Аннотация. В современных условиях одним из основных факторов развития сельского хозяйства, помогающим в обеспечении устойчивого развития агропромышленного комплекса, является инновационная деятельность. Ее результативность зависит от состояния внешней и внутренней экономической среды, наличия необходимых условий для внедрения и рационального использования инновационной продукции. Инновационный подход применительно к аграрной сфере представляют собой: во-первых, исследование роли и степени влияния институтов, обеспечивающих успех трансформационного процесса в аграрной сфере в целом на основе модернизации. Во-вторых, создание необходимой институциональной среды и, наконец, в-третьих, реализацию в хозяйственную практику результатов исследований и разработок в виде новых форм организации и управления, финансирования и кредитования производства; новые подходы к подготовке, переподготовке и повышению квалификации кадров; новые технологии, новую технику, новые удобрения и т.д.

Ключевые слова: инновации, агропромышленный комплекс, сельское хозяйство, экономика, модернизация, технологии.

Information about authors:

Belgibaeva Aida Maksutovna - Candidate of economic Sciences Kazakh agrotechnical University. S. Seifullin, orcid.org/0000-0002-2569-7524;

Mukasheva Gulzhan Muratbekovna - master of economic Sciences, senior lecturer, Kazakh agrotechnical University. S. Seifullina, Republic of Kazakhstan, Nursultan, Pobedy Ave., 62, 8(7172)31-75-47, https://orcid.org/0000-0002-3020-6144;

Talasbaeva Marjane Saitbekova - Candidate of economic Sciences Department of Economics, Kazakh agrotechnical University.S. Seifullin, President, Prospekt Pobedy, 62;

Aralova Altyn Maradisi - Master of economic Sciences, Kazakh Agrotechnical University. S. Seifullin, https://orcid.org/0000-0001-7770-6966;

Gabbasova of Zoumakis Zhaksygaliuly - West-Kazakhstan agrarian-technical University. Zhangir Khan. Uralsk, street Zhangir Khan, 51, https://orcid.org/0000-0001-7841-4981

REFERENCES

[1] Impulse for the development of smart-agro in Russia. URL: http://smartfarmrussia.ru/novosti// (access date: 04/28/2018).

[2] Innovative technologies for the future of agriculture. URL: https: //www.agritechnica. com / fileadmin / downloads / 2017 // (appeal date: 11.04.2018).

[3] Methodical provisions for improving the innovation and investment attractiveness of the economic entities of the agro-industrial complex / ed. I.S. Sandu, N.E. Ryzhenkova. M .: Scientific consultant, 2017. 210 p.

[4] Nizhegorodev R.M., Nikitenko S.M., Shevtsov D.S. Innovative firms in the modern Russian economy. M .; Kemerovo: Siberian Publishing Group LLC, 2010. 311 p.

[5] Zhansagimova A.E. Monitoring the development of the rural areas of the Republic of Kazakhstan. XX International Scientific and Practical Conference "Agrarian Science - Agricultural Production of Siberia, Kazakhstan, Mongolia, Belarus and Bulgaria" (Novosibirsk, October 4-6, 2017) p.366-370 ISBN 978-5-94477-211-4 (In Russian).

[6] Aktymbayeva A.S., Zhansagimova A.E., Mizambekova Zh. K., Toizhigitova Zh. A., Sadvokasova K. Zh. Financial management, franchise and their impact on tourism. Pensee Journal. France Vol 76, No. ten; Oct 2014, p. 133-142 (ISSN 0031-4773) (in English).

[7] Mazbaev O.B., Zhansagimova A.E., Eszhanova J., Bulakbay J.M. Finance, management, tourism and innovation. Bothalia Journal, PRETORIA, SOUTH AFRICA Vol. 9; Sep 2014, p. 48-58 (ISSN: 0006-8241) (in English).