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Mahmudova Lala Fagail,
PhD (Economics), Associate professor of the Department of Economics, Sumgait State University, Sumgait city (Azerbaijan)
https://orcid.org/0000-0002-7805-360X

Azizova Kamala Vagif,
PhD (Economics), Senior Teacher of the Department of Economics,
Sumgait State University, Sumgait city (Azerbaijan)
https://orcid.org/0000-0003-4474-9278

Mammadova Elnara Shamsı,
PhD (Economics), Senior Teacher of the Department of Economics,
Sumgait State University, Sumgait city (Azerbaijan)
https://orcid.org/0000-0002-9149-8355

Seyıdova Samıra Rasım,
Assistant of the department of finance and accounting,
Sumgait State University, Sumgait city (Azerbaijan)
https://orcid.org/0000-0002-3387-7592

THE ROLE OF INNOVATIONS IN IMPROVING LABOR PRODUCTIVITY IN AGRICULTURAL ENTERPRISES

The agricultural sector is one of the most important sectors of the national economy, as its efficiency can determine the overall state of the country's economy and has a decisive impact on food supply levels and the well-being of the population. Therefore, studying ways to increase labor productivity in agricultural enterprises is particularly important. It determines the pace of expanded reproduction in these enterprises and the full satisfaction of the population's demand for agricultural products. This is especially relevant in the context of strengthening the country's food security and pursuing an import substitution policy. Currently, labor productivity in Azerbaijan's agricultural sector is low compared to that of other countries. The main reasons for this include a lack of qualified personnel, underdeveloped production culture, and insufficient advancement in technology and digitization. Therefore, the primary priority today is to address and eliminate these issues.

Relevance of the topic. At present, increasing labor productivity in local enterprises, including agricultural enterprises, is receiving significant attention. In this context, the role of innovations must be given special consideration. The application of innovations in agricultural enterprises primarily involves the use of new technologies, more productive breeds and plant varieties, and biotechnologies that enable the production of higher-quality, more beneficial products. It also includes the introduction of new technical means for soil cultivation, the cleaning and storage of raw materials, energy-saving technologies in production, and environmental innovations that enhance productivity, minimize costs, and ensure environmental safety. Given these advantages, the application of innovations plays a crucial role in increasing labor productivity. Therefore, conducting research in this direction has become increasingly urgent and necessary.

The purpose of the article is to study the role of innovations in increasing labor productivity in agricultural enterprises. It also aims to explore the directions of innovation-oriented development

in these enterprises, as well as the main forms, methods, and mechanisms of state stimulation. The article highlights the development of innovation policy and the achievement of its strategic goals as key conditions for increasing labor productivity in the agricultural sector. These strategic goals include enhancing national competitiveness through innovations – particularly those that are directly relevant to agricultural producers – and identifying and supporting high-tech sectors that can drive rapid economic growth.

Research methods. general scientific analysis and synthesis, grouping, generalization, factor analysis, economic-statistical analysis, comparative analysis, development dynamics

Scientific innovation. The article examines the specific features of the innovation process in agricultural enterprises compared to other sectors of the economy. It explores the ways of increasing labor productivity in these enterprises and identifies the advantages brought by innovation. It is argued that one of the key benefits of innovation is its ability to enhance the efficiency and productivity of agricultural enterprises. Through innovative technologies and methodologies, these enterprises can reduce costs, increase productivity, and optimize their production activities. The article emphasizes that innovation has always been a driving force behind progress and success in various sectors of the economy – and the agricultural sector is no exception. As the global population continues to grow, so does the demand for food and other agricultural products. To meet this increasing demand, agricultural enterprises must enhance their competitiveness, and one of the most effective ways to do so is through innovation.

Keywords: agricultural enterprise, innovation, labor productivity, production, technology, stimulation

JEL classification: ***O13, Q13, Q14, Q15, Q18***

Аграрний сектор є найважливішою галуззю національної економіки, оскільки ефективність його діяльності має здатність визначати стан усієї економіки країни та вирішальним чином впливає на рівень продовольчої забезпеченості та добробуту населення. Тому особливо актуальним є вивчення питань підвищення продуктивності праці в сільськогосподарських підприємствах. Це визначає швидкість розширеного відтворення на цих підприємствах і повне задоволення попиту населення на його продукцію. Це особливо важливо в контексті поглиблення продовольчої безпеки країни та політики імпортозаміщення. В даний час продуктивність праці в сільськогосподарському секторі в Азербайджані низька в порівнянні з іншими країнами. Основними причинами такої ситуації є брак кваліфікованих кадрів, недостатній розвиток культури виробництва, слабкий розвиток технологій та цифровізації. Тому головним пріоритетним завданням сучасності є усунення таких проблем.

Актуальність теми. Питанням підвищення продуктивності праці на місцевих підприємствах країни, в тому числі в аграрних підприємствах економіки, на сьогодні приділяється велика увага, і в цьому випадку слід окремо розглянути роль інновацій. Застосування інновацій у сільськогосподарських підприємствах, насамперед, щодо застосування нових технологій, нових, більш продуктивних порід і сортів рослин, біотехнологій, що дозволяють отримувати більш якісну, корисну продукцію, нових технічних засобів обробітку ґрунту, очищення та зберігання сировини, енергозберігаючі технології у виробництві продукції даної галузі, дозволяє використовувати екологічні інновації, які дозволяють підвищити продуктивність, мінімізувати витрати та гарантувати екологічну безпеку. Виходячи з наведених переваг застосування інновацій в аграрних підприємствах та їх ролі в підвищенні продуктивності праці в цілому, стає актуальною необхідність проведення досліджень у цьому напрямку.

Метою статті є дослідження ролі інновацій у підвищенні продуктивності праці на сільськогосподарських підприємствах. Також розглядаються напрями інноваційного розвитку цих підприємств та основні форми, методи та механізми державного стимулювання. У статті в якості основних умов висувається розвиток інноваційної політики та реалізація її стратегічних цілей щодо підвищення продуктивності праці в сільськогосподарських підприємствах. Ці стратегічні цілі включають підвищення національної конкурентоспроможності за рахунок інновацій, головним чином тих, які безпосередньо потребують сільськогосподарські виробники, а також визначення та підтримку високотехнологічних сфер, які забезпечують швидке економічне зростання.

Методи дослідження. Загальнонауковий аналіз і синтез, групування, узагальнення, факторний аналіз, економіко-статистичний аналіз, порівняльний аналіз, динаміка розвитку.

Наукова новизна. У статті досліджено особливості інноваційного процесу в сільськогосподарських підприємствах порівняно з іншими сферами економіки. Досліджено шляхи підвищення продуктивності праці на цих підприємствах та визначено переваги впливу інноваційного чинника. Обґрунтовано, що однією з важливих переваг інновацій є їх здатність підвищувати ефективність і продуктивність сільськогосподарських підприємств, завдяки інноваційним технологіям і методологіям ці підприємства можуть зменшувати витрати і підвищувати продуктивність, оптимізувати виробничу діяльність. У статті зазначається, що інновації завжди були рушійною силою прогресу та успіху в різних галузях економіки, і аграрний сектор не став винятком. Оскільки населення світу продовжує зростати, зростає і попит на продукти харчування та інші сільськогосподарські продукти. Щоб задовольнити цей зростаючий попит, сільськогосподарські підприємства повинні знайти шляхи підвищення своєї конкурентоспроможності, і одним із найефективніших шляхів досягнення цього є інновації.

Ключові слова: сільськогосподарське підприємство, інновації, продуктивність праці, виробництво, технологія, стимулювання

JEL classification: ***O13, Q13, Q14, Q15, Q18***

Introduction

Intensive application of innovations in agricultural enterprises will lead to an increase in labor productivity and production volume due to the saving of all kinds of resources. The innovative development of agro-industrial production will lead to a stable growth of export, increasing the competitiveness of agricultural enterprises and, as a result, investment attractiveness. What makes these enterprises competitive compared to other areas of economic activity is that they are characterized by high capital capacity, a long period of productivity, and dependence on natural and climatic conditions. Therefore, it is required to increase labor productivity in those enterprises, which will allow to reduce the cost of products of that field. Also, the increase in labor productivity leads to efficient use of past labor embodied in material resources and cost savings. Ultimately, this will lead to an increase in the efficiency of the production of certain types of livestock and crop production.

Research methods. The degree and direction of influence of factors on labor productivity in agricultural enterprises are not the same. Some factors help to reduce labor costs, some contribute to an increase in agro-industrial production, while others have an immediate effect on both labor savings and production growth. The degree of influence of those factors can be revealed through various methods. For this purpose, the article employs methods such as general scientific analysis and synthesis, grouping, generalization, factor analysis, economic-statistical analysis, comparative analysis, development dynamics, etc. analysis methods were used.

Discussions and conclusions

1. The role of innovations in agricultural enterprises.

At the current stage of public production and scientific and technological progress (STP), there is an objective need for innovation. Innovative activity is based on priorities in the commercialization of scientific and research results, in interaction with the business sector, while aligning with national interests and considering global science and technology development trends. The achievements of STP, the modernization of agricultural enterprises create conditions for moving the agricultural sector of the economy to the path of innovative, intensive development.

Research by N.J. Gafarov shows that in modern times, innovations are one of the main factors affecting the competitiveness of agricultural enterprises and their products. According to him, the innovation process is mainly accompanied by a decrease in operating costs, an increase in requirements for the quality of product sales, a decrease in prices and an increase in labor productivity. By relying on a clear innovation mechanism, agricultural enterprises can ensure the competitiveness of their products and maintain their initiative in creating demand [1, p.241].

The development of the agricultural sector is primarily determined by the level of integration of innovative technologies and the efficiency of production.

Compared to other areas of the economy, the innovation process in the agricultural sector has certain characteristics, namely:

- a long development process (related to selection work);
- innovations are typically of an improving nature (mainly due to the fact that they are directed not to the invention of something new, but to increasing the productivity of the object);
- scientific-research-oriented enterprises play an important role;
- the study of living organisms (plants, microorganisms, animals);
- dependence on climatic conditions and natural zone.

Three main directions for the application of innovations in the activities of agricultural enterprises can be distinguished:

1) innovations in the human factor: training specialists capable of managing new equipment, techniques, and technologies, as well as enhancing their qualifications;

2) innovations in biological factors: development and implementation of innovations that increase the fertility of agricultural land and the productivity of animal husbandry and crop production;

3) innovations in man-made factors: improving the technical and technological level of the agricultural enterprise.

In contrast to other sectors, the development of innovation in agricultural enterprises is slower, which requires special attention.

2. The role of the state in the innovative development of agricultural enterprises.

The innovation policy implemented by the state plays an important role in the development of agricultural enterprises. The modern innovation policy in the country should be based on creating favorable conditions for increasing the technological level of production and improving its structure, increasing the competitiveness of local products, economic growth and, accordingly, the formation of economic and national security. The strategic goals of the innovation policy in agricultural enterprises are to enhance national competitiveness through innovations, especially those that are directly in demand by agricultural producers, and to identify and support high-tech areas that provide rapid economic growth. Maximizing the scientific and technical potential of agricultural enterprises for the restoration and development of the national economy, giving it an innovative character, should become one of the most important directions of the country's socio-economic policy.

Issues related to the important role of the state in strengthening innovative activity in agricultural enterprises have been the main research area of M.A. Polegenka. According to him, the state determines the priorities of the main innovations at all levels while preparing policies for enterprises in that field, and forms a market mechanism for their implementation. According to him prospects for the realization of innovations in agricultural enterprises should include a clear and consistent legislative framework, crediting of agricultural production, the creation of a monitoring system for monitoring the innovative potential of regions, and the search for ways to provide a favorable environment in terms of the development of the agricultural sector [2, p.51].

Researchers V.R. Burnasheva, E.E. Berkunbayeva, and B.Sh. Gussenov studied the support systems provided by the state to agricultural enterprises in many countries around the world. According to their findings, countries apply the strictest protectionist measures in the field of agricultural products to protect their domestic markets. From this perspective, the implementation of an effective agricultural policy, including state support, is considered one of the main conditions for the innovative development of agricultural enterprises [3, p.20].

The state can influence the innovative activity of agricultural enterprises through various stimulating measures. The system of state support for innovation-oriented

activities in these enterprises is based on several methods, which include:

- direct methods implemented through the allocation of budget and non-state funds;
- indirect methods realized through the development of financial leasing, scientific activity, market infrastructure, protection of intellectual property rights, tax benefits, etc.

The objects of state stimulation of innovative activity in agricultural enterprises include:

- scientific-research institutes of agricultural enterprises;
- agricultural enterprises applying innovative production methods;
- centers for innovative development of the agro-industrial complex.

The main forms, methods, and mechanisms for stimulating the innovative activity of agricultural enterprises include:

- preferential lending for innovative activity;
- tax benefits;
- financial leasing support;
- stimulation of franchising development;
- application of accelerated depreciation;
- implementation of an improved legislative framework.

We believe that the innovative development of agricultural enterprises should be considered a strategic task, with priority given to all measures aimed at its realization. These measures should be financed not only through state and local budgets but also by private investors, as we are discussing a qualitatively new factor in the growth of agro-industrial production and efficient development.

3. Directions for increasing labor productivity in agricultural enterprises through innovations.

To increase labor productivity, economic entities must maintain a high pace of innovation activity. All types of innovations are crucial for the survival and competitiveness of economic entities.

I.V. Dvornik, who studied the issues of increasing labor productivity in agricultural enterprises, emphasized that solving this problem is crucial for enhancing the competitiveness of the economy. He argued for the need to prepare proposals for economic policy measures aimed at increasing labor productivity in these enterprises as a key focus for future research in this area. According to his conclusion, the main direction for increasing productivity in agricultural enterprises should be the implementation of innovative projects. To increase the productivity of these enterprises, it is appropriate to use an innovative development strategy, the essence of which is the accelerated transition of agro-industrial production to new intensive technologies and close cooperation with scientific institutions. A number of state-level measures should be taken to stimulate innovative activity in these enterprises, including creating favorable organizational and economic conditions, supporting agricultural science and its leading role in the economy, and legally regulating licensing activities in the development of new technologies and cultivation of new plant varieties. Additionally, agricultural enterprises should be ensured preferential lending [4, p.250].

All processes – from the initial to the final stages of agricultural production and entrepreneurial activities carried out by farmers in Azerbaijan – are reflected in the Electronic Agricultural Information System implemented in the country. This system enables the achievement of multiple goals, including enhancing the transparency and efficiency of state support for agricultural enterprises, providing innovative backing for the implementation of state policy across all areas, improving the effectiveness of consulting and information services, and ensuring the proper management and efficient use of agricultural land and other natural resources. The creation of a unified database of agricultural enterprises is a critical factor in managing and gradually developing these enterprises [5].

Figure 1 shows the means of increasing labor productivity in the enterprises we studied.

The technical equipment of agricultural enterprises serves as the material foundation for increasing labor productivity. Technical

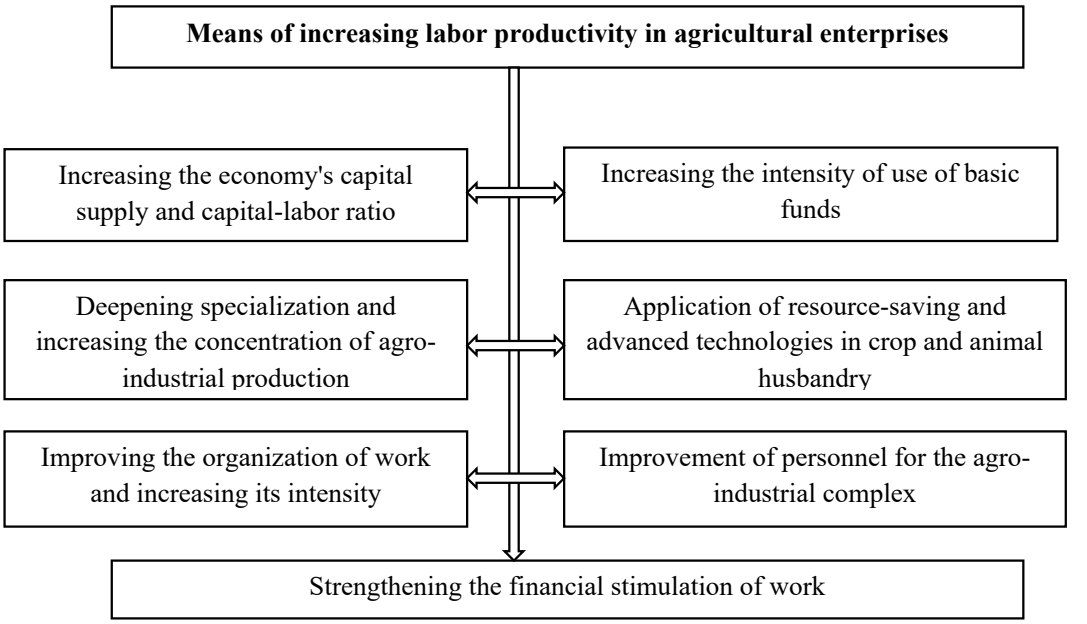

Fig. 1. Directions for increasing labor productivity in agricultural enterprises

progress, reflected in the growth of both the quantity and quality of agricultural machinery, represents a crucial process of gradually replacing manual labor with the most active components of fixed production assets, namely, machines and other equipment. The rational specialization of agricultural production, along with optimizing its scale, contributes to the more efficient use of machinery, mechanisms, and both material and labor resources.

In large specialized farms, expensive and highly productive machines and equipment can be used at maximum capacity. This significantly increases the overall productivity of agricultural output and reduces the labor intensity of its production. With the application of intensive and advanced technologies in agricultural production, a decrease in the labor intensity of products is observed.

The dynamic development of modern society can only be ensured through continuous scientific and technological progress (STP). Key conditions for this include the constant renewal of technology and the widespread application of the latest scientific advancements. Today, there is a broad consensus within the scientific community that the growth of labor productivity in agricultural enterprises depends on the development of their innovative foundations. Enhancing innovation activity will raise the technical and economic levels of production and significantly improve the investment climate. Only through the joint efforts of the state, the scientific community, and agricultural enterprises can innovation activity in the country's agricultural sector be increased in the future. This will enhance not only production efficiency but also its competitiveness in the international food market. The development of agricultural enterprises is largely determined by the level of integration of innovative technologies and overall production efficiency.

In the section "Stimulation of Human Capital Development to Ensure the Increase of Labor Productivity," included in the "Strategic Roadmap for the National Economy and the Main Sectors of the Economy" in Azerbaijan, and identified as one of the key priority goals, it is stated that the main objective of the measures aimed at inclusive, competitive, and sustainable development of the country's economy is the development of human capital and the increase of labor productivity. It is also noted

that in order to stimulate innovative activity, comprehensive support must be provided for scientific research and advancements within the country [6, p.87].

In his article entitled "Improving the Investment Environment in the Country, Applying Innovations and Steps Taken in This Field," Sh. Sadygli emphasized the importance of aligning all enterprise structures toward achieving the set goals for implementing innovative activities in agricultural enterprises. According to him, the most important organizational principle for the successful implementation of innovation in these enterprises is the employment of qualified workers. It is the involvement of such workers in agricultural production that ultimately creates favorable conditions for increasing labor productivity [7, p.40].

Among the organizational ways of increasing labor productivity in agricultural enterprises, the following can be distinguished:

- improvement of management activities and structures;
- exploration of ways to enhance the production management system;
- optimization of the organization of the production process and forms of labor organization;
- improvement of the personnel training system for agricultural enterprises;
- development of new approaches to stimulating employee labor activity, etc.

Various areas of increasing labor productivity are closely interconnected, so their implementation should be comprehensive. A key feature of labor resource utilization in agricultural enterprises is the seasonality of labor, which results in uneven labor costs throughout the year. The primary reason for the inefficient use of labor resources in these enterprises is seasonality.

Modern approaches to increasing labor productivity, employed by the largest foreign corporations (especially in Japan, Germany, and the USA), are characterized by a significant expansion in the content, forms, and methods of organizing employee work. Studying the mechanisms and tools used for managing labor productivity in Western countries allows for the identification of the following main directions:

- rejection of auxiliary functions that do not add value through the widespread application of outsourcing;
- increasing the level of production automation by implementing computer systems and networks;
- use of flexible approaches to organizing employee work (e.g., rotation within the enterprise, complex tasks, on-the-job training, formation of flexible production teams);
- improvement of business processes across all functional areas;
- introduction of mechanisms to encourage the creation of new, modern, high-tech workplaces, etc.

Studies on the role of employees in increasing productivity in agricultural enterprises were the primary focus of the work jointly developed by L.V. Sheludko and R.M. Sheludko. According to their conclusions, defects in the organization of production and labor in agricultural enterprises can negatively impact employee psychology, job satisfaction, and overall motivation. That is why a wide space should be given to the application of the labor collective stimulation mechanism in agricultural enterprises. Using the scientific basis of the developed labor stimulation mechanism and recommendations for its application in practice will allow to increase the labor activity of employees of agricultural enterprises, as well as their level of motivation for highly productive work, thereby increasing productivity [8, p.96].

It should be noted that applying the approaches of modern Western countries to increase labor productivity in practice will allow local enterprises to avoid excessively high costs and compete successfully, provided they respond quickly to the changing demands of the external environment and consumers. The use of foreign experience can stabilize the economic indicators of agricultural enterprises, increase labor productivity, and improve their position in the competitive market. Additionally, without developing a unified management system for labor

productivity, the introduction of innovations in local enterprises may not yield the expected results. To effectively address this issue, it is essential to systematize management as much as possible, resolve all organizational challenges, address personnel motivation at each workplace, and establish a proper performance evaluation system.

I. Huseynli notes that, in modern times, one of the most important factors determining the increase in labor productivity in agricultural enterprises is the acquisition of technological knowledge and its effective application in both the agricultural production process and the service sector [9, p.22-23]. Just a few hundred years ago, the vast majority of Americans worked on farms, and the agricultural machinery and equipment available at that time required significant labor to operate. However, with the introduction and promotion of new scientific innovations and innovative proposals following technological revolutions, only a small portion of the working population in the United States has been able to supply the entire country with food products and export a significant portion. Thus, the development of new agricultural technologies and the implementation of innovations have created conditions for increasing the production of competitive final products by boosting labor productivity. As a result, this has led to an improvement in the social welfare of farmers and the general population through the provision of quality food [3, p. 22-23].

In her article "Priority Directions of Innovative Development of the Agricultural Sector," V.M. Babayeva emphasized the critical need for investments to strengthen the role of innovations in increasing labor productivity in agricultural enterprises. She concluded that the successful organization of investment activities in these enterprises lays the foundation for innovative development [10, p.80].

The most important factor in increasing labor productivity in agricultural enterprises is the use of economical, innovative, and progressive technologies. The application of these technologies requires significant investments, which will enable the transition to efficient production and reduce the loss of field products at various stages. Therefore, it is essential to create conditions for attracting investments that will enhance the efficiency of agro-industrial production. To achieve this, the following tasks must first be addressed:

- increasing the efficiency of the management mechanism in agricultural enterprises.
- ensuring the predictability of regulatory policy by the state;
- improvement of state support mechanisms for producers of agrarian field products;
- improvement of land relations, etc.

Let's take a look at the following graph to analyze the current situation regarding the investment provision of agricultural enterprises in Azerbaijan (Figure 2).

In 2023, a total of 20,296.6 million AZN were invested in economic activities in Azerbaijan, of which 569.2 million AZN, or 2.8%, were allocated to the agricultural sector. During 2023, the volume of investments directed toward agriculture increased by 161.2 million AZN, or 39.5%, compared to the total for 2022. In the first 11 months of 2023, 824.22 million AZN were spent on agriculture from the state budget, representing 2.8% of the total budget expenditures for that period.

In modern times, there is a need to increase the volume of investments directed toward agricultural enterprises in Azerbaijan, as this can lead to higher labor productivity through the application of innovations. Improving this indicator could result in a faster growth rate of the total agricultural product. Let's take a look at the following figure to analyze the current growth rate of agricultural output in our country (Figure 3).

There has been a continuous increase in agricultural production over the last five years. In 2023, the total output of the agricultural sector was 12,210.6 million AZN, which represents a 55.8% increase compared to 2019, a 44.9% increase compared to 2020, a 33.3% increase compared to 2021, and an 11.1% increase compared to 2022.

In 2023, the specific weight of crop and livestock products in the structure of the total agricultural product was as follows (Figure 4).

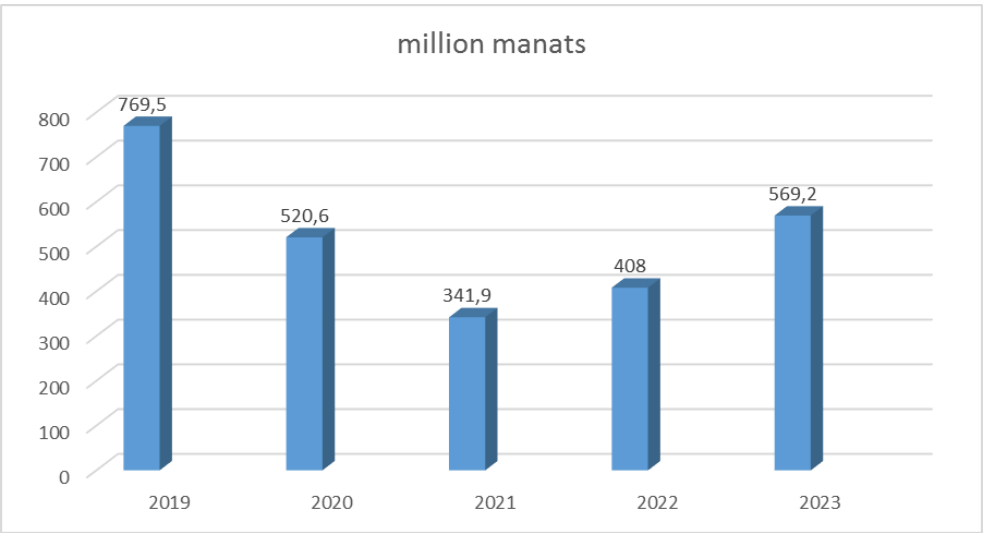

Fig. 2. Investments directed toward the agricultural sector in Azerbaijan [11;12]

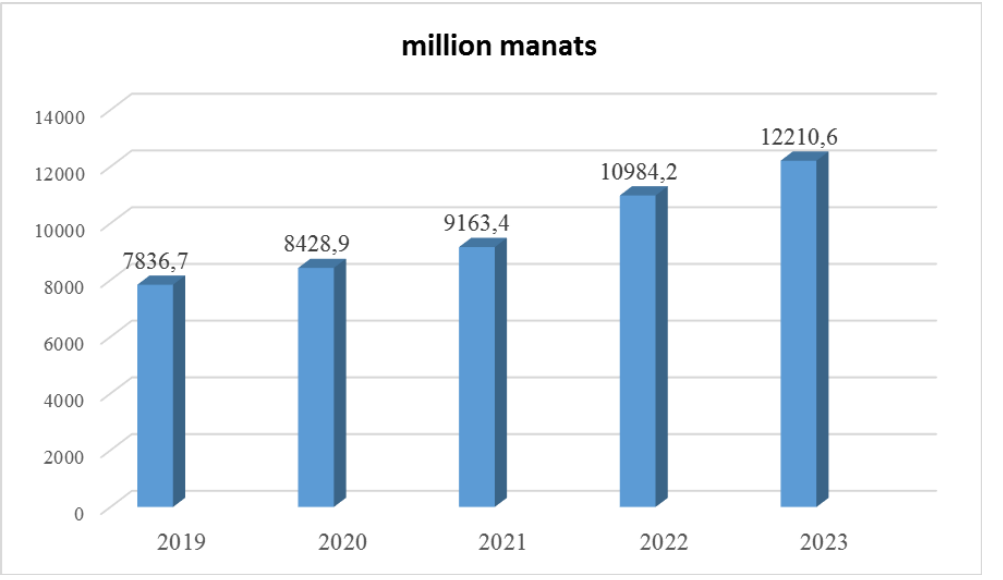

Fig. 3. Gross agricultural output

In 2023, of the total 12,210.6 million AZN in agricultural products, 6,276.7 million AZN were allocated to animal husbandry, and 5,933.9 million AZN to crop production.

The main way to increase the economic efficiency of agricultural enterprises is by increasing production, reducing costs, and improving distribution channels through the application of digitalization and innovations.

From the experience of countries such as the USA, Canada, and Australia, we can observe the radical transformation of agricultural enterprises through digital technologies. Digitization involves the active use of market mechanisms, opposition to monopolies, and the creation of conditions for electronic interaction among all participants in the economy. In terms of

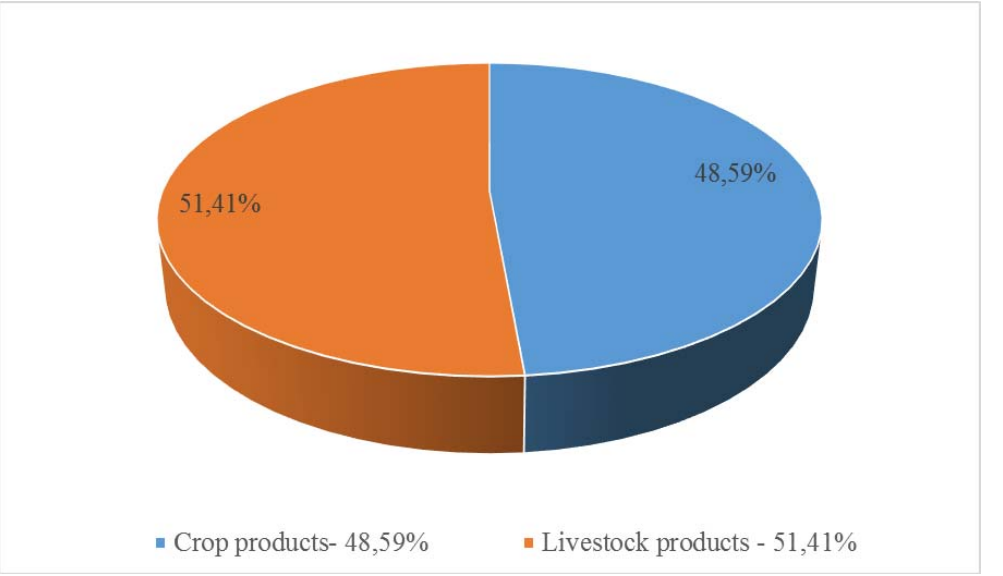

Fig. 4. The structure of the agricultural product in 2023

ensuring product quality, agricultural work should be organized within an efficient time frame. A better use of digital technology in agriculture can increase food demand, and increased demand can stabilize production.

The digitization of agricultural enterprises can help achieve the country's goals of increasing labor productivity and exporting agricultural products. Digitalization can be applied to various processes within an enterprise, including personnel management, inventory, finance, and sales. In the agricultural sector, digital technologies provide information about field conditions (such as soil, crops, and external factors) as well as assets (land, equipment, finances, and products). However, climatic conditions still play a major role in agriculture.

To develop the digital technology sector, it is essential to establish an advanced information and communication infrastructure. To address the challenges of the digital economy, we need relevant knowledge bases, information resources, a wide network of integrated business platforms, a digital environment, and skilled personnel capable of working in new condition.

The use of digital technologies has a positive effect on the growth rate of productivity and profitability in the agricultural sector. A clear example of this is Israel, where only 20% of land resources are suitable for agricultural activities, yet the population's food supply is at 95%. The lack of favorable natural and climatic conditions is compensated for by the possibilities offered by innovative technologies.

The factors that significantly impact the digitization of agricultural enterprises are the following:

- the characteristics of the territory where the enterprises are located (such as the size of the territory, the number and structure of the population, economic potential, production possibilities of the region, the state of engineering infrastructure, and the level of development of the social sphere);
- the management technologies used;
- the degree of automation in the management system;
- the professional qualifications of agricultural workers;
- the level of interest of employees in the results of economic activity.

Elements of the digital economy can be used to monitor land and crops, optimize

payments between producers and buyers, and rationalize investment and credit systems.

Through the digitalization of agricultural enterprises, significant economic benefits can be achieved by increasing labor productivity, improving land use efficiency, enhancing equipment quality, monitoring crops, ensuring automation and transparency, and reducing costs for agricultural producers.

In general, the following group of factors can be distinguished for increasing labor productivity in agricultural enterprises:

- material and technical. Increasing the productivity and production volume of equipment with stable quality (or improved quality);
- socio-economic. Improving the quality of the workforce and effectively using the professional potential of employees, increasing efficiency with the proper organization of work and rest schedule;
- organizational and management. Ensuring improvement of enterprise management, production processes and labor organization.

In addition to these factors, the innovation factor also significantly affects labor productivity in agricultural enterprises. By embracing innovation, these businesses can gain a competitive advantage in several ways. First, it allows them to produce more products with fewer resources, thereby increasing profitability. Second, it helps them meet the growing consumer demand for environmentally friendly and high-quality products. Finally, innovation enables agribusinesses to stay ahead of the competition by adapting to ever-changing market conditions. Thus, innovations play a decisive role in increasing the competitiveness of agricultural enterprises. By investing in research and development and adopting new technologies and practices, these businesses can increase productivity, reduce costs, and meet consumer demands more effectively, while staying ahead of the competition in an ever-changing marketplace.

Conclusions

Thus, we can come to the following final conclusions from research on the role of innovation in increasing labor productivity in agricultural enterprises.

1. In modern conditions, increasing labor productivity in agricultural enterprises is an objective necessity and is of great economic importance in solving many financial and social problems. The basis of labor productivity in these enterprises is the increase of total product production, which helps to more fully satisfy all the food needs of the country's population.

2. In most cases, material incentives play a primary role in increasing labor productivity. However, non-material incentives for workers in agricultural enterprises should not be overlooked. These can include certificates, diplomas, vacation vouchers, or participation in competitions. Additionally, basic and supplementary payments to workers ensure their interest in the final production outcomes.

3. The development of production in agricultural enterprises should be based on innovation. This includes the active application of modern technologies, increasing productivity, stimulating the production of priority agricultural crops, improving the quality of crop and livestock products, attracting investments to the industry, advancing agricultural science, implementing international research and innovation projects, and training personnel. These are among the primary tasks for achieving sustainable growth in the sector.

4. Innovative technologies play an important role in increasing productivity in agricultural enterprises and contributing to GDP growth in the country. New technologies emerge daily, helping to improve the economic situation and enhance the country's competitiveness. However, to achieve the best results, innovation must be integrated into all economic sectors, including agriculture.

5. To optimize the activities of agricultural enterprises, the application of digitization and monitoring through drones is essential. The result of using this technology is the creation of high-precision electronic maps, monitoring the condition of crops at various stages of development, controlling the implementation of agrotechnical measures, determining the heterogeneity of crops, detecting areas of degradation, and evaluating productivity. This technology helps reduce labor costs and increase the production of high-quality products.

References

1. Gafarov N.J. (2023). Economic problems of formation and development of agrarian consumer market. Monograph. Baku: Cooperation publishing house, 320 p.
2. Polegenka M.A. (2017). Peculiarities of innovative activity in agro-industrial enterprises of Ukraine. Agrosvit No. 6, pp. 49-54
3. Burnasheva, V. R. (2022). Sustainable development of the agro - industrial complex and safety of agricultural products / V. R. Burnasheva, E. E. Berkinbayeva, B. Sh. Gussenov // Statistics, Accounting and Audit. – No. 2(85). – P. 19-25
4. Dvornik I. B. (2021). Productivity of labor in agriculture. Ukrainian Journal of Applied Economics. Volume 6. No. 2. C. 245-251.
5. Decree of the President of the Republic of Azerbaijan on the approval of the Regulation on "Electronic agriculture" information system (2019), Baku, available at: https://e-qanun.az/framework/43940 (Accessed 19 February 2024)
6. Decree of the President of the Republic of Azerbaijan on the approval of "Strategic Road Maps for the national economy and the main areas of the economy" (2016), Baku, available at: https://static.president.az/pdf/38542.pdf (Accessed 19 February 2024)
7. Sadygli Sh. (2017). Improvement of the investment environment in the country, introduction of innovations and steps taken in this field. "Statistics news," No. 3/, p. 39-67
8. Sheludko L.V., Sheludko R.M. (2014) . Ways to increase labor productivity in agriculture. Series "Economics and management", issue 8 (61), p.93-97
9. Huseynli I. (2020). Labor productivity as an important factor of efficiency: methods of increase and calculation. Silk Road, No. 4, p. 20-28
10. Babayeva V.M. (2020). Priority directions of innovative development of the agrarian field. Economics of agriculture, No. 4 (34), p. 77-81
11. Statistical indicators of Azerbaijan. (2023). Statistical collection. Baku, 725 p.
12. State Statistics Committee of the Republic of Azerbaijan Report No. 12 (2024). URL: https://www.stat.gov.az/news/source/doklad_2023-12.pdf. (Accessed 19 February 2024)

THE ROLE OF INNOVATIONS IN IMPROVING LABOR PRODUCTIVITY IN AGRICULTURAL ENTERPRISES

Lala Fagail Mahmudova, Sumgait State University, Sumgait city (Azerbaijan).
E-mail: mahmudova@sdu.edu.az
Kamala Vagif Azizova, Sumgait State University, Sumgait city (Azerbaijan).
E-mail: azizova@sdu.edu.az
Elnara Shamsi Mammadova, Sumgait State University, Sumgait city (Azerbaijan).
E-mail: elnara.mammadova1@sdu.edu.az
Samira Rasim Seyidova, Sumgait State University, Sumgait city (Azerbaijan).
E-mail: samira.seyidova@sdu.edu.az

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The agricultural sector is one of the most important sectors of the national economy, as its efficiency can determine the overall state of the country's economy and has a decisive impact on food supply levels and the well-being of the population. Therefore, studying ways to increase labor productivity in agricultural enterprises is particularly important. It determines the pace of expanded reproduction in

these enterprises and the full satisfaction of the population's demand for agricultural products. This is especially relevant in the context of strengthening the country's food security and pursuing an import substitution policy. Currently, labor productivity in Azerbaijan's agricultural sector is low compared to that of other countries. The main reasons for this include a lack of qualified personnel, underdeveloped production culture, and insufficient advancement in technology and digitization. Therefore, the primary priority today is to address and eliminate these issues.

Relevance of the topic. At present, increasing labor productivity in local enterprises, including agricultural enterprises, is receiving significant attention. In this context, the role of innovations must be given special consideration. The application of innovations in agricultural enterprises primarily involves the use of new technologies, more productive breeds and plant varieties, and biotechnologies that enable the production of higher-quality, more beneficial products. It also includes the introduction of new technical means for soil cultivation, the cleaning and storage of raw materials, energy-saving technologies in production, and environmental innovations that enhance productivity, minimize costs, and ensure environmental safety. Given these advantages, the application of innovations plays a crucial role in increasing labor productivity. Therefore, conducting research in this direction has become increasingly urgent and necessary.

The purpose of the article is to study the role of innovations in increasing labor productivity in agricultural enterprises. It also aims to explore the directions of innovation-oriented development in these enterprises, as well as the main forms, methods, and mechanisms of state stimulation. The article highlights the development of innovation policy and the achievement of its strategic goals as key conditions for increasing labor productivity in the agricultural sector. These strategic goals include enhancing national competitiveness through innovations—particularly those that are directly relevant to agricultural producers—and identifying and supporting high-tech sectors that can drive rapid economic growth.

Research methods. general scientific analysis and synthesis, grouping, generalization, factor analysis, economic-statistical analysis, comparative analysis, development dynamics

Scientific innovation. The article examines the specific features of the innovation process in agricultural enterprises compared to other sectors of the economy. It explores the ways of increasing labor productivity in these enterprises and identifies the advantages brought by innovation. It is argued that one of the key benefits of innovation is its ability to enhance the efficiency and productivity of agricultural enterprises. Through innovative technologies and methodologies, these enterprises can reduce costs, increase productivity, and optimize their production activities. The article emphasizes that innovation has always been a driving force behind progress and success in various sectors of the economy—and the agricultural sector is no exception. As the global population continues to grow, so does the demand for food and other agricultural products. To meet this increasing demand, agricultural enterprises must enhance their competitiveness, and one of the most effective ways to do so is through innovation.

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