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**Olga Pashkevich¹**

EMPLOYMENT OF LABOR RESOURCES IN BELARUS AGRICULTURE: STRUCTURAL-DYNAMIC PARAMETERS, FORECAST TRENDS

Employment of the working age population in various spheres of socially useful activity is an important area of socio-economic development of the Republic of Belarus and a priority area of state regulation. As one of the most important macroeconomic indicators, employment combines social and economic indicators of the economic situation of society. The article presents the results of a study of employment of labor resources trends in agricultural sector of Belarus, an assessment of its current and forecast of future structural parameters. Along with this, the factors that determine these changes have been identified. It is concluded that the solution to the problem of increasing the efficiency and growth of the competitiveness of agricultural production largely depends on the extent to which the agricultural sector is provided with highly qualified and professionally competent workers who are able to master and implement scientific, technological and organizational, and economic innovations in production processes. Conceptual directions of effective management of the employment of labor resources in agro-industrial complex have been developed, taking into account the identified factors (demographic, organizational, technological, and socio-economic ones), and the scope and range of their influence. Suggestions and recommendations can be used to substantiate a new strategy for rural development, which is based on program activities aimed at perspective development of agricultural economy, and strengthening the efficiency of the functioning of agricultural production.

Keywords: *employment, labor resources, agriculture, labor motivation, staff turnover, technical and technological modernization, forecast*

Introduction. The Republic of Belarus has gained best practices in the development of agriculture and rural areas, accumulated as a result of five-year state programs [1-3], and the Directive of the President of the Republic of Belarus "On rural development and efficiency of agriculture" [4]. Economic, social, and demographic spheres of rural and agricultural production are one of the main factors in the socio-economic development of society and strengthening the security of the country. Their improvement is due to socio-political importance and national significance, taking into account that the Republic of Belarus is an active participant in interna-

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tional regional integration within the EAEU and the Commonwealth of Independent States (CIS) and Belarus contributes to solving the world food problem.

Problem formulation. The Agro-Industrial Complex of the Republic of Belarus occupies a special place in the country's economy and is the main sector of the national economy, while determining the conditions for supporting society and increasing the welfare of its citizens. The Agro-Industrial Complex of the Republic of Belarus plays an important role in providing society with food and providing industry with raw materials, and is determined by a significant contribution to addressing issues of employment and efficiency of national production.

The analysis of recent research. It should be noted that the scientific community pays great attention to the formation and use of labor resources, labor potential of agriculture [5-8], methodological foundations of the formation and functioning of the labor market [9, 10], theoretical and practical solutions to motivate labor in the agro-industrial complex, increasing labor activities [11–13], developing ways to improve the personnel structure of agricultural enterprises, labor organization, training for agricultural entities [14–17], socio-economic essence of labor relations in the new conditions [18], etc.

The review of the scientific literature showed that the works of these authors have made a significant contribution to the study of the problems of employment management, including in the agricultural sector. At the same time, such studies were mainly limited to eliminating the shortage of personnel for the agricultural sector and solving the problems of their consolidation there, as well as to improving the efficiency of the use of available labor resources. Currently, the priority is to substantiate labor-saving models of industry development, create adequate jobs for these models, and formulate appropriate qualitative parameters of labor potential. In addition, the optimal labor model should be built on the basis of methodologically active employment policy and mechanisms for creating new highly productive jobs based on developed appropriate forecasts of socio-economic development.

The purpose of the article is to study trends, assess current and forecast prospective structural parameters of employment in the agricultural sector of Belarus, and to identify factors that cause their changes.

Presenting main materials

The demographic basis for the formation of agricultural human resources. Improving production efficiency is associated with the efficient use of all resources involved in the production process. In the total amount of resources used, the most important is the role of *living labor*, because it is labor that drives the real factors of production, and depends on the success of innovation. Obtaining high efficiency results involves not only the rational use of personnel in the labor process, but also certain, appropriate to a certain structure of production proportions of employment by sex and age, qualifications, general vocational education, and distribution of workers by industry and sphere of production [19]. This means that the results of social production are influenced by the complex structure of reproduction of labor, and all phases of its reproductive cycle.

The demographic basis for the formation of labor resources includes the processes of population reproduction, ensuring the continuous recovery of generations. The analysis shows a decrease in the number of labor resources of the village for the period from 2000 to 2018, which amounted to 360, 2 thousand people, or 27, 1% (Table 1).

The change in the number of labor resources was due to various factors, but the main influence was the demographic situation. The study shows that the potential aggregate supply in the labor market in rural areas is formed primarily by the working population of working age. At the same time, the share of this category in the dynamics is declining: in 2000, the working age population was 94,7% of the number of rural labor resources, and in 2018 – 92,8%.

Table 1

**The dynamics of indicators of the rural population and rural labor resources,
2000–2018**

| Indicator | Years | | | | | 2018 in % to | | |
|-----------------------------------|--------|--------|--------|--------|--------|--------------|-------|-------|
| | 2000 | 2005 | 2010 | 2015 | 2018 | 2000 | 2010 | 2015 |
| Rural population, thousand people | 3035,1 | 2732,1 | 2422,9 | 2155,9 | 2079,7 | 68,5 | 85,8 | 96,5 |
| Labor resources, thousand people | 1327,5 | 1313,3 | 1064,0 | 994,2 | 967,3 | 72,9 | 90,9 | 97,3 |
| % of rural population | 43,7 | 48,1 | 43,9 | 46,1 | 46,5 | - | - | - |
| including working age | 1257,5 | 1276,2 | 1014,7 | 932,5 | 897,8 | 71,3 | 88,4 | 96,2 |
| % in labor resources | 94,7 | 97,2 | 95,4 | 93,8 | 92,8 | - | - | - |
| persons above working age | 69,3 | 37,0 | 49,3 | 61,7 | 69,5 | 100,3 | 141,0 | 112,6 |
| % in labor resources | 5,2 | 2,8 | 4,6 | 6,2 | 7,2 | - | - | - |
| Persons under working age | 0,7 | 0,1 | 0,0 | 0,0 | 0,0 | - | - | - |

Source: according to the National Statistical Committee of the Republic of Belarus [19–24].

According to experts, the maximum possible duration of the active working period in Belarus for women is 39 years, and for men – 44 years [25]. Taking into account that in the medium-term horizon both the population and the share of employable (especially rapidly these processes are developing in rural areas) will reduce, the priority areas of demographic policy are to stimulate fertility, health, and decrease mortality, especially in working age, and especially among men.

Employment in agriculture: main trends. Currently, 358,3 thousand people work in agriculture in Belarus, or 8,3% of total employed population. At the same time in rural areas, these figures are 325,4 thousand people, or 39,1%. 8,5 million hectares of land are in agricultural use, including 5,7 million hectares of cropland. Thus, one agricultural worker conditionally cultivates 15.9 hectares of arable land.

For reference: according to Eurostat, today about 5% of the population is employed in agriculture in the countries of the European Union. The area of cultivated agricultural land is 173,3 million hectares, and there are 10,5 million agricultural farms. The average land use size of the farm is 16,5 hectares [26].

The prerequisites for improving the territorial organization of agricultural production in order to effectively use the labor potential of the village and land resources are the results of assessing the security of agricultural production of individual territorial and administrative units of labor resources.

Thus, in relation to the agricultural sector, the farm population density is not only an ecological and geographical indicator, but also an important economic, demographic and strategic one. On the one hand, the magnitude of the demographic burden on the territory is directly dependent on it, which, in turn, determines the amount of resource consumption, including food. On the other hand, the labor density of a region depends on the population density. In agriculture, the total measure of labor costs (labor application) can be considered

the amount of land load of agricultural land and cropland per capita or per able-bodied person employed in agriculture (Table 2).

Table 2

Arable land use per person (rural resident, able-bodied, employed in agriculture), 2010–2018

| Indicator | Years | | | 2018 in % to 2010 | 2018 in % to 2015 |
|--|--------|--------|--------|----------------------------|----------------------------|
| | 2010 | 2015 | 2018 | | |
| Agricultural land, <i>thousand hectares</i> | 8926,9 | 8581,9 | 8501,6 | 95,2 | 99,1 |
| Number of rural population, <i>thousand people</i> : | 2422,9 | 2155,9 | 2079,7 | 85,8 | 96,5 |
| Able-bodied employed in the industry | 1014,7 | 932,5 | 897,8 | 88,5 | 96,3 |
| employed in the industry | 450,4 | 392,0 | 358,3 | 79,6 | 91,4 |
| Load, <i>hectares</i> : per villager | 3,7 | 4,0 | 4,1 | 111,3 | 103,0 |
| per able-bodied employee in the industry | 8,8 | 9,2 | 9,5 | 108,0 | 103,2 |
| per employee in the industry | 19,8 | 21,9 | 23,7 | 119,6 | 108,3 |

Source: according to the National Statistical Committee of the Republic of Belarus [27].

The analysis of the current location of rural population in the regions of Belarus revealed significant territorial differentiation. This allows us to conclude about the different level of both labor supply and, accordingly, land load. For example, the land load per employee in the industry varies from 17,4 hectares per employee in the Brest region to 28,6 hectares in the Vitebsk region and 33,1 hectares in the Mogilev region.

Therefore, this is a factor influencing the sectoral structure of employment of the rural population of Belarus. It is changing, but it has a steady tendency to reduce the absolute number and share of employment in agriculture. Thus, during the period 2000–2018, the number of people employed in agriculture in Belarus decreased by 266,8 thousand people, or 42,7%. In addition, this process reflects global trends. The introduction of energy- and resource-saving technologies, means of production mechanization, and the formation of an effective management system in agricultural organizations lead to a reduction of irrational jobs and, as a consequence, the number of personnel.

On January 1 2019, there were 1,389 agricultural organizations in Belarus (the average land use of one organization is 5,3 thousand hectares; the average number of personnel is 205 people) – Table 3.

Table 3

Main characteristics of large-scale agricultural organizations, 2010–2019 (on January 1)

| Indicator | Years | | | | Change from 2019 to 2010 |
|---|--------|--------|--------|--------|-----------------------------|
| | 2010 | 2015 | 2018 | 2019 | |
| Number of organizations, <i>units</i> | 1639 | 1454 | 1357 | 1389 | -250 |
| The number of employees according to the list on average per year, <i>persons</i> | 369,0 | 315,2 | 293,6 | 284,6 | -84,4 |
| including per organization, <i>persons</i> | 225 | 217 | 216 | 205 | -20 |
| The area of agricultural land, <i>thousand hectares</i> | 7657,9 | 7505,5 | 7433,0 | 7408,3 | -249,6 |
| in % to the total area of agricultural land | 85,8 | 86,9 | 87,4 | 87,6 | 1,8 |
| The average size of land use per organization, <i>ha</i> | 4672 | 5162 | 5478 | 5333 | 661 |

Source: according to the National Statistical Committee of the Republic of Belarus [27].

In addition, about 2,700 peasant farms operate in Belarus, average land use per farm is 72 hectares; and average number of employees – 3–4 people. It should be noted that agricultural organizations produce 79,1% of agricultural output, peasant farms – 2,2% and personal farms – 18,7 %.

From the point of view of forecasting the ratio of supply and demand in the labor market, it is important to analyze the change in the number of personnel in the wholesale sector of the agricultural economy by professional qualifications. Thus, for the period 2006–2018, the total number of people employed in agricultural production decreased by 34,8%, while the number of manual workers decreased by 37,3%. The number of management staff decreased to a lesser extent, which led to an increase in its share in the personnel structure of organizations to 19,6% in 2018 (and 16,3% in 2006). This fact is important for improving the organization of labor in agricultural enterprises. This indicates, on the one hand, an increase in the quality of their personnel, and, on the other hand, the preservation of a multi-level management structure.

The presence of employees with higher education is one of the basic conditions for the widespread introduction of innovations in agricultural production. While in 2000 this figure was 5,9%, in 2018 it was 11,6%. The share of employees with secondary special education also increased, and in 2018 amounted to 17,3%. At the same time, the number of employees with basic (incomplete general secondary) education decreased: from 23,8% in 2000 to 7,8% in 2018. The share of managers with higher education in their total number in 2018, as compared to 2006, increased by 3,7. As for the category of specialists, 17478 specialists have higher education, that is by 12,9 percentage more than in 2006. The share of practitioners (employees who do not have the appropriate education) among managers decreased from 11,2 to 10,8%.

The dynamics of the age structure of agricultural workers in Belarus, presented in Table 4, is characterized by a decrease in the proportion of employees aged 30–39 years (employees with higher labor intensity in terms of health and professional experience), and an increase in the share of employees aged 50–54 years and employees over working age.

Table 4

The distribution of the number of agricultural workers by age

| Age groups | Years | | | | | | 2018 to 2006 | | 2018 to 2010 | |
|------------|---------|-------|---------|-------|---------|-------|--------------|----------------|--------------|----------------|
| | 2006 | | 2010 | | 2018 | | % | relative share | % | relative share |
| | persons | % | persons | % | persons | % | | | | |
| under 25 | 42633 | 9,2 | 37118 | 9,0 | 18588 | 6,1 | 43,6 | -3,1 | 50,1 | -2,9 |
| 25–29 | 42186 | 9,1 | 39477 | 9,5 | 25544 | 8,5 | 60,6 | -0,6 | 64,7 | -1 |
| 30–39 | 119042 | 25,7 | 98034 | 23,6 | 66691 | 22,1 | 56,0 | -3,6 | 68,0 | -1,5 |
| 40–49 | 148249 | 32,0 | 121701 | 29,3 | 82504 | 27,3 | 55,7 | -4,7 | 67,8 | -2 |
| 50–54 | 64729 | 13,9 | 68558 | 16,5 | 48983 | 16,2 | 75,7 | 2,3 | 71,4 | -0,3 |
| 55–59 | 33801 | 7,3 | 35693 | 8,6 | 39475 | 13,1 | 116,8 | 5,8 | 110,6 | 4,5 |
| over 60 | 12871 | 2,8 | 14564 | 3,5 | 20213 | 6,7 | 157,0 | 3,9 | 138,8 | 3,2 |
| Total | 463511 | 100,0 | 415145 | 100,0 | 301998 | 100,0 | 65,2 | 0 | 72,7 | 0 |

Source: according to the National Statistical Committee of the Republic of Belarus [28–30].

Thus, the average age of agricultural workers in 2018 was 43,4 years, the share of young people under the age of 31 – only 16,7% (while in 2010 these categories were 41,3 years and 20,7%, respectively). For comparison, in the field of financial and insurance activities, such indicators are 38,4 years and 25,7%; public administration – 40 years and 23,3%; information technologies – 32,4 years and 50,2%; information and communication – 35,9 years and 38,2%; and in trade – 38,4 years and 30,1%.

The use of labor resources in agriculture. The dynamics of actual data on the use of living labor in agriculture indicates a decrease in 2005–2018. Its total value, expressed in man-hours, fell

by 41,8%, which is largely due to the intensification and automation of management and production processes (Fig. 1).

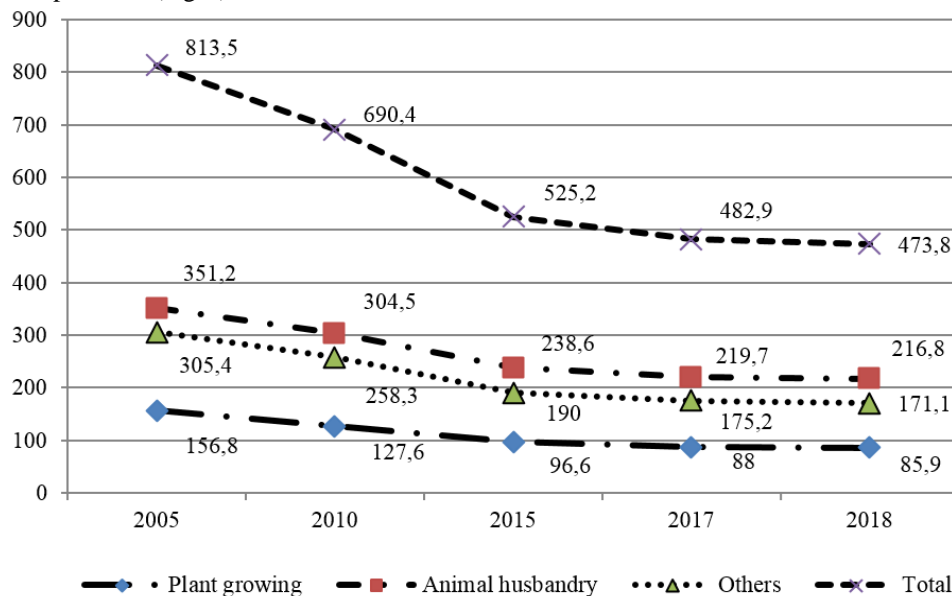


Fig. 1. The dynamics of total labor costs in agriculture, million man-hours

Source: according to the consolidated annual reports of agricultural organizations of the Ministry of Agriculture and Food.

At the same time, there were changes in the redistribution of total working time by activity in 2005–2018: in animal husbandry, direct costs increased from 43,2 to 45,8%; in crop production, they decreased from 19,3 to 18,1% (Fig. 2).

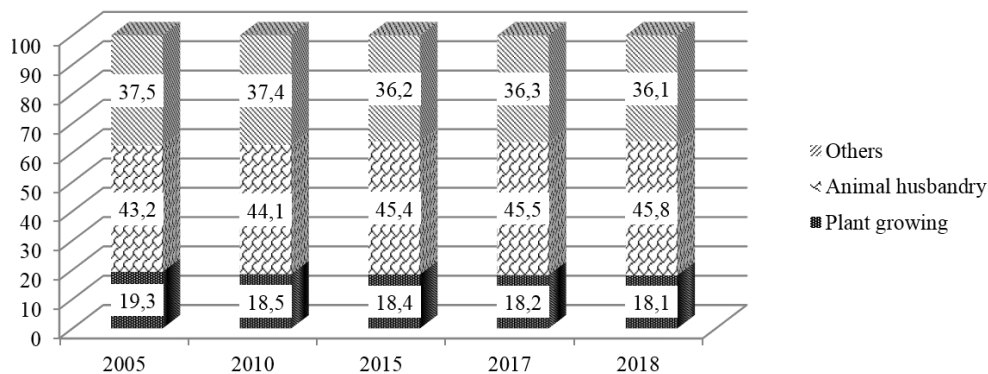


Fig. 2. The structure of total labor costs in agriculture, %

Source: according to the consolidated annual reports of agricultural organizations of the Ministry of Agriculture and Food.

The modernization and reconstruction carried out in recent decades, as well as the construction of new dairy farms (complexes) have made it possible to produce livestock products using intensive technologies and significantly increase the productivity. Taking into account new technologies and equipment, the rates of service by one livestock breeder almost doubled (Table 5).

Taking into account that the most important factor in productivity growth is consistent intensification, an idea of it can be given by the indicator of energy intensity in agriculture.

Analysis of the energy intensity indicators based on consolidated annual reports of agricultural enterprises shows a positive dynamics for 2012–2018: while in 2012 the energy intensity was 57,6 hp per one average annual employee, in 2018 the figure was 70,3 hp. However, a more detailed analysis of the presented data allows us to conclude that along with the positive trend of increasing energy intensity, in some agricultural organizations the growth of the indicators of energy intensity reflect not reduced number of employees, but increased stock of faulty or idle equipment.

Table 5

The dynamics of production load on one livestock worker, animal units

| Worker group | Years | | | | 2018 to 2005, times |
|--|-------|------|------|------|---------------------|
| | 2005 | 2010 | 2015 | 2018 | |
| Workers who serve young and adult store cattle | 54 | 71 | 85 | 95 | 1,8 |
| Workers who serve a dairy herd of cows | 14 | 17 | 23 | 26 | 1,9 |
| Milkmaids, milking machine operators | 31 | 38 | 53 | 61 | 2,0 |
| Workers servicing pigs | 119 | 149 | 200 | 203 | 1,7 |

Source: according to the consolidated annual reports of agricultural organizations of the Ministry of Agriculture and Food.

Along with this, the improvement of tools and equipment led to a change in the nature and content of the work of agricultural workers. At the same time, the role of the quality of labor force, the level of its general and professional qualification, and the ability to adapt to technological and social changes have markedly increased [31].

Advanced training, and personnel training and retraining in agriculture. Currently, the requirements for the level of qualification of employees in agricultural organizations are growing, and the need for training and retraining is increasing. Insufficient qualification of personnel is the main obstacle to the introduction of innovations in the agricultural sector.

The research has shown that young workers do not have sufficient professional experience. It is beyond argument that, they start working with an acute shortage of practical skills, do not know enough about the new social and legal provisions and regulations on labor, which to some extent complicates their activities. At the same time, young leaders in the new economic environment feel more confident. They are ready to acquire knowledge, set up for active practical actions, able to innovate and quickly acquire the competence, which they miss in certain activities.

The specialists' accumulated skills are basic. Therefore, the entity that accepts them for work should organize further personnel training in market methods of production (taking into account personal, age and professional characteristics). Workers are characterized by a low level of qualification. According to our research, in the conditions of personnel shortage in a number of agricultural enterprises, managers are forced to hire people with a low level of professional training and low qualifications (and sometimes they do not have any). The problem of advanced training is exacerbated by the rapid aging of knowledge in conditions of dynamic innovative development, and updating of equipment and technologies.

Continuing professional education of managers and specialists in Belarus includes educational programs of professional development, retraining and internships. For workers (as well as employees whose level of training does not require higher or secondary special education), vocational training, retraining and advanced training are applied when necessary.

Vocational training is carried out both directly at the place of employment, and at the employers' recommendation – in educational institutions specializing in advanced training and personnel training. Despite the existence of a wide network of structures that provide professional training for agricultural workers, there is a tendency to decrease in the number

of people who passed professional training. While in 2006 there were 24,317 such persons in the sector (5,2% of the sector's total employed), in 2018 - 12,223 people (4,0%).

For more than 65% of the total number of managers and specialists in agriculture, the main method of professional development is training. In 2018, 28,3% of managers and specialists of various levels (5,8% of total) underwent retraining.

For workers, along with advanced training (which was passed by 45,3% of the total number of those who received vocational training) an important place is occupied by routine training and retraining (that more than 55% of workers passed).

Training of workers should be carried out with a focus on the consumers of labor (agricultural organizations). To meet the existing demand in the labor market, it is necessary to study the needs of this market and strengthen the practical orientation of education. At the same time, employers themselves should take an active part in determining the priorities for the training of specialists. They should generate demand, and identify the required specialties and professions.

Due to above mentioned facts, socio-economic and technological innovations in the agricultural sector call for the creation of a permanent training system at every enterprise [32]. As practice shows, the content, methods, and activities of these systems must meet the needs of specific farms and take into account the specifics of individual forms of agribusiness.

We developed a program for monitoring the market of additional educational services for the agricultural sector, and proposed the creation of an association of agricultural organizations (personnel association) which will shape the workforce for agricultural entities and operate on the principles of personnel marketing with the priority of training specialists to meet the requirements for employers both in quantity and quality [33]. This will avoid disparities between the professional level of specialists and workers and the needs of the labor market, as well as structural inconsistencies between the workforce characteristics and the number and quality of jobs.

Personnel turnover and work incentives. Personnel turnover is the subject of a special analysis, as the employees attrition requires their replacement and is associated with material costs and disruption of organizational processes. Excessively high mobility indicates that the organization is constantly losing (or not gaining) human capital in the form of specific technologies and skills for the organization's technology and production.

High variability of personnel and especially managers of agricultural organizations has a negative impact on production efficiency. In particular, 14,7% of managers, 16,4% of chief specialists, and 14,5% of specialists quitted agricultural organizations due to various reasons (change of position, mutual agreement of the parties, gross misconduct, decision of a business owner) in 2019. This caused increased cost of finding and training new professionals.

Analysis of these processes in a number of agricultural organizations allowed to determine the motives and reasons for leaving on the part of *employees* (the main reason is dissatisfaction with wages, conditions and organization of the labor process and working system) and on the part of the *administration of agricultural enterprises* (systematic violations of labor discipline, adjustment or restructuring of the personnel leading to staff reduction). This calls for minimizing the contradictions between the needs of employees and the ability to meet them. Taking into account everything mentioned above, the question of finding ways to raise work incentives in the agricultural sector becomes especially relevant. This necessitates an improvement of mechanisms for motivating productive labor from the standpoint of creating sufficient sources for filling the payroll. In this regard, proposed a few guidelines to improve the procedure of remuneration based of the principle of maxim-

izing gross income [34]. As practice shows, maximization of gross income and creation of a related payroll fund orients the staff and management of agricultural organizations to save material resources and energy, and to find channels for their economical purchase.

According to scientific analysis and practice, the problem of sustainable development of agricultural production is not in the often mentioned shortage of personnel (i.e. costs of their training), but in the existing model of social and labor relations between agricultural workers and employers (companies). Actually, the issue of training agricultural personnel is not urgent with the current level of mechanization and automation of production processes, while the really relevant task consists in *improving their quality*. The relations that have developed in the problematic agricultural organizations of Belarus between workers and employers are not conducive to attracting personnel and their effective use, which is the main reason for their shortage.

Due to this, ongoing change in the existing model of employment of labor resources in agricultural organizations is aimed at creating comfortable conditions for attracting personnel, and organizing and encouraging highly productive work. Its improvement can be facilitated by the formation of contractual relations between the institutions of the agricultural education system and the employer on the creation of comfortable working and living conditions for young professionals in rural areas.

In this regard, we propose the following criteria for the two parties of such a civil law agreement: *for educational institutions* – training specialists with the level of competencies necessary to perform efficient agricultural production; and *for agricultural organizations/companies (employers)* – formulating a list of regulation of rigorous organization, labor protection and social living standards of young specialists in rural areas.

In case of non-fulfillment and/or violation by the parties of the above agreement of rights and duties, the young specialists have the right to apply to the commission for their reassignment to another agricultural organization/company. If the educational institution has trained an employee of inadequate professional qualification, the head of the agricultural organization/company has the right to apply to the educational institution with a request to send a new specialist with appropriate qualification.

Technical and technological modernization of the agricultural sector and employment of labor resources. It is established that the formation of labor supply in the labor market is primarily determined by demographic factors. Therefore, the demand for labor is determined by the technical and technological parameters of the industry.

We have developed consolidated standards of labor costs (unit area, per animal units), as well as labor costs for the production of a unit of production. Given the forecast of agricultural production and based on the obtained standards of labor costs, we calculated the need for labor costs in agricultural production in the following two ways: in the first used progressive constant standards of labor costs, and in the second used standards differentiated by years in the direction of decline.

Taking into account the estimated amount of labor costs and average annual working time per one employee (set as 2100 hours), we identified the total need for employees (demand forecast) in the agricultural production for the period 2016–2020.

As a result of the forecast calculations, it was found out that under the first option with *progressive but constant standard labor costs* and increasing production volumes, the need for workers by 2020 will increase by 12,9%. As a result, during the five-year period, the balance of labor resources changes from by 87,5 thousand people in 2016 to exceeding the supply by 30,5 thousand people in 2020. The most acceptable option should be considered the second option, which uses *declining trend in labor costs standards*. According to the

calculations, the projected increase in labor productivity will reduce the need (demand) for workers by 2020 by 9,3% while at the same time reducing the projected number of employees (supply) by 7,0%.

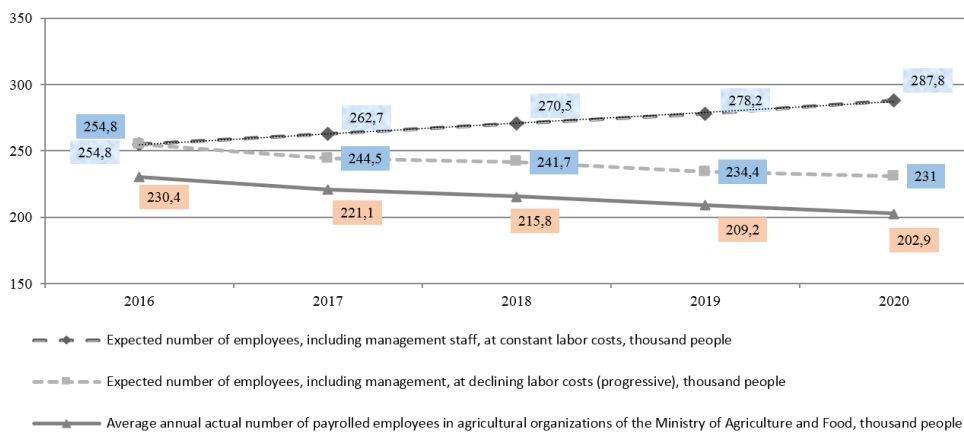


Fig. 3. The forecast of labor demand in agriculture, thousand people

Source: the author's calculations based on consolidated annual reports of agricultural organizations subordinated to the Ministry of Agriculture and Food (data for 2020 – estimates).

It makes no sense to use the variant with forecasting the number of agricultural workers at maximum and constant labor costs for further calculations, because it preserves the current level of labor productivity and, due to the growing output, naturally extrapolates the increase in the number of these workers. The option of minimum labor costs per unit of output indicates the absence of grounds for intensive growth of labor productivity. The most probable scenario is the option taking into account the progressive (gradually decreasing) labor costs per unit of output. In this case, the overall need for agricultural workers gradually reduces [8].

As for the long-term need for labor resources, taking into account changes in the professional qualification structure, it is described by retrospective data indicating the changes that have occurred in the professional qualification structure of the labor force of agricultural organizations. Monitoring of vacancies in agricultural organizations shows that there is a constant demand for agronomists, herd managers, veterinarians, and personnel of mass professions.

Estimation of the needs of workers, declared by agricultural organizations before the authorities of labor, employment and social protection, shows that the ratio of vacancies between management staff and workers in 2013 was 30:70; in 2017 – 40:60; and in 2018 – 45:55. Obvious is the redistribution of employees towards high-tech occupations in agricultural production (those related to information technology and automated equipment) at the expense of skilled workforce who expect a decent reward for their work. However, it should be emphasized a significant reduction in the need for unskilled and low-skilled personnel. Those are the key trends that will affect the processes of employment in the agricultural sector in the forecast period.

Conclusions

Thus, the study of the dynamics of employment parameters in Belarus' agriculture makes it possible to draw the following conclusions and generalizations.

In the Republic of Belarus there is a tendency to reduce the number of people employed in agriculture. This is due not only to social, demographic and economic factors, but also is the result of the gradual mechanization and automation of agricultural production, and

technical and technological modernization of the agricultural sector. At the same time, a positive trend is the reduction of direct labor costs for the production of a unit of agricultural output, which indicates an increase in the efficiency of the use of labor. Economic analysis of phenomena and processes shows that in recent years the wholesale sector of the agro-industrial complex has been actively pursuing a policy of mergers and consolidations of economic entities. This contributed to optimization and release of redundant personnel from agricultural organizations.

Agricultural organizations provide jobs for about 40% of the rural population (at the same time performing the settlement establishing function in rural settlements – an agrotowns and villages) and are sources of their income. However, some agricultural organizations are characterized by a high level of personnel turnover, especially among young people. This is due to the fact that these jobs are unattractive for young people due to low wages, unsatisfactory working conditions, and underdeveloped rural social infrastructure. In addition, among the branches of the national economy, the share of young people in agriculture is the smallest – 16,7% (with the average of 20,9% in the economy). Therefore, along with the development of effective tools to motivate work, it is important to perform a career guidance work in rural schools with the involvement of representatives of agricultural enterprises to increase prestige and image of agricultural organizations and competitiveness of agricultural specialists, with the supervision over future professionals at all stages of their professional agricultural education and with the creation of real prospects for their professional growth.

The innovative development of the Belarus agro-industrial complex and its technical modernization determine the formation of a mechanism for cooperation and mutual responsibility of the agrarian education system and agribusiness representatives in training and retraining, and the introduction of practice-oriented training. In addition, macroeconomic regulation of these processes would increase the efficiency of agricultural production and the welfare of rural residents only if it is complemented by consistent, comprehensive, and carefully planned work with the personnel directly in agricultural enterprises (farms). In the new conditions of economic management, there are functions for management, control and supervision over the work of equipment, which leads to the differentiation and integration of labor, as well as to changes in the content of labor processes.

Since employment in agricultural production is not only an economic but also a social process, the forecast of the situation on the labor market and the implementation of appropriate structural, regional and investment policies should be focused on adapting workers to modern requirements. Trends in the development of the demographic situation and forecast data on the rural population of the Republic of Belarus give grounds to state that the volume of labor resources in rural areas will gradually decrease, which allows us to conclude that the base of labor potential for agriculture will narrow. Therefore, along with demographic policy measures, priority should be given to promoting the creation of highly efficient jobs in agriculture and other sectors of the economy, improving the physical infrastructure of the agricultural sector, increasing the investment attractiveness of agricultural production and rural areas. At the same time, the implementation of investment projects in the agro-industrial complex in rural areas should be linked to the accompanying development of social infrastructure.

The identified trends allow to form an objective picture of employment in agriculture, taking into account the peculiarities of socio-demographic and production-economic situation and outline directions for improving the regulation of employment in the new strategy of rural development and agriculture for 2021–2025.



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ЗАЙНЯТІСТЬ ТРУДОВИХ РЕСУРСІВ У СІЛЬСЬКОМУ ГОСПОДАРСТВІ БІЛОРУСІ: СТРУКТУРНО-ДИНАМІЧНІ ПАРАМЕТРИ, ПРОГНОЗНІ ТЕНДЕНЦІЇ

Серед найважливіших напрямів соціально-економічного розвитку Республіки Білорусь пріоритетною сферою державного регулювання є зайнятість населення працездатного віку в різних сферах суспільно-корисної діяльності. Як один із найважливіших макроекономічних показників, зайнятість поєднує соціальні та економічні індикатори економічного стану суспільства. У статті викладено результати дослідження тенденцій зайнятості трудових ресурсів в аграрній галузі Білорусі, дано оцінку її поточних і прогноз щодо перспективних структурних параметрів. Поряд із цим виявлено чинники, що обумовлюють ці зміни. Зроблено висновок, що вирішення завдання підвищення ефективності та зростання конкурентоспроможності сільськогосподарського виробництва значною мірою залежить від того, наскільки аграрна сфера забезпечена висококваліфікованими і професійно компетентними працівниками, здатними опановувати науково-технологічні та організаційно-економічні інновації і впроваджувати їх у процеси виробництва. Напрацьовано концептуальні напрями

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ефективного управління зайнятістю трудових ресурсів в АПК з урахуванням виявлених факторів (демографічних, організаційних, техніко-технологічних, соціально-економічних), сфери та діапазону їх впливу. Пропозиції та рекомендації можуть бути використані при обґрунтуванні нової стратегії розвитку села, в основі якої – програмні заходи, спрямовані на перспективний розвиток аграрної економіки, зміцнення ефективності функціонування аграрного виробництва.

Ключові слова: *зайнятість, трудові ресурси, сільське господарство, мотивація праці, плинність кадрів, техніко-технологічна модернізація, прогноз*