Qualified staff for agribusiness in the Penza region

E I Pozubenkova, N M Guryanova, Yu Yu Rassypnova and N N Bekreneva
Penza State Agrarian University, 30 Botanicheskaya St., Penza, 440014, Russia
E-mail: gurianova.n.m@pgau.ru

Abstract. The Decree of the President of the Russian Federation "On national goals and strategic objectives of the development of the Russian Federation for the period up to 2024" deals with the priorities for the creation in the basic sectors of the economy, primarily in the manufacturing industry and the agro-industrial complex, a highly productive export-oriented sector, developing on the basis of modern technologies and provided with highly qualified specialists. The strategic goals are not only to increase the efficiency of the agro-industrial complex through the introduction of innovations, but also to increase the level of employment and the quality of life in the countryside. The current research also emphasized on stabilizing the number of highly qualified specialists, reducing their migration outflow. Indeed, the quality of the developed and adopted management decisions also depends on the qualitative representation of the management staff, and, consequently, the indicators of enterprises efficiency in agribusiness. The research provides analytical information on the resource and productive indicators of the development of agriculture in the Penza region, the recruitment of the qualified staff (managers and other specialists) by the agricultural organizations, their qualitative number and mobility. It is concluded that it is necessary to form a state program of personnel support for the agro-industrial complex, contributing to the integration of a systemic and integrated approaches in the reproduction of highly qualified specialists.

1. Relevance
The Penza region is an industrial and agricultural region of the Russian Federation. The agro-industrial complex produces almost 1/5 of the gross regional product; food self-sufficiency and social development of the village depend on its condition [1].
In recent years, the region's agriculture has shown high level of development, as evidenced by the indicators of enterprises efficiency in agribusiness (Table 1).
For the agro-industrial field of the Penza region, 2020 was a record year. Unprecedented indicators of productivity of grain and leguminous crops. The first place in the Volga Federal District for the productivity of dairy cattle, the second - for the production of meat and poultry. The scale of agricultural production in current prices in 2020 increased by 62.7% compared to the level of 2017. The amount of profit received has increased more than five times; the level of profitability of economic activity has increased by 18%.
The number of unprofitable farms in the total number of agricultural organizations decreased by 11%.
However, it was not possible to solve the problems with the staff in rural areas, the average annual number of employees is steadily decreasing. If in 2017 36.3 thousand people were employed in agricultural organizations, then in 2020 - already 22.13 thousand people [2].
Table 1. Indicators of the agricultural organizations activity in the Penza region.

| Indicator                                      | 2017       | 2018       | 2019       | 2020       |
|------------------------------------------------|------------|------------|------------|------------|
| Agricultural land, thousand ha                | 2881.3     | 2880.5     | 2880.0     | 2879.7     |
| Total sown area, thousand ha                  | 1378.8     | 1380.8     | 1418.1     | 1453.3     |
| Agricultural products in current prices, bln RUB | 73.92      | 82.45      | 100.12     | 120.25     |
| Average annual number of employees, thousand people | 36.3       | 35.9       | 35.3       | 22.13      |
| Profit (loss), bln RUB                       | 2.6        | 0.5        | 1.1        | 13.8       |
| Profitability level,%                         | 8.0        | 1.0        | 2.0        | 26.0       |
| The number of unprofitable farms, units in % of the total number of enterprises | 33         | 24         | 18         | 12         |
| Livestock (at the end of the year), thousand heads: |            |            |            |            |
| cattle                                        | 167.2      | 162.5      | 159.9      | 157.3      |
| pigs                                          | 204        | 234        | 305.3      | 267        |
| sheep, goats                                  | 177        | 102.7      | 102.4      | 95.1       |

2. Results

Analytical analysis of the last decades indicates the persistence of negative dynamics in the process of providing agricultural enterprises with highly qualified specialists (Table 2).

The formation of vertically integrated holding-type structures in the Penza region and the optimization of management structures influenced a sharp decline in the number of employees holding positions of managers and specialists.

In 1991, the number of actually working management personnel was 16,450 people, and by 2020 it had decreased by 5.5 times.

If the number of heads of agricultural organizations decreased insignificantly (by 51 people), then chief specialists - by 4.4 times, branch specialists - by 7.1 times, and middle-level managers - by 16.6 times. One hundred percent of the employed staff is typical only for top-level managers, for other categories of workers there is a shortage of staff. The social problems of the regional agro-industrial complex include not only the lack of highly qualified specialists, the resulting structural unemployment, but also a lack of attractive jobs, an insufficient level of development of social infrastructure, which entails labor migration of agricultural specialists to the city. One of the reasons for the problems with the staff in the countryside is the general decline in the rural population as a result of an unsatisfactory demographic situation [4].

Table 2. The number of employees holding the positions of managers and other specialists of the agro-industrial complex in the Penza region.

| Positions                                      | 1991 number, people due to the plan | 1991 correlation, % | 2015 number, people due to the plan | 2015 correlation, % | 2020 number, people due to the plan | 2020 correlation, % |
|------------------------------------------------|-----------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|---------------------|
| Total employees holding positions of managers and specialists | 17451                            | 94.2                | 3587                             | 95.8                | 3104                             | 95.5                |
| Including the heads of agricultural companies | 451                               | 99.7                | 453                              | 98.9                | 399                              | 100.0               |
| Chief specialists                               | 2693                              | 96.3                | 669                              | 94.7                | 610                              | 96.2                |
| Middle managers                                | 2924                              | 95.0                | 574                              | 95.9                | 174                              | 95.9                |
| All specialists (except the main ones)          | 11383                             | 93.4                | 1430                             | 95.6                | 1592                             | 93.9                |
Indicators of providing agricultural organizations with management staff are closely related to the indicators characterizing their mobility. A positive aspect is the excess of the number of employees hired in the positions of managers and other specialists (286 people) over those dismissed from work (162 people) in 2020. In the observed period, there is not a single manager dismissed on the initiative of the administration as having failed to cope with work or compromised personally, which is an indirect evidence of the quality level of working staff.

Other indicators of the qualitative composition of management staff are their education and professional development (Table 3). Of the 2,965 actually employed managers in the agro-industrial complex, only 56.7% have a higher education, 35.7% have a secondary vocational education, and the remaining 7.9% have practical training.

Table 3. The managers and other specialists with higher education (in % of the number of employees in the position).

| Positions                        | 1991 higher education | 1991 secondary vocational education | 2000 higher education | 2000 secondary vocational education |
|----------------------------------|-----------------------|-------------------------------------|-----------------------|-------------------------------------|
| Heads of organizations           | 91.3                  | 8.4                                 | 68.4                  | 28.5                                |
| Chief specialists                | 61.4                  | 35.9                                | 74.4                  | 24.9                                |
| Managers and middle managers     | 17.4                  | 49.5                                | 30.5                  | 62.3                                |

It is obvious that the qualitative composition of the heads of agro-industrial complex organizations has deteriorated. If in the pre-reform period more than 91% of them had a higher education, and 8.4% had a secondary vocational education, then in 2020 this ratio was 68.4% and 28.5%. The share of practitioners has increased over the past 30 years from 0.2% to 3%. None of the 12 working managers who do not have a higher education gained at a university by correspondence. In total, 123 out of 399 heads of agro-industrial complex organizations have basic non-professional (non-agricultural) education. (30.8%). Almost 4% of managers with work experience of less than 1 year, 12.3% - from 1 to 3 years, 16.5% - from 3 to 5 years. The number of the personnel reserve of heads of agricultural organizations is 13 people.

In terms of importance for production, the second position after the heads has the chief specialists. Their qualitative composition has been improved; the proportion of people with higher education has increased from 61.4% in 1991 to 74.4% in 2020. However, in the structure of the positions of chief specialists, the proportion of people with higher education varies. So among the chief economists and accountants there are over 82%, chief agronomists - 74%, chief livestock specialists - 78.9%, chief engineers - 69.3%, chief veterinarians - 66.6%. The proportion of practitioners without education among the category of chief specialists is low and amounted to 0.7% in 2020.

Thus, all managers and other specialists belonging to the category of TOP-management should have higher education.

The qualitative composition of managers and middle-level specialists is lower, only 45.9% had a higher education in 2020, and 12.5% were specialists without education.

The system of higher agricultural education should take into consideration the formed demand on the part of agribusiness entities in the training and retraining of highly qualified personnel, develop in-depth career guidance work not only among school-age applicants, but also among middle and older generations working in the field of agriculture and without higher education. Currently, out of 225 people belonging to the category of practitioners and 1059 people with secondary vocational education, 13 people are studying at extra-mural or part-time departments.

Given the high degree of unevenness of management staff in terms of education, the main factor in improving the staff of agricultural production in the region should be additional education based on the preparation of special programs, paying special attention to the level of education and practical skills of the student contingent [3].
It should be noted that at present the system of agricultural additional vocational education is ineffective. In the 1990s, the leading educational institution of additional education for adults in the region's agro-industrial complex was the Penza Institute for retraining and advanced training of agro-industrial complex specialists. Every year 1,132 managers were trained in it, their certification was carried out, and a personnel reserve was formed. In 2020, only 51 people improved their qualifications from the head staff of the organization, accounting for 12.7% of their total number, 101 people were representatives of the chief specialists (17.2%), 33 members were middle managers (19.7%), 107 persons were industry specialists (7.1%). Considering the fact that the agro-industrial complex of the region employs 2,965 managers and other specialists, and the knowledge gained should be updated every 3 years, then, on average, about 988 people should go through the system of additional training annually. Thereby, almost two-thirds of management staff does not improve their qualifications on time.

It is difficult to disagree with the fact that it is hard for working specialists to be released for a long period of study. Therefore, distance learning is of great importance for expanding the capabilities of the system of additional training, when most of the operations for organizing the educational process are carried out in an automated mode using modern telecommunications. Distance vocational training should include various components and methodological techniques that would make it as accessible as possible in on-the-job training and increase the coverage of the retraining and advanced training system for working management personnel [5].

The realization of the goals and objectives of providing the agribusiness with qualified staff in the region is carried out through the personnel policy. It acts as an instrument of public administration and is associated with the formation and use of human resources, focused and motivated to solve modern problems. The unsatisfactory quantitative and qualitative composition of the working managers and other specialists in the agro-industrial complex indicates the fact that there are no clearly formulated principles of state personnel policy. If at the level of the agro-industrial complex organizations, the owners of property, the founders somehow build a system of work with personnel, and then at the state level plans and forecasts of employment in agricultural field, a clear organization of the system of personnel work, control, coordination, and regulation of the formation and use of personnel in the agro-industrial complex are not formed.

3. Conclusion
Back in 2017, at the Parliamentary meeting in the Federation Council of the Federal Assembly in the Russian Federation, recommendations were given to the Government of the Russian Federation on the development of a staff program for the agro-industrial complex, the annual consideration of problems and prospects for the development of employing the qualified specialists in the agro-industrial complex in the Russian Federation at a meeting of the Government Commission on the agro-industrial complex and sustainable development of rural territories, the development of a mechanism for the formation of personnel orders for the agro-industrial complex to the system of multi-level vocational education, etc. [4]. State structures are doing a lot in this direction. Work is underway to improve the content and technology of continuous agricultural education in terms of training in accordance with the new federal state educational standards, pre-university training and vocational guidance activities are developing, the technical base of universities and vocational schools is being modernized, funding for agricultural science is growing due to grant support, contract targeted training has been introduced, staffing is being monitored, etc. But there is no complexity and consistency of processes. There is a need to develop a State program for staffing the agro-industrial complex, regulating the basis of state policy in the field of not only the formation, but also the use of agro-industrial complex personnel, reflecting the system of training, distribution, selection, selection, placement, motivation, assessment, development of the personnel reserve, and work with it. An export-oriented innovative model for the development of the agro-industrial complex requires the integration of educational, scientific and business structures.
References
[1] Alekseeva S, Volkova G, Sukhanova O and Fudina E 2021 Digital transformation of agricultural industrial complex in the implementation of its development strategy Management, Economic Engineering in Agriculture and Rural Development 21 (2) 19–25
[2] Bondina N, Bondin I and Pavlova I 2021 Methodological justification and analytical support for cash flow forecasting Management, Economic Engineering in Agriculture and Rural Development 21 (2) 111–17
[3] Dudin M N, Pavlova K P, Frolova E E, Samusenko T M and Popova I Y 2018 Information technologies as an incentive for Russian agriculture Management, Economic Engineering in Agriculture and Rural Development 18 (1) 143–52
[4] Nosov A, Tagirova O, Fedotova M and Novichkova O 2021 Forecasting as a way to reduce the risks of a cash flow deficit in agricultural organizations Management, Economic Engineering in Agriculture and Rural Development 21 (2) 417–24
[5] Nosov A, Murzin D, Tagirova O and Fedotova M 2020 State support of small private companies as the basis for sustainable rural development Management, Economic Engineering in Agriculture and Rural Development 20 (2) 329–34
[6] Nosov A V and Pozubenkova E I 2020 Problems of the integrated development of rural areas Bulletin of agrarian science 5 (80) 94
[7] Penza region in figures 2020 [Brief statistical collection] [Electronic resource]. URL https://pnz.gks.ru/
[8] Pozubenkova E, Ulanova O, Chuvorkina T and Kadykova O 2021 Research on socio-economic problems of regional rural demography Management, Economic Engineering in Agriculture and Rural Development 21 (2) 487–92
[9] Samygin D Y and Baryshnikov N G 2015 Scenarios of agricultural business development in Penza oblast: Forecast and risk estimate Studies on Russian Economic Development 26 (1) 59–62
[10] Shmygina O N 2017 Staffing of the agro-industrial complex: problems and development prospects Agroforsite 3 (9) 1–4