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# THE PERSONNEL POTENTIAL OF THE RECLAMATION INDUSTRY AS A CONDITION FOR ITS EFFECTIVENESS

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## ABSTRACT

*The relevance of the topic which was chosen for the studying is associated with the special role of human resources in the development of industry, in particular, with the possibility of increasing labor productivity due to the efficient using of labor resources. The authors investigated the dynamics of the personnel's structure of 52 federal state budgetary institutions of the Land Reclamation Department of the Ministry of Agriculture of the Russian Federation for the period 2015-2017, which was based on the statistical and situational analysis. The results showed contradictory trends in both the quantitative and qualitative composition of the staff associated with the insufficient application of the regulatory approach in the planning of industry workers. The identified imbalances affected both the structure of sectoral personnel and their spatial distribution over the territory of the Russian Federation.*

**Key words:** Human Resources, Structure of the Personnel, Land Improvement, Agro-industrial Sector, Number of Employees

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## 1. INTRODUCTION

In the context of the implementation of the State program "Development of agriculture and regulation of agricultural products, raw materials and food markets for the period up to 2025" and the departmental program "Development of the land reclamation complex of Russia", the issues of studying, which are to identify and solve the problems of forming human resources in the agricultural production sector are relevant. In particular, the formation of the personnel potential of the reclamation sector at the agro-industrial complex is.

A systematic analysis of the personnel structure allows the managers of organizations not only to obtain the required information about their employees, but also to form operational and long-term plans for working with personnel, to implement and adjust the personnel policy.

The quantitative composition and structure of sectoral personnel which are largely regulated by the specifics of the functions, depend on the features of the work of reclamation organizations and affect the formation of the personnel potential of land reclamation.

All this has a significant impact on the final results of the organization's work, it makes the managers to consider carefully the personnel management system and in particular its tools such as selection and hiring of employees, planning and accounting for their quantitative and qualitative indicators, development and implementation of the system payroll.

## 2. NEED FOR THE STUDY

The studying of the personnel structure allows managers to identify prospects for using of organization's personnel and ensure its effective using.

The criteria for the effective using of the organization's personnel potential include measures to optimize the composition and structure of personnel which are aimed at training, retraining and advanced training of existing personnel.

The particular importance for the agriculture of the Russian Federation is a personnel policy which is aimed at improving the efficiency of workers' using, ensuring the intensification of the industry's development. Reclamation personnel includes such employees, who largely ensure the successful functioning of the agricultural sector due to intensive methods of its development.

## 3. OBJECTIVES OF THE STUDY

A question was identified is to study the personnel structure of land reclamation as the main factor in the development of the personnel potential of the reclamation sector at the agro-industrial complex.

## 4. METHODOLOGY

The research methodology is based on the object research which is using system analysis methods, multivariate statistical analysis, marketing and logical analysis, situational analysis, economic and statistical forecasting, which are implemented in the SPSS statistical software package and in the "Data Analysis" add-in of the Excel table processor.

## 5. RESULTS AND DISCUSSION

Let's consider the dynamics of the structure of reclamation personnel, which regulates the main personnel trends in the industry. Table 1 shows the minimum, maximum and average values of the average annual weights of employees' groups of 52 Federal State Budget Institutions (hereinafter referred to as the FSBI) and their magnitude (difference between the maximum and minimum values), as well as the average growth of the average annual specific weights by federal districts of the Russian Federation for 2015-2017.

**Table 1** The average annual weights of employees' groups of the Federal State Budgetary Institutions for 2015-2017 and their average growth, %

Indicators	Employee groups			
	Managers	Specialists	Other employees	Labor
Central Federal District				
Minimum annual average specific gravity	6,7	9	0	9,09
Maximum annual average specific gravity	39,01	54,05	27,27	61,51
Average annual specific gravity	18,91	29,27	9,51	42,30
The scope of the average annual specific gravities	32,31	45,05	27,27	52,42
The average increase in average specific gravities	-0,03	-0,48	-0,17	0,94
North-West Federal District				
Minimum annual average specific gravity	3,53	23,21	0	15
Maximum annual average specific gravity	22,5	62,5	31,75	65,39
Average annual specific gravity	12,78	37,89	10,92	38,41
The scope of the average annual specific gravities	18,97	39,29	31,75	50,39
The average increase in average specific gravities	-0,12	0,04	0,00	-0,41
North Caucasian Federal District				
Minimum annual average specific gravity	3,64	22,94	2,13	0
Maximum annual average specific gravity	20,17	72,26	7,56	71,28
Average annual specific gravity	9,65	43,64	4,09	42,62
The scope of the average annual specific gravities	16,53	49,32	5,43	71,28
The average increase in average specific gravities	0,09	0,15	0,05	-0,21
Southern Federal District				
Minimum annual average specific gravity	3,68	14,89	0	43,91
Maximum annual average specific gravity	8,7	25,52	26,9	80,87
Average annual specific gravity	6,06	20,29	6,14	67,51
The scope of the average annual specific gravities	5,02	10,63	26,9	36,96
The average increase in average specific gravities	-0,09	1,67	-0,06	-1,52
Volga Federal District				
Minimum annual average specific gravity	2,18	13,78	0,00	15,93
Maximum annual average specific gravity	36,03	48,04	45,92	84,04
Average annual specific gravity	12,37	26,65	9,31	51,67
The scope of the average annual specific gravities	33,85	34,26	45,92	68,11
The average increase in average specific gravities	0,15	0,10	0,16	-0,41
Ural Federal District				
Minimum annual average specific gravity	13,21	32,50	0,00	26,42
Maximum annual average specific gravity	28,92	54,72	5,66	38,58
Average annual specific gravity	21,07	43,61	2,83	32,50
The scope of the average annual specific gravities	15,71	22,22	5,66	12,16
The average increase in average specific gravities	0,27	-1,52	0,00	1,26
Siberian Federal District				
Minimum annual average specific gravity	8,33	6,40	0,00	51,81
Maximum annual average specific gravity	15,26	33,33	21,91	80,28
Average annual specific gravity	10,54	20,72	6,42	62,32

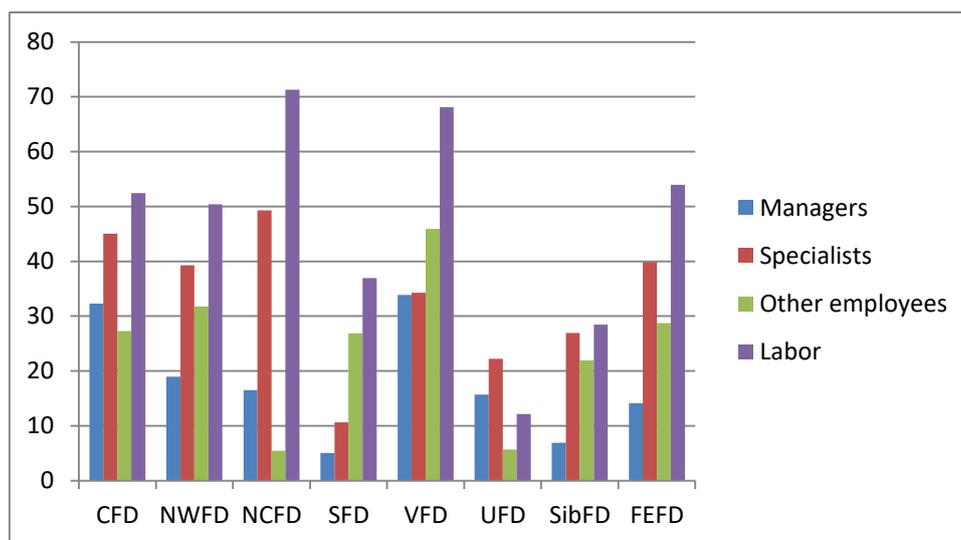
Indicators	Employee groups			
	Managers	Specialists	Other employees	Labor
The scope of the average annual specific gravities	6,93	26,93	21,91	28,47
The average increase in average specific gravities	-0,06	-0,92	0,66	0,51
Far Eastern Federal District				
Minimum annual average specific gravity	2,55	19,16	4,61	14,51
Maximum annual average specific gravity	16,67	59,02	33,33	68,43
Average annual specific gravity	11,34	32,07	14,63	41,96
The scope of the average annual specific gravities	14,12	39,86	28,72	53,92
The average increase in average specific gravities	0,17	1,26	-0,46	-0,97

\* Source: authors' calculations which were based on data received from 52 Federal State Budget Institutions.

In the case when the average annual specific gravities of a particular group of workers in several FSBI coincide, then they can be considered homogeneous for this group of workers. If FSBI are homogeneous in a certain group of workers, then its minimum and maximum average annual densities coincide and, therefore, the range of average annual specific gravities of this group of workers is zero. Therefore, the range of average annual specific gravities of a group of workers can be considered as an indicator characterizing the degree of difference of individual FSBI in this group: with an increase in scope, the degree of difference increases.

The histogram (Figure 1) graphically shows the degree of difference at the federal state budget institutions for each group of employees. Figure 1 shows that the FSBI vary significantly (range of more than 30%) in average annual specific gravities:

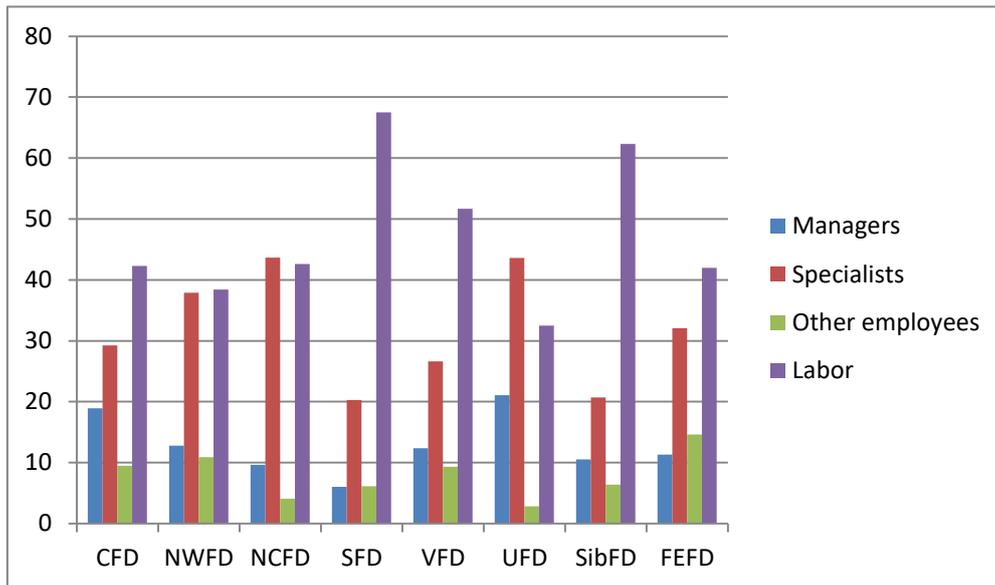
- managers in the Central Federal District and the Volga Federal District;
- specialists in all districts except the Southern Federal District, Ural Federal District and the Siberian Federal District;
- other employees in the Northwestern Federal District and Volga Federal District;
- workers in all districts except the Ural Federal District and the Siberian Federal District.



**Figure 1** The scope of the average annual specific gravity of employees' groups of the FSBI

Source: compiled by the authors

The histogram (Figure 2) clearly shows the average values of the average annual specific gravities of executives, specialists, other employees and labor of the Federal State Budgetary Institutions in federal districts.

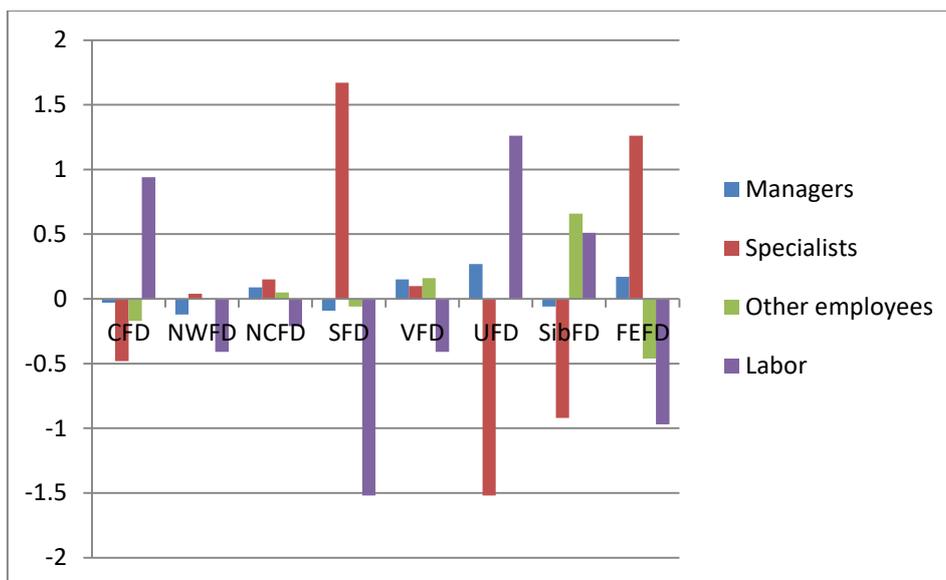


**Figure 2** The average values of the average annual specific gravity of employees' groups of the FSBI  
*Source: compiled by the authors*

It can be seen that in the staff structure of the FSBI:

- the number of managers exceeds the number of other employees in all districts, except the Southern Federal District and the Far Eastern Federal District;
- in all districts, the share of workers in the staff structure of the Federal State Budgetary Institutions is maximum, while in the Southern Federal District the number of workers is comparable to the number of specialists;
- the highest average annual specific gravity of managers was observed in the Ural Federal District, specialists in the North Caucasus Federal District and in the Ural Federal District, other employees in the Far Eastern Federal District, and workers in the Southern Federal District;
- the smallest average annual specific gravity of managers was observed in the Southern Federal District, specialists in the Southern Federal District and in the Siberian Federal District, and other employees and workers in the Southern Federal District;
- in the Northwestern Federal District and in the North-Caucasian Federal District, the average values of the average annual specific gravities of specialists and workers in the personnel structure of the Federal State Budgetary Institutions are almost equal, i.e. on average, there is one worker per specialist.

The histogram (Figure 3) clearly shows the average growth rates of the average annual specific gravities of managers, specialists, other employees and workers of the Federal State Budgetary Institution in federal districts.



**Figure 3** Average growth rates of average annual specific gravities groups of FSBI workers

*Source: compiled by the authors*

A positive increase in the average annual specific gravity of a workers’ group determines its increasing trend (↑), and a negative growth determines a decreasing trend (↓). In (Table 2) trends of average values of average annual specific gravities of workers’ groups of the Federal State Budget Institutions are indicated.

**Table 2** Trends in the average values of the average annual specific gravity of employees’ groups of the Federal State Budget Institutions for 2015-2017,%

FD	Managers	Specialists	Other employees	Labor
CFD	↓	↓	↓	↑↓
NWFD	↓	↑	–	↓
NCFD	↑	↑	↑	↓
SFD	↓	↑	↓	↓
VFD	↑	↑	↑	↓
UFD	↑	↓	–	↑
SibFD	↓	↓	↑	↑
FEFD	↑	↑	↓	↓

*Source: compiled by the authors*

Analysis of the average values of the growth of the average annual specific gravity of personnel shows (Fig. 5 and Table 3) that in the structure of the FSBI:

- the share of managers increased in the North Caucasian Federal District, the Volga Federal District, the Ural Federal District, the Far Eastern Federal District and decreased in the Central Federal District, the North-West Federal District, the Southern Federal District and the Siberian Federal District;
- the share of specialists increased in the North Caucasian Federal District, the North-West Federal District, the Southern Federal District, the Volga Federal District, the Far Eastern Federal District and decreased in the Central Federal District, the Ural

Federal District, the Siberian Federal District, with a significant increase was observed in the Southern Federal District and the Far Eastern Federal District, and a significant decrease - in the Ural Federal District and the Siberian Federal District;

- the share of other employees increased in the North Caucasian Federal District, the Volga Federal District, the Siberian Federal District and decreased in the Central Federal District, the Southern Federal District, the Far Eastern Federal District;
- the share of workers increased in the Central Federal District, the Ural Federal District, the Siberian Federal District and decreased in the North-West Federal District, the North Caucasian Federal District, the Southern Federal District, the Volga Federal District, the Siberian Federal District, a substantial increase was observed in the Central Federal District and the Ural Federal District, and a significant decrease - in the Southern Federal District and the Far Eastern Federal District.

## 6. CONCLUSION

1. The Federal State Budgetary Institutions differed in the average annual share of specialists and workers to the greatest extent in the majority of federal districts, it is explained primarily by the volume of reclamation work and indicates a wide differentiation in the personnel potential of the reclamation industry in the federal districts of the Russian Federation.

2. It can be cause of concern is the low share of industry managers and specialists of the Federal State Budget Institutions in the Southern Federal District, especially in need of reclaimed agriculture.

3. An alarming trend is a decrease in the share of specialists and workers in the personnel structure of the Federal State Budgetary Institutions in all federal districts, which indicates a decrease in the number of workers directly involved in land reclamation.

4. In many districts, there is a tendency toward a decrease in the share of managers and workers and an increase in the share of specialists in the personnel structure of the Federal State Budgetary Institutions. The dynamics of the other employees' share in the personnel structure of the Federal State Budgetary Institutions is controversial and unstable in federal districts. In five federal districts, with a decrease in the share of workers in the personnel structure of the Federal State Budgetary Institutions, the share of specialists increased, and in three districts with a decrease in the share of specialists, the share of workers increased, which indicates the absence of interconnection between the processes of change in the structure of the reclamation industry's personnel and is largely due to the poor implementation of the regulatory approach in the industry to staffing.

5. The crisis processes, which are accompanying the development of the modern economy of the country, affected the personnel component of land reclamation and were reflected in such trends as a decrease in prestige, attractiveness and remuneration of labor, which in turn generated processes of reducing the quantitative composition of sectoral personnel.

To sum it up, the results of the study of the methodological foundations and scientific and practical approaches to the formation of the personnel potential of land reclamation are within the framework of the study, the production and industry approach is a productive methodology. This is justified by the fact that within the framework of this approach, the basic elements of personnel potential include comprehensive and fairly objective indicators of professional and industry activities of a specialist. Based on this approach, in the framework of this study, a scientific and practical study and justification of the selected indicators of the industry's personnel potential were carried out using as the example of the Federal State Budget Institutions, and directions for their improvement in the reclamation sector of the agro-industrial complex were determined.

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