

To the issue of training and retraining of forestry personnel

*Oksana A. Netrebskaya** and *Vyacheslav A. Orobinsky*

Voronezh State Forestry University, 8, Timiryazeva str., Voronezh, 394087, Russia

Abstract. The article deals with the issues related to the analysis of human resources potential in forestry. The data on the number of entrants and students studying forestry specialities in vocational and higher education institutions are given. The problems of personnel training at the present stage are revealed. An assessment of the existing system of personnel retraining and support measures for young specialists in forestry is given.

Keywords: forestry, training, education, young specialists

1 Introduction

Human capital acts as the basis for the development of industries, while the country's forestry remains an industry with a shortage of personnel, combined with low attractiveness for employment. The reasons for this are known: firstly, the labor-intensive and all-season nature of work in the open air, secondly, the continuing insufficient level of automation and digitalization of production processes, and thirdly, the low level of wages for all categories of workers [1–3]. During the years of reform in forestry, family dynasties and traditions of forestry schools were lost, which also led to an outflow of specialists from the industry.

In the studies of the authors of this issue, it was repeatedly pointed out that there is a lack of highly qualified personnel in the field of forestry and the need to change the system of attracting personnel to the industry [4–7].

Providing forest industry enterprises with highly qualified specialists is one of the necessary conditions for increasing the efficiency of the Russian timber industry complex.

The forestry sector has a complex and heterogeneous personnel structure, represented by civil servants, employees of lesnichestvos, budgetary and autonomous institutions carrying out activities for the protection, conservation and reproduction of forests and other, including seasonal workers engaged in forest fire suppression [8–10]. In total, just over 70 thousand employees work in the forestry sector of the country, of which only half of them have specialised education.

2 The main part

The number of forestry workers as of 1 January 2023 is just over 72,000 and is distributed as follows.

Employees of state authorities of the constituent entity of the Russian Federation authorised in the field of forest relations – 4,531 persons.

Employees of lesnichestvos and forest parks – 27160 people.

Employees of budgetary and autonomous institutions carrying out activities on protection, conservation and reproduction of forests – 36045 people (Fig.1).

* Corresponding author: netrebskaya@inbox.ru

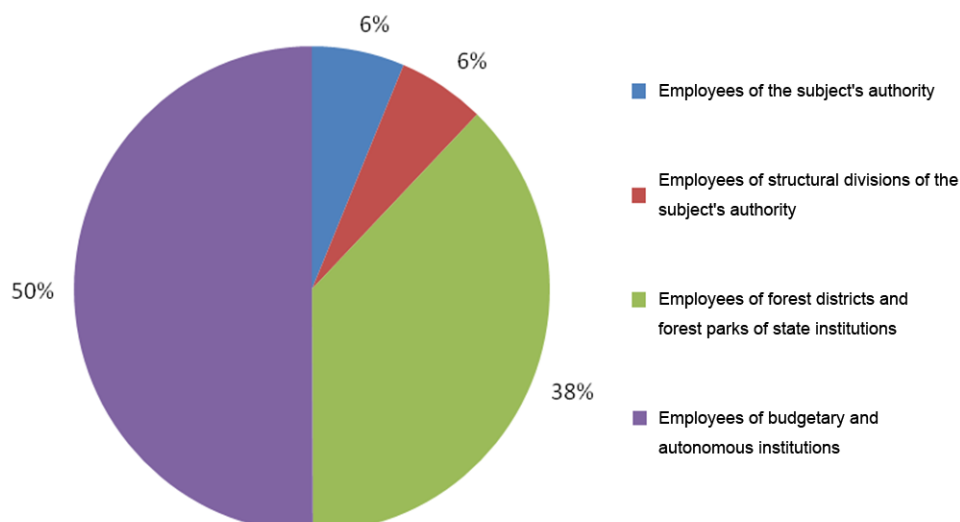


Fig. 1. Personnel structure in forestry sector

In terms of age composition, it should be noted that the main contingent of employees is of mature working age. In general, the average age of specialists directly involved in forestry relations in the federal districts of the Russian Federation was 43 years.

33% of forestry specialists with higher education and 12% of specialists with secondary vocational education work in the field of their education.

The need of the constituent entities of the Russian Federation in forestry personnel for 2022 was more than 8 thousand people, of which about 5 thousand people is

the need for workers, ground (forest firefighters) and aviation forest protection personnel.

This need for this category of workers primarily relates to the fire season and is seasonal in nature.

Significant figures only reflect the "staffing famine" that has existed in the forestry sector for a decade due to the ageing of staff and low salaries [11–13]. As an example, staffing levels in the regional forestry systems of the Central Black Earth Region average 75%, and the level of salaries is half the regional average (Fig. 2).

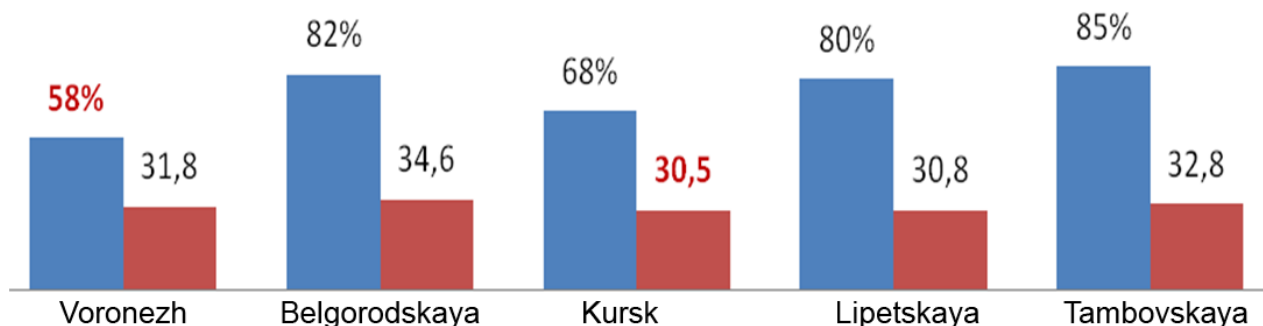


Fig. 2. Staffing levels and average salaries of forestry workers in the CDR constituent entities

It should be noted that the most scarce are the top-level employees [14, 15]. Among the employees of lesnichestvos in 2022, the most demanded are district forester, assistant forester (801 people), forest master (457 people), engineer in the field of forest relations (399 people).

In budgetary and autonomous institutions that carry out activities for the protection, conservation and reproduction of forests, the most in demand are workers (1,858 people), and middle-level employees – ground forest protection units (1,984 people), aviation forest protection workers (1,034 people). The effective development of not only forestry, but also the entire forestry industry directly depends on the specialists.

Forestry universities, technical schools and forestry colleges are the providers of quality educational services

in forestry specialised areas of study. In Russia, there are only three educational centres specialising in forestry training, located in St. Petersburg – St. Petersburg Forestry University named after S.M. Kirov, in Voronezh region – Voronezh Technical University named after S.M. Kirov. These centres are located in St. Petersburg – S.M. Kirov St. Petersburg Forestry University, Voronezh Region – Voronezh State Forestry University, and Sverdlovsk Region – Ural State Forestry University. In general, forestry specialists are trained under forestry-related higher education programmes in 50 higher education institutions.

Middle-level specialists are trained in more than 60 professional educational organisations and educational organisations of higher education; however, in recent years, enrolment in these specialties has been declining.

Today, in order to overcome the human resource deficit, it is necessary to promptly increase the scale of training for the entire forest management system, and forestry workers, especially [16–18].

The preparation of graduates by forestry universities in insufficient numbers for the industry is due to a number of reasons [19, 20].

Firstly, it is the absence of a dedicated forestry area in the classifier of enlarged groups (specialities related to

forestry belong to the enlarged group "Agriculture, Forestry and Fisheries").

Secondly, there are no qualification standards for a number of specialities.

Thirdly, a number of higher education institutions implementing forest-related training areas do not have practice bases, i.e. training and experimental forestry farms, which reduces the quality of training of young specialists.

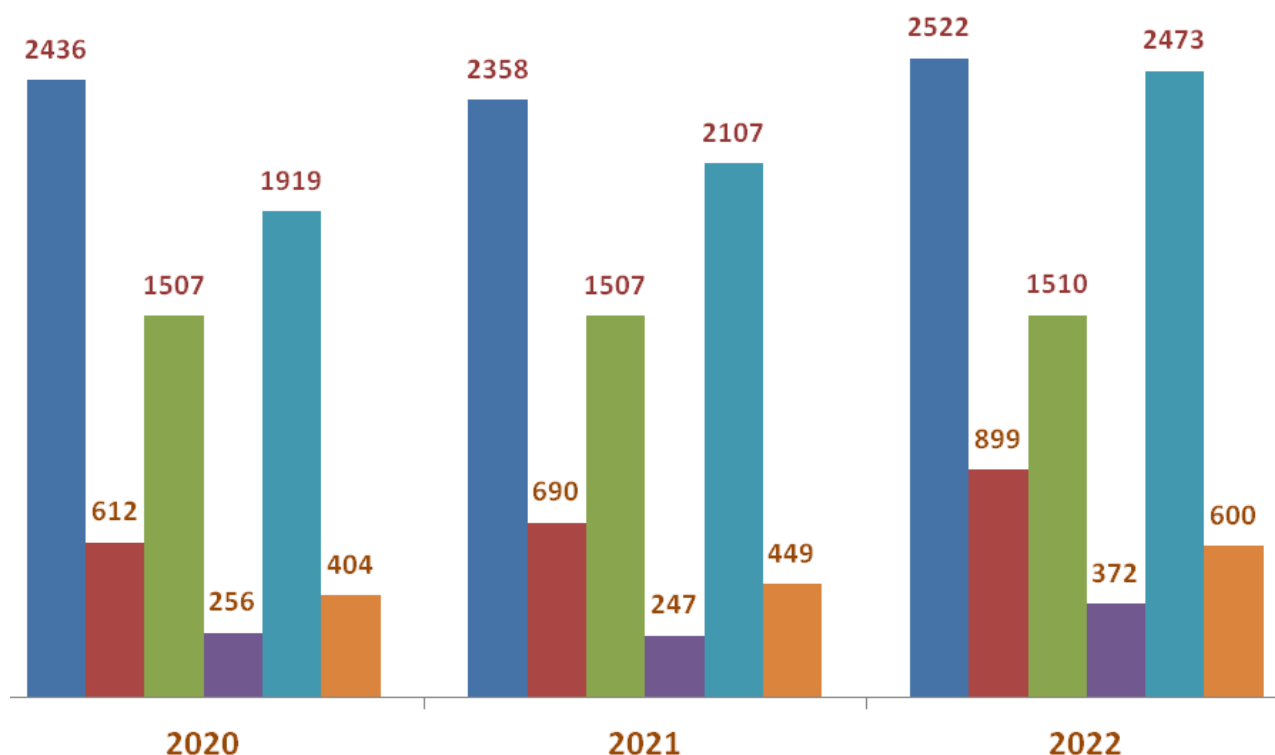


Fig. 3. Dynamics of enrolment of applicants for Bachelor's and Master's degree programmes in the country's core forestry universities

Scientific and technological and advanced development of forestry is impossible without training of highly qualified personnel in postgraduate and doctoral studies.

The number of budget places for postgraduate programmes has significantly decreased over the past years, which is an alarming signal in the system of scientific personnel training.

Rosleskhoz, as part of the implementation of the state programme of the Russian Federation "Development of Forestry", has been coordinating the organisation of professional retraining and advanced training of forestry personnel in the constituent entities of the Russian Federation using subventions from the federal budget since 2013".

Every year, on average, about 5 thousand forestry employees (by the end of 2022 – 8349 employees, 12% of the average number of forestry employees) from the subjects of the Russian Federation undergo advanced training, at least 3000 of them at the expense of subventions from the federal budget.

The main providers of quality services for additional professional education in the field of forestry relations (forest use, protection, conservation and reproduction)

are the institutes of professional development subordinated to the Federal Forestry Agency:

- FAU DPO "All-Russian Institute for Advanced Training of Forestry Managers and Specialists" (Pushkino, Moscow Region);
- FAU DPO "Institute for Advanced Training of Forestry Workers" (Divnogorsk, Krasnoyarsk Krai);
- FBU "Avialesookhrana";
- Forestry universities.

The annual financial support for additional professional education planned under the state programme of the Russian Federation "Forestry Development" is about 45 million rubles. For comparison, in 2023 the expenditures on professional retraining and advanced training amounted to about 80 million rubles of federal budget funds and 20 million rubles of regional budgets.

Of course, it is necessary to motivate young specialists to work in the field of their education. For this purpose, it is necessary to actively conduct career guidance and mentoring activities in the field, provide monetary incentives (bonuses) for demonstrated achievements in work and other types of both material and non-material incentives.

3 Conclusion

The solution to the issue of attracting new personnel to the forestry industry is inextricably linked to the increase in the level of wages and the availability of social support measures for employees.

At the federal level, in order to create conditions to provide affordable and comfortable housing for forestry workers and to develop the forestry labour market, proposals for measures of state support for workers employed in forestry in rural areas have been worked out.

In accordance with Resolution of the Government of the Russian Federation No. 2450 of 24 December 2021, the Ministry of Agriculture of the Russian Federation has made amendments to the State Programme of the Russian Federation "Integrated Development of Rural Areas" approved by Resolution of the Government of the Russian Federation No. 696 of 31 May 2019, *in terms of* adding the category of citizens permanently residing in rural areas and at the same time carrying out activities in rural areas under an employment contract in the state authorities administering in the field of

Thus, significant changes are needed in the sectoral education, dictated by the problems and challenges of the current stage, the solution of which is seen through the introduction of changes in the normative and legal acts of the relevant ministries, as well as attracting additional funding to support young specialists and retention of personnel in forestry.

References

1. M. Falaki, H. Fami Shabanali, H. Irvani, H. Mohammadi Movahed, *Sci. Technol. Agric. Nat. Res.* **12(43)**, 253–65 (2008)
2. I.M. Gorodetskaya, *15th International Conference on Interactive Collaborative Learning (ICL)* (Villach, Austria, 2012), Retrieved from: <https://ieeexplore.ieee.org/document/6402121>
3. N.M. Glukhenkaya, *Research of the Corporate HR Management System* [Monograph] (Vědecko vydavatelské centrum "Sociosféra-CZ", Prague, 2014)
4. N.L. Krivtsova, *Modern probl. of sci. & ed.* **6**, 501 (2012)
5. L.V. Orinina, I.V. Kashuba, I.V. Samarokova, *Perspect. on Sci. and Ed.* **37**, 316–326 (2019), Retrieved from: https://pnojurnal.files.wordpress.com/2019/02/pdf_190123.pdf
6. *Organic Agriculture, US Department of agriculture website* (2015), Retrieved from: <http://www.usda.gov/wps/portal/usda/usdahome?navid=organic-agriculture>
7. D. Holwerda, P.T. Voskuy, *Ministry of economy, agriculture and innovation*, Retrieved from: www.rijksoverheid.nl/ministeries/eleni
8. The world of organic agriculture. Statistics & emerging trends 2016, FIBL & IFOAM – organic international (2016), Retrieved from: <https://shop.fibl.org/fileadmin/documents/shop/1698-organic-world-2016.pdf>, <http://moluch.ru/th/7/archive/26/1147/>
9. M. Sheehan, N. Thomas Garavan, R. Carbery, *Eur. J. of Train. and Develop.* (2014)
10. L.K. Ilyashenko, Z.V. Smirnova, M.P. Vaganova, N.S. Prokhorova, N.S. Abramova, *Int. J. of mechan. eng. and technol.* 1097–1105 (2018)
11. G. Newstrom, *That davecat. Organizational behavior. Human behavior in the workplace* (Split., Peter, 2000), Retrieved from: <http://netref.ru/9-chaste-i-osnovi-organizacionnogopovedeniya.html?page=27>
12. *Agriculture and Agri-Food Canada*, Retrieved from: <http://www.agr.gc.ca/eng/home/?id=1395690825741>
13. A.V. Yakovlev, V.A. Spesivtsev, A.V. Ivanova, Formation of the mechanism to ensure the growth of innovation activity in forestry, *Socio-econ. phenomena and process.* **11(57)**, 144–151 (2013), EDN RQROUP
14. I.V. Revyako, Main directions of improving the training of engineering personnel in the speciality 260400 – "Forestry and forestry", *Educational process in higher school: its foundations and methods*, Collection of articles (Novocherkassk State Meliorat. Acad., Novocherkassk, 2000), pp. 50–52
15. S.S. Morkovina, O.A. Netrebskaya, Personnel potential in forestry and the risk of its loss, *Improving the efficiency of management of sustainable development of forest industry complex*, Proc. of the All-Russ. Sci. conf. dedicated to the 90th anniversary of the Voronezh State Forestry University named after G.F. Morozov (Voronezh, 15–16 October 2020), Ed. Board: E.A. Yakovleva et al. (Izd-vo "Znanie-M", Voronezh, 2020), pp. 455–460, DOI: 10.38006/907345-73-7.2020.455.460
16. Y.I.I. Manko, G.A. Gladkova, Training of low-level personnel for forestry of the Far East in the pre-revolutionary period, *Bull. of the Far Eastern Branch of the Russ. Acad. of Sci.* **1(203)**, 138–147 (2019), DOI: 10.25808/08697698.2019.203.1.016, EDN RWIVOA
17. S.S. Morkovina, E.A. Kolesnichenko, T.L. Bezrukova et al., *The concept of development of infrastructural facilities for supporting the innovative activity of entrepreneurial structures* (Nauka-Yunipress, Voronezh, 2015), 194 p., ISBN 978-5-4292-3112-9
18. Y.N. Stepanova, O.A. Netrebskaya, V.V. Manmareva, New tasks of personnel training for forestry, *Actual direct. of sci. res. of the XXI century: theory and pract.* **11(2(61))**, 17–26 (2023), DOI: 10.34220/2308-8877-2023-11-2-17-26

19. B.Ch. Meskhi, M.A. Izotov, Y.S. Knyazeva, T.V. Simonyan, Eur. Res. Stud. J. **19(2)**, 64–70 (2016)
20. E.N. Makhmutova, M.M. Andreeva, T.A. Dmitrenko, Integrat. of Ed. **22(1)**, 91–106 (2018), Retrieved from:
<http://edumag.mrsu.ru/index.php/en/articles-en/77-18-1/621-10-15507-1991-9468-090-022-201801-06>