Economical issues and organization of forestry nurseries

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Abstract. Economical and organization of forestry nurseries in Russian Federation have some particularities connected with a form of property, for the lands belongs to the of forests Fund. Lands of forest Fund are in the state property. For the forestry nurseries land is a basic asset to produce planting materials. State property on forest land in its monopoly form became a breaking factor in the development of market relations in that field of operation. This article gives a brief analysis of demands in a forest planting materials and offers some organizational and economy mechanisms for the adaptation process in that transition period of development of the forest relations.

1. Introduction
Taking in consideration state property for the forest land, organization of deforestation and forest planting now is a set of disordered expensive works and processes, not connected with each other and not linked economically to the harvesting process. All necessary work are expensive as for owners of forests same for leaseholders of forest lands. Quality of the cutting areas is decreasing greatly last years. One of the reason for that is an absence of mutual attention from the state for the seeds process and nurseries activities. There are very few scientific modern researches of the economy issues of forest seed process and forestry nurseries activities and most of them are dedicated to prove scientifically financial based reasons for seed collection and forestry nurseries. However, forestry nursery is a reduced model of forestry production in which all the main factors of production are present.

In practice that leads not only to the degradation of quality and quantity of deforestation indications [1], but also to the destruction of the core of forestry industry - seed production and nursery management.

Imperfection of the legal framework regulating relations in the field of seed production and nursery management automatically leads to inefficient spending of funds in these areas of activity.

Improving the legal framework can serve as a basis for improving the efficiency of nursery management to form a sustainable long-term basis for domestic forestry.

Legislative framework is not the single reason that hinders development in these areas. It is necessary to take into account the degree of development of market relations in these areas of activity, the commercial interest of the forest owner and private business.

2. Methods and Materials
The study used theoretical research methods: analysis of actual data of forest departments, official statistical sources, research results of the Department of forest policy, Economics and management of
the Saint Petersburg state forestry University; statistical methods: grouping of statistical observation materials, sampling, etc.

2.1. Experimental part

The quality of planting material has an important influence on the formation of forest stands before they reach the age of ripeness. Analysis of recent years indicates a decrease in both quantitative and qualitative characteristics of the planting material.

The cultivation of standard planting material for reforestation and afforestation according to Rosleskhoz data from 1988 to 2020 has decreased several times, especially a significant reduction is observed in the southern Federal district.

Most of the current nurseries were established on the lands of the forest Fund before the reform of forestry. According to an earlier study, "according to the Federal forestry Agency at the beginning of 2004, there were 1264 permanent forest nurseries with an area of about 20 thousand hectares. the Largest number (436 units) was located in the Volga Federal district" [1].

Forest nurseries can be considered as a reduced model of forestry. The means of production is land, the difference is in the terms of cultivation.

Despite the only visible "cheapness" of the planting materials (in average 5-15 rubles/young plant), the unit costs (rubles / ha) for its cultivation are almost equal to the costs in forestry, given in a comparable form, taking into account the time factor" [2].

The condition of most nurseries can be assessed as consistently unsatisfactory. This estimate is due to a high degree of depreciation of fixed assets, a large proportion of manual unskilled labor and its low productivity. The high share of overhead costs in the cost of growing planting material indicates that cost accounting is not perfect. These and other reasons indicate the need to look for ways to improve this type of activity.

The reproduction of forests, in terms of reforestation in 2018 in Russia amounted to 954561.9 ha.

The availability of planting material for forest cultivation in 2019 was calculated based on consultations with representatives of the state forestry and data from an earlier study (figures 1, 2). The amount of forest planting material produced is closely correlated with the volume of wood harvesting and the area of forest fires. The histogram data indicates that there is enough planting material to meet the annual demand for it (more than 600 units). planting material per 1 ha of reforestation area). The Leningrad region is a leader in reforestation in the North-Western region [3].

The availability of artificial reforestation in the planting material is about 2.5 thousand pieces of forest planting material per 1 ha. However, a sufficient amount of planting material does not yet indicate its quality and survival of future forest crops.
Figure 1. Estimated demand for planting material in the Federal districts of the Russian Federation in 2019, million pcs.

Figure 2. Estimated demand for forest planting material for the subjects of the Russian Federation of the North-Western region in 2019, million pcs (extrapolated data based on [2]).

The lack of proper economic organization of the nursery has led to the situation in which they work, mainly due to the enthusiasm of their managers, despite the constant restructuring in the forestry sector. The organizational and legal status of forest nurseries sometimes does not allow them to enter into direct contracts with forest users for the sale of planting material – the final product of the nursery [4].

Seed production and nursery farming at the genetic level form healthy plantations and provide in the future with high-quality raw materials for loggers.
A short production cycle, the availability of the final material product can ensure the involvement of commercial structures in the market relations in order to produce planting material.

Since the nursery economy is conducted simultaneously according to the laws of nature and market laws, which are closely related to each other, the economic organization of such an economy has its own characteristics.

Nursery farming requires uninterrupted financing. This is due to the seasonal nature of the forest nursery, the inability to change the agrotechnical terms.

Reorganization of forestry enterprises in 2007 "moved forest nurseries to newly organized production structures in the Federal subjects with different organizational and legal forms (state-owned enterprises, state unitary Enterprises, open joint-stock companies, etc.)" [2]. «The main funds of the former state structures-forestry enterprises were legally assigned to production enterprises, and the land areas under nurseries were transferred to the actual use of these newly created commercial structures" [2].

A forest nursery is an enterprise or a specialized part of it intended for growing forest planting material [2].

According to the current GOST 17559-8, "a forest nursery is an enterprise or a specialized part of it intended for growing forest planting material" [5]. This definition indicates that the nursery is an enterprise, and the purpose of the enterprise is to make a profit. The main means of production of this enterprise is a land plot. The land area for a permanent nursery is from 5 to 30 hectares or more.

Currently, the source of funding for forest nurseries is subventions of the Federal budget and funds of the subject of the Russian Federation received as a result of competitions for the performance of relevant works.

Initially, the Forest code of the Russian Federation (article 25) did not provide for such a type of forest management as growing planting material. Even commercial entities, such as the lessee of a forest plot, were not able to use their forest plot for growing planting material due to forest legislation.

Scientific substantiations of the Department of forest policy, Economics and management of the Saint Petersburg state forestry University on the need to make changes to the forest legislation were successful. Changes made to article 25 of the Forest code of the Russian Federation in 2010 [6] "cultivation of planting material of forest plants (saplings, seedlings)" filled this gap in the forest legislation.

Despite the identical organization of nurseries on forest lands by tenants and government agencies, there are a number of differences that affect the final results of this type of activity (see table 1).

### Table 1. Distinctive features of the economy and organization of the nursery economy.

| № n/n | Features | Economy and organization of the nursery | | |
|---|---|---|---|
| | | State owns forestry nursery | Private owns forestry nursery |
| 1. | Main means of production | land plot of the forest fund | land plot of the forest fund |
| | Form of ownership | federal | federal |
| | Right to use | actual use | rent |
| | Availability of a contract (permission documents) for use | no | yes |
| | Payments for the right to use | no | yes |
| | Source of financing | subventions and profit from sales of products (services) | profit from the sale of forest products (services rendered) |

...
3. The position on the forest market

4. Founders

5. Lobbying by government agencies

6. The pricing of products

7. Nature of prices

|   |   |   |
|---|---|---|
|3. | The position on the forest market | monopoly | competition |
|4. | Founders | state structures | private person |
|5. | Lobbying by government agencies | yes | no |
|6. | The pricing of products | regulated | market based price |
|7. | Nature of prices | monopoly | market based price |

The analysis of features in the organization of the nursery economy, given in table 1, shows that at present the economy of the nursery economy of state structures and private business is different. The parties are placed in an unequal relationship.

The sale of forest nursery products (planting material) is not at market prices, but at regulated prices, through indirect influence of state agencies on their level.

Problems of economy and organization of nurseries have a complex nature, which can be solved by both the state-the owner of forests, and private business – tenants of forest plots. Tenants of forest plots are interested in high-quality and inexpensive planting material. Therefore, today in Russia, large logging companies create their own nurseries.

The economic component of it consists in choosing the model of economic organization of the nursery economy: determination of the order of financing, accounting of costs for production of forest planting material, its implementation, etc. and relationships with tenants. The legal component is the choice of the organizational and legal form of business.

In the context of the formation of forest legislation, it was advisable to preserve forest seed production and nursery farming under the state's aegis. As forest relations develop, it is now necessary to develop a public-private partnership for the creation and production of zoned planting material [7].

3. Results and Discussion

The results of the study showed the absence of market relations in forest nurseries of state structures. The issue of scientific justification of the economic mechanism aimed at maintaining the balance of economic interests of the state and private business in the production of forest planting material remains debatable. Hypothetically, it is possible to offer the production of forest planting material in the framework of a private-public partnership.

4. Conclusion

The conducted research allows us to draw the following conclusions:

• state ownership of forest Fund lands hinders the development of the economy of forest nurseries;
• forest planting material is available in sufficient quantities in the regions of Russia, but its quality is not of interest to either state forest management bodies or forest land leaseholders;
• the production cycle of forest nurseries is a reduced model of forestry production;
• nurseries of state structures by their nature are oligopolies that have monopolized the production and sale of planting material in the regions;
• there is no competition in the production of planting material;
• the use of forests by small and medium-sized private businesses in terms of leasing forest plots does not generate interest in high-quality forest planting material and the creation of their own nurseries;
• large forest businesses have an interest in high-quality forest planting material and creating their own nurseries.

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