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Model of economic organization of the Russian forestry

A P Petrov¹, S S Morkovina²

¹*All-Russian Institute of Continuous Education in Forestry*, 17 Institutskaya street, Pushkino, Moscow region, 141200 Russian Federation

²*Department of Management and Economics of Enterprises, Voronezh State University of Forestry and Technologies named after G.F. Morozov*, 8 Timiryazeva street, Voronezh 394087, Russian Federation

²E-mail: tc-sveta@mail.ru

Abstract. The article presents socioeconomic transformations taking place in the Russian economy that had a direct impact on the economic relations in forestry. Russian forestry is the single branch of the material sector of the economy where market relations are still absent. Long-term budgetary financing of forestry has caused negative consequences. The paper describes an approach to forest management on market principles. Forest leasing system and organization of forest use by tenants of forest areas are considered. As a result practice of forest leasing gives the idea to establish special fund to finance forest reforestation. A model of the economic organization of forestry on non-leased forest lands must be different and based on the public owned forest enterprises. It is proposed that public forest enterprises are to be established as public managers but not owners of forest resources. The long-term practice of forest management by public enterprises in European countries demonstrates its high efficiency, whereas in Russia autonomous and budgetary institutions managing forest are not able to implement in forestry market principles compared to public enterprises. The public forest enterprises have the opportunities to combine capital, labor and forest resources in proper way.

1. Introduction

Europe and North America, with their forest resources, have established forestry and industry that have key role in social and economic development. The value of wood and wood products in the world economy is estimated at more than \$ 400.000 million, or about 2 percent of the gross domestic product of the forestry countries.

Moreover, the share of forest sector revenues in the world economy have increased by an average of 2.5 percent per year over the past few decades, and by 2060 value of roundwood in the world will reach \$ 11.2 billion [1].

United Nations European Commission Statistics (UNECE) indicates that in 2010, 61.6% has been allocated to private forests in Europe, and 38.4% to state forests. Forest management has been a hot topic since the 1990s in European forestry [2].

At the same time, forestry is not only a source of forest products and environmental benefits, but it also provides green jobs to employ the rural population [3]. A number of recent studies on this subject have noted significant structural changes taking place in the forest sector on the global level [4]. In this regard, countries are developing political and economic measures aimed at supporting and promoting intensive forest management [5]. The European forest policy sets the following goals:



improving the competitiveness of forest products, protecting the environment and improving the quality of life of the population and ensuring coordination and interaction between forest business, state and population [6, 7].

The forest sector in North America and Western Europe is under influence of permanent changes in the structure of production, demand, supply and trade [8]. Also these changes include the impact of bioeconomics and bioenergy to production structure and infrastructure opened new opportunities for diversification [9]. Further changes in the structure of investments have increased financial attractiveness of developing countries to develop forest sector and decline in demand for traditional forest products - paper and paperboard. Finally, there is continuing economic downturn in Western European countries, and its impact on the structure of forest industries has increased.

At the same time, considerable attention in European forests is paid to environmental management [10]. Forest policy focused on the integrated use of forests is relevant for European countries [11]. Over the years, the advanced countries of Europe and America have formed a flexible system of work with companies and small forest owners [12].

In developed countries of Europe, forest management programs have been adopted and successfully act that support forest business and develop forest management on the one hand and preserve forests to meet current and future needs of people and society on the other [13].

Most of the US forests are privately owned, but hundreds of millions of hectares are publicly owned. In recent years, partnerships have been expanding with stakeholders in making forest management decisions. However, not all the countries with significant forest resources are guided by this policy. One of the dominant ideas among forest institutions that decided to reform/reorganize was to separate policy, regulatory, enforcement, and management functions. In this case, a forest authority, as part of its enforcement functions, supervises how forests are managed, while actual management is undertaken by a separate and independent organization [14]. Therefore, the fundamental principles of forest management when changing the role of forests for the population, business and the state, should be revised.

Development tools are needed for their development in Russia, with its significant forest reserves and high potential. Socioeconomic transformations taking place in the Russian economy have created conditions to improve forest management. The efficiency of timber production and forest use depend on economic organization of the forestry, which should contribute to the productivity of forests growth and their rational use.

The real problem of Russian forestry is the common competence of the Federation and regions based on property rights distribution with corruption risks and failures. At the same time, a wide range of issues, methodological and practical ones, connected with the economic strategy of forest management does not receive conceptual solutions, as a result of shortage of research and education.

2. Methodology of research

The form of ownership has big influence on forestry development [15]. In Russia, the whole forest area belongs to the Federation. The forestry in the Russian Federation presents a single branch of economy where the market relations are absent.

The forestry has lost the own income from forest use in the 30th of the last century. The Soviet Union has replaced the economic relations by the centralized planning system with administrative governance.

Since this time forestry has lost international definition and has been divided into two branches with different administrative subordination on the national level:

- Logging industry with responsibility only to cut forest stands and deliver roundwood to consumers. Logging industry was based on the cost accounting comparing current expenses with timber prices approved by government.
- Forestry itself or silviculture responsible for forest regeneration, growing and protection against fires and pest. Forestry has got the budget financing losing stumpage fee. It means that planning silvicultural cost where covered by budget funding.

Annual volume of silvicultural operations was estimated only by natural indicators (hectares, cubic meters and so on). Under budget financing such economic criteria and indicators as price, cost, net value, profit, rate of interest were absent.

As a result the forestry (silviculture) has no economic tools to estimate the production efficiency and make proper management decisions.

The main principle of market economy to maximize profit was replaced by the administrative budget resources allocation among different silvicultural operations.

Forestry budget financing has been served by the special institution presented by the forest public owned enterprise named “Leskhoz” (specific soviet agency that has no analogues in the international practice of forest management). Leskhoz was established as public financial agent with responsibility to use budget money under its control and to integrate administration control and production activity with exception of final forest cuttings.

However, budgetary financing of forestry has led to negative consequences. Firstly, it is extensive use of forest resources, focused on the involvement of new natural forest ecosystems in circulation and leading to depletion of forests. Secondly, it is low level of development of forest resources (estimated cutting area). In recent years, the estimated allowable cut in the Russian forests was up to 500 million m³, including 300 million m³ in the coniferous economy, its actual performance was slightly more than 40% of the planned volumes. At the same time, there were cuts of the estimated cutting area for coniferous farming. Thirdly, the low level of the investment attractiveness of the industry, coupled with underfunding of the modernization of forestry and forest protection technologies, predetermined the growing imbalance in the processes of forest retirement and reproduction. Only in the last five years the area of forest management in the RF has exceeded the area of reforestation by more than 350 thousand hectares. Fourthly, considerable laboriousness of work in combination with low pay determined the process of outflow of personnel from forestry.

At the end of 80th in the last century the Soviet government recognized this situation as unsatisfactory one and made a political decision to implement cost accounting for silvicultural operations. This new economic approach aimed to establish economic relations in forestry was limited by the small forest area and short period (1987-1991). This economic experiment stopped when the Soviet Union disappeared. Unfortunately the Russian Government has not supported above mentioned idea to bring economics into forestry. The economic and institutional situation in forest sector changed greatly at the beginning of 90th due to forest industries privatization. Private forest industries and government holding the rights of public forest ownership became partners. This public-private partnership was legally approved by forest law as forest leasing in 1993. Government delegated some property rights in accordance with leasing longterm agreements to private business under forest leasing.

In the beginning the lease holders have got the access to forest resources only for wood harvesting, but not for forest management. Silvicultural operations on the land under leasing were accomplished by the public owned enterprises (leskhozes) at the account of budget funding. Later Forest Code 2006 has legally forced the lease holders to manage forest with responsibility for silvicultural operations [16].

Forestry has got the chance to establish market relations with private industries and to finance silvicultural operations at the account of forest income from forest use (leasing fee).

Unfortunately the relations between government agencies and lease holders are still regulated not by economic instruments, but by administrative methods. Private business is under double financial burden: lease holders simultaneously pay leasing fee in accordance with the rates approved by the government and silvicultural cost.

In this work we have analyzed the process of forest land leasing in Russia from 2010 to 2016. The sites of the Federal Forestry Agency have been used as an information source. Questionnaires have been used to determine the satisfaction of entrepreneurs with the results of reforms in the forestry of the country. Information letters with the application of questionnaires and a proposal to take part in the study have been prepared for the study and sent (including sending e-mail). The method of expert

assessments has been used in order to systematize the results of the survey of forest users and to establish dissatisfaction with the implementation of reforms in forestry.

3. Results and discussion

At the current stage of management, the potential for the use of forest resources in Russia is estimated at \$ 10 billion per year. It should be noted that the figure is comparable to the receipt of revenues from the sale of oil and gas.

As of January 1, 2016, the total area of the lands of the Russian Federation on which the forests are located amounted to 1184.1 million hectares, while the forestry business is the main element in the commercial use of forest resources. According to the Federal Forestry Agency on 01/01/2016, there were about 74.8 thousand lease agreements (figure 1) [17]. The total area of leased forest areas was 237.7 million hectares, which is slightly more than 20% of the total area of the forest fund. Further, 2.4 thousand of forest plots with a total area of 14.1 million hectares have been granted for permanent (unlimited) use.

It has been established that the life cycle of enterprises in forestry is short according to a survey of forest users. 30% of the respondents surveyed noted a one-year period of the company's life when they were asked about the period of operation of the enterprise. Enterprises with a life cycle of 5 years or more occupy 12% of the respondents.

28% of respondents called forest management to be unprofitable activities, and only 8% indicated the presence of significant profits. The existing forest management system does not suit 69% of the respondents. At the same time, only 3% of the respondents used state support measures on a regular basis. 80% of respondents believe that the reason for the deterioration of the financial condition and low attractiveness of the forest business is reforestation obligations as a result of logging.

The consequence of these reasons is the fact that the institute of leasing forest areas has been in a state of stagnation in recent years.

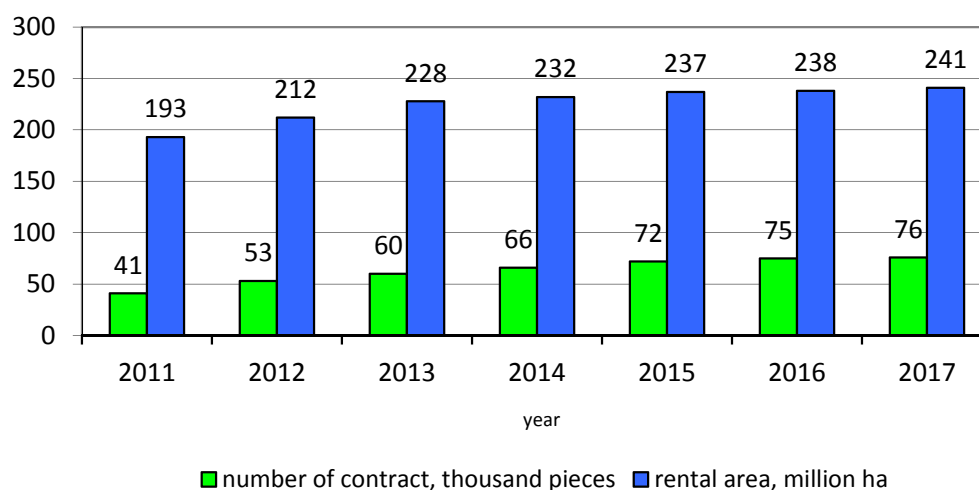


Figure 1. Dynamics of the number of contracts and the area of leased land [17].

In order to involve leasing relations into market system the property rights must be allocated between agencies and lease holders in the following way:

- Government agencies approve the legal regulations with establishing of silvicultural output and services as a final production result (for example, young stands of required density and species composition),
- Lease holder accomplishes silvicultural operations under consulting and supervision of regional forest authorities in accordance with forest management plan as appendix to leasing

agreement. Sometimes it is more profitable to invite the contractors presenting small business to cut forest and regenerate cutting area for lease holder.

Government agencies admit to silvicultural output and services in accordance with silvicultural and ecological standards and pay them. Prices for silvicultural output and services are regulated by the leasing agreements. The need for annual forest planting in Russia is 900 thousand hectares.. At the same time, the bulk of reforestation, including artificial reforestation, is carried out by tenants of forest areas [18].

As young people move to the forest area, they must pay for forest products from a special fund for reforestation financing. The holder in accordance with the lease agreement performs logging and reforestation. Currently, in Russia the rent is paid in full to the state budget. To motivate holder to perform high-quality reforestation work, financial support is needed (figure 2).

We consider it expedient to use the part of the lease payments for forest management for the formation of a reforestation financing fund. Figure 2 demonstrates management actions and financial flows under market organization of leasing. In accordance with forest law regional authorities establish Forest regeneration fund that belongs to forestry. If the above mentioned proposals are implemented into practice, logging and silvicultural operations will become economically and biologically integrated providing effective combination of forest land, capital and labor.

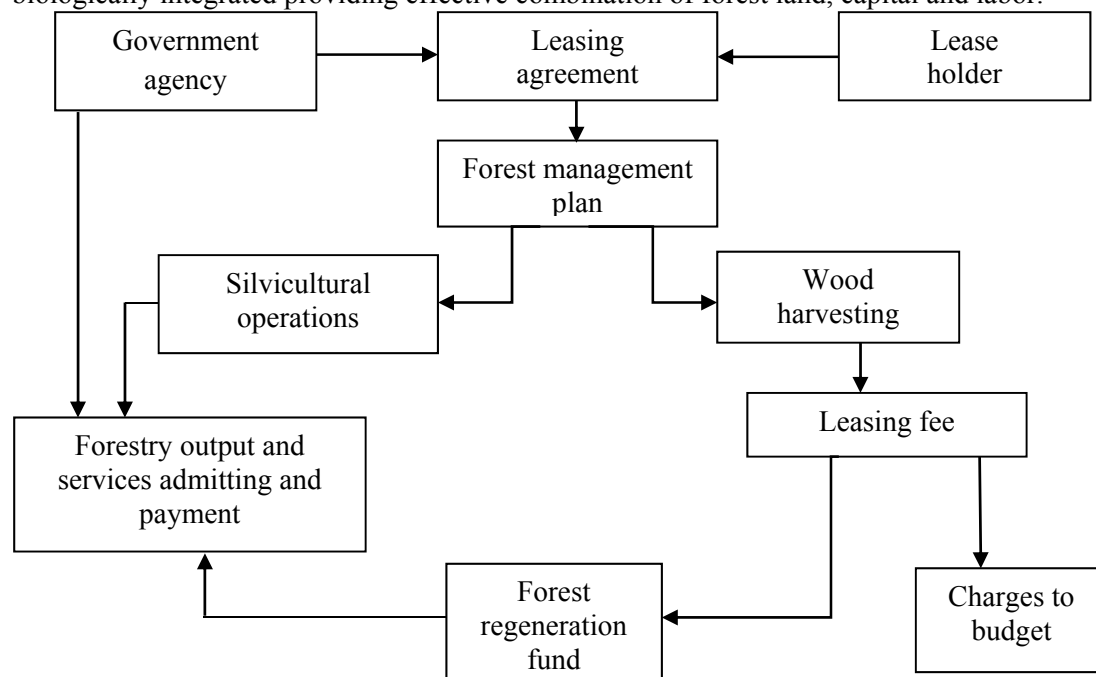


Figure 2. Forestry market organization scheme in the areas under leasing.

Due to objective and subjective reasons, the total area of Russia's forests, which is possible for exploitation, is almost 50% of the area covered by forest vegetation by the main forest-forming species.

Therefore, in the near future, it is not possible to expect an increase in the number of tenants of forest fund plots. In this regard, the primary task for the forestry of Russia is the definition of the mechanism of forest management and forest use in areas of the forest fund not leased.

This new approach (how to bring forestry into market system) is suitable only for forest area under leasing that amounts to 10-12 % of the whole forest land. It is necessary to establish public owned forest enterprises as holders (but now owners) of forest land for the rest of forest area.

Existing practice of sustainable management of public forest in the European countries demonstrates very high efficiency of this tenure system.

There is a different practice of organizing forestry production on the basis of autonomous and budgetary institutions in the Russian Federation. These organizational and legal forms of management are not able to implement market principles in forestry production for a number of reasons. We believe that there is an urgent need to replace (on a legal basis) existing autonomous and budgetary forestry institutions with state-owned enterprises that carry out all types of economic activities in the forest.

Figure 3 presents economic model of forestry in the area not transferred for lease.

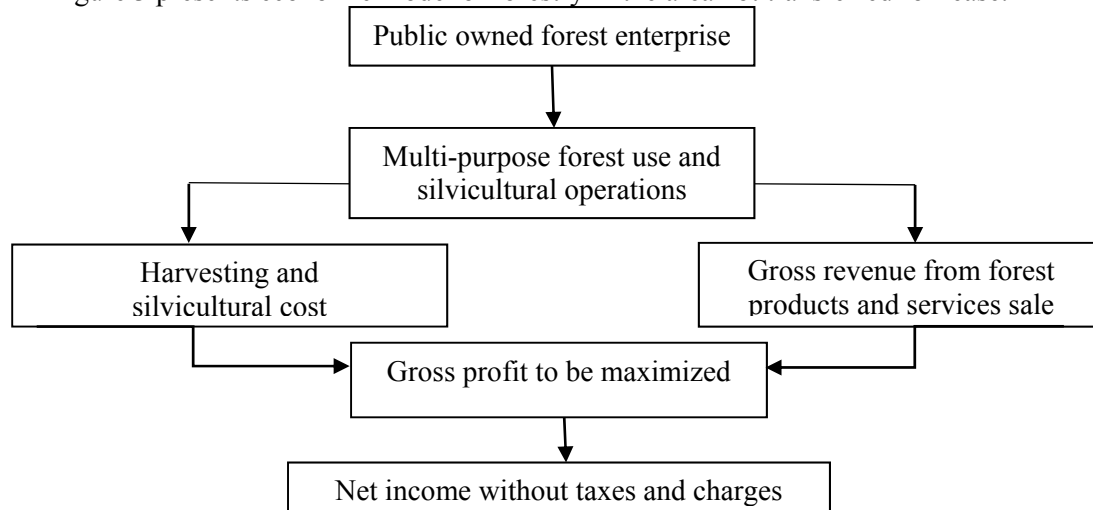


Figure 3. Market organization of forestry in non-forest areas not transferred for lease.

There is urgent political task to replace acting public owned silvicultural institutions which are free of rights to cut forest by enterprises responsible for the whole production.

These enterprises are be oriented to produce the highest income from multi-purpose use of forest delivering forest products and services to domestic and export markets.

It will be prohibited to manufacture the industrial wood following the antimonopoly legislation for public enterprises. Harvested round wood must be delivered outside to support the competition with private companies leasing forest in timber market. The public enterprises have big opportunities to increase profit using unpriced forest resources of social an ecological value such as recreation, tourism, hunting, wild berries and mushrooms procurement.

The enterprises have to pay direct and indirect taxes and special forest payments and tariffs. The public enterprise must have the same legal and normative rules as private business to get access to markets of capital and labor inside and outside of the country.

Government agencies have to supervise the activity of forest enterprises in the same way as they do it as applied to private business. The forestry will be motivated to sustainable forest management and priority development when the multi-purpose use of forest and silvicultural operations will be integrated.

4. Conclusion

This article lays the foundation for a deeper understanding of state forest management in Russia. Forest management involves the development and implementation of a system of measures regulating the impact on forests and aimed at organizing multipurpose, continuous, sustainable forest management, reproduction, improvement of the species composition and quality of forests, their protection and protection, preservation of the environmental and ecological functions of forests, their biological diversity. It is necessary to take into account the experience of forest management in Europe to effectively reform forestry in Russia. A close correlation has been established between the organization of forest management and the development of the forest business, including the attractiveness of forest use.

There is a significant difference in the management of forests on leased and non-leased land.

It is necessary to ensure fair distribution of forest income among the participants of forest relations on leased forest lands, taking into account economic, social and environmental value of forests. This is possible with the support of forest users and creation of conditions to reduce business risks and profit. It is necessary to create a specialized fund for financing reforestation as an alternative to the obligations of tenants for reforestation.

It is necessary to create state-owned forest enterprises focused on forest income from the multipurpose use of forests and the preservation of forest ecosystems for future generations on the lands which are not leased. The State Forest Enterprise is the most effective form of organization of forestry in Russia, which ensures economic activities in state forests on market principles. Different forest management models should be used to ensure a balance between forest conservation and their use.

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