

## PROBLEMS AND PROSPECTS OF DEVELOPING FOREST COMPLEX OF VOLOGDA REGION AS A METHOD OF IMPROVING ECOLOGY

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The article presents the role of forest complex that represents a totality of types of activity and production in the sector of land business area. The work studies problems of forest complex of Vologda region, reveals system of rules and principles, designed for efficient management of it, draws our attention to social-economic development of the region, explains the growing significance of regional investment fund of innovative development of forestry. One of many directions of regional investment fund is broadening the scale of forest replenishment via mutual funding of important programmes and projects that are realized through private companies within the frame of state-private partnership and include intensive forestry activity. In long-term perspective quality and productivity of forests can be improved through optimization of income and costs of forest management. The result of our research is the suggested algorithm of Fund creation. We also conclude that a number of unanswered questions remains, and they refer to provision of mandate fulfilment at regional level and creation of optimal management structure, implementation of federal forest supervision and enforcement of law legislation. Nowadays improvement of existing forestry legislation and normative acts bears a special significance. It is important to ensure timely preparation, qualification improvement, and re-training of forestry staff, attraction of young specialists.

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Vologda region is one of the richest regions of Russian Federation. Forests of the region are significant for economic development not only the region itself, but also fulfilment consumers' demand in terms of Union and export of wood. Close proximity to major consumers of wood production – forests with deficit, located in Central, Southern, and Western economic region pre-defined the priority of Vologda region in implementing measures, aimed to improve usage of forests and labour productivity. This fact requires further, more specific study research of these forests, their function, reconstruction, and usage in terms of establishing a clear orientation of forestry towards basic parameters of its management in both short- and long-term perspective [3].

Social-economic development of the region is closely related to broadening and regional management of natural resources, the main one of which is wood. In terms of wood provision the region occupies one of the leading positions in Russia.

Vologda wood processing complex consists of wood procurement, wood processing, and cellulose-paper industry.

Forest resources cover 11,7 million ha, it forms 81% of the region surface, including pure forests in the area of 10,03 million ha, or 69,4%.

At the region territory lands are protected by natural territories – 121 thousand ha, and lands of defense and security – 62,9 thousand ha, the share of forest areas in land fund of the region forms 1,3 million ha. The total area of

forest fund under jurisdiction of ministry of forest complex of Vologda region forms 11,5 million ha, including lands, covered by forest standings – 9,8 million ha [4].

According to their purpose forests of Vologda region are divided into protective and exploitation:

- The area of protective forests forms 1781,0 thousand ha (15,5% of the total area);

- The area of exploitation forests forms 9692,3 thousand ha (84,5% of the total area). Overall standing deposit in the region equals 1614,2 million m<sup>3</sup>, including deposits of ripe and overgrown standings – 1062,7 million m<sup>3</sup>.

According to the prevailing species, territories, covered with forest are divided in the following correlation:

- Prevalence of pine – 2226,4 thousand ha, 386,8 million m<sup>3</sup>;

- Prevalence of spruce – 2799,3 thousand ha, 430,4 million m<sup>3</sup>;

- Prevalence of birch – 3676 thousand ha, 591,5 million m<sup>3</sup>;

- Prevalence of asp – 961,1 thousand ha, 182,1 million m<sup>3</sup>.

Apart from the mentioned species, the largest forest masses are presented by osier, black alder, grey alder, masesen, and cedar. Mature and grown gardens prevail in age groups – 48,8% of territory, covered with forest, the youth forms 19,8%, standings of middle age – 19,4%, and 12% is formed by sprouts [3].

Forest industry of the region plays a significant role in volumes of production in forestry of North-Western federal district.

A number of measures provided for decrease in number of illegal cuttings. In comparison to 2017, number of illegal cuttings dropped by 17%, and amount of damage decreased by 51%, and amount of damage – by 25%. The work, aimed to prevent illegal cuttings, will remain a priority in 2019.

Forest industry complex is being developed constantly and occupies the leading positions among regions of Russia. The level of main product output increased last year.

The product of forest complex occupies the third place in totality of region's export and is exported to more than 50 countries of the world [1].

A positive dynamic in production growth is registered in wood processing industry.

The amount of timber production formed 1,7 million m<sup>3</sup> (+6%). Technology of chip production increased by 11%. 389,6 thousand m<sup>3</sup> of technological shiver was produced.

In 2017 production of HDF plates grew by 12%, chipboard plated – by 6%, fuel brick cakes – by 66%.

Production of glued plywood remained at the same level as in 2016 – 345,2 thousand m<sup>3</sup> (99,9%). An insignificant decrease is related to the implemented modernization of existing productions at the leading plywood combines of the region (JSC “CFMK” and NAO “SVEZA Novator”) [2].

By the end of 2018 17,7 million m<sup>3</sup> of wood was procured (112% in comparison to 2017).

According to the report of forest complex department of Vologda region, in 2018 production of wood in the region grew (by 6,2%), and production of plywood grew by 3,9%. Income, generated by forest sector and credited to budgets of all levels, formed 4,3 billion rubles. From it, federal budget received 775,62 million rubles which is 110,15 million rubles more than in 2016. Investments in budget of the region equaled 662,15 million rubles, a 267,69 million growth in comparison to the previous year.

This growth can be achieved with the high power of Vologda forest-industrial complex through implementation of large investment projects, development of the existing enterprises, and their operation in foreign markets.

Production of forest complex occupies the third place in region of export and is exported to more than 50 countries (Finland, Estonia, Egypt, Germany, Sweden, etc.)

With purpose of developing deep wood processing and creation of work places the department works actively with potential investors to create a new, modern wood processing company.

Vologda region occupies the first place in Russia in number of priority investment projects in the area of developing forests. Totally in Russian Federation the registry of priority investment projects includes 148 projects, 22 of them are realized at the territory of Vologda region. Total amount of investments, assigned for priority projects in the area of developing forests, forms 16,2 billion rubles, actually invested – 16,1 billion rubles.

Nine projects are realized and acknowledged by Ministry of industry and trade as finished: JSC “Cherepovetskiy FMK” (two projects), LLC “LDK № 2”, JSC “Sokolskiy DOK”, LLC “Kharovskiye lesy”, LLC “BioLesProm”, NSC “SVEZA Novator”.

Seven projects of total value equaling 3,9 billion rubles completed their investment stage and began exploitation of all production objects, implied by concepts of investment projects.

In order to implement projects forest masses were selected, their annual estimated area forms 5,1 million m<sup>2</sup> per year.

In 2018 federal budget received 1333,2 million rubles, by 464,3 million rubles more than in 2017. Budget of Vologda region equaled 123,5 million rubles. Growth by 321,6 in comparison to the level of previous year. Local budgets of municipal formations of Vologda regions received 15,6 million rubles.

On the whole, income from forest complex in 2018, credited to budgets of all levels, equaled around 6,0 billion rubles.

Total investments into forest-industrial complex of the region in 2017 equaled 1002,6 million rubles, a 10% growth in comparison to 2013. At the same time, 86,4% of the investment was directed to forest procurement and wood processing enterprises, and only 13,6% of the total investment amount was directed to cellulose-paper and forest-chemical production.

Export of wood products, its volume and structure have a significant influence upon financial results of forest complex. Amount of NGL products export in 2017 equaled USD 214,8 million, and it exceeds the level of 2013 by 33,4%. During recent years export shifted towards increase in supply of products with higher level of added value. Thus, in 2017 share of round wood in currency revenue equaled 13,8%, and in 2013 – 61,9%.

Production of forest complex occupied the third place in the export region, and it is exported to more than 50 countries (Finland, Estonia, Egypt, Germany, Sweden, etc.). In order to develop deep wood processing industry and create new work places, the department works

actively with potential creative investors at the territory of Vologda region to create new, modern wood processing company.

Vologda region occupies the first place in Russia in number of priority investment projects in the area of developing forests. Totally in Russian Federation the registry of priority investment projects includes 148 projects, 22 of them are realized at the territory of Vologda region.

Total amount of investments, assigned for priority projects in the area of developing forests, forms 14,4 billion rubles in 2016.

In 2016 a law on forest usage was accepted in Vashkinskiy forestry station at the area of 116,7 thousand ha that was subsidized from state budget, and at the leased area of 130,5 thousand ha, which damaged occupants. Measures of forest management are implemented according to principles of state-private partnership at account of state budget and forest fund occupants (without leasing of territories at state account, and leased areas at account of forest fund occupants). On total, in 2018 forestry works at the territory of 390,6 thousand ha were carried out at account of occupants [5].

During the recent 5 years average annual growth rate for the whole forest-industrial complex equaled 219%, and labour efficiency – 6,7% [4].

A huge influence upon increase in labour efficiency have dynamic and quality of main production funds, as well as fulness of usage of productive assets. Thus, wear of major funds by types of economic activity by the end of 2018 equaled:

- In forest procurement – 59,5%;
- In processing wood and producing objects from it – 31,4%;
- In cellulose-paper production – 56,0%.

The established amount of annual forest usage in 2018 equals 29,7 million m<sup>2</sup> throughout the region, including pine forestry – 12,6 million m<sup>2</sup>. 875 land sites of the total area of 6,5 million ha were leased, including 486 sites of the total area of 6,3 million ha for wood procurement. The established annual amount of wood procurement by forest sites, leased for wood procurement, equals 17 million m<sup>2</sup> (57% of the estimated region's cutting area).

Apart from wood procurement, forests of the region are used for:

- Building and exploitation of linear constructions – 5,58 thousand ha;
- Building of hydroconstructions – 0,074 thousand ha;
- Developing deposits of raw minerals – 0,54 thousand ha;

– Maintenance of hunting grounds – 162,13 ha;

– Recreational activity – 0,088 thousand ha.

Nowadays modernization of major productive funds of forestry enterprises is going on, and it is aimed to attract investments, including that from foreign sources.

Deposits of forest recourses, located in the region, provide not only for fulfilment of current and future demand for wood and projects of its procession on behalf of the region's households, but also expand significantly export of highly-profitable wood products.

Creation of forest cluster is aimed to unite forestry, wood procession, and cellulose-paper industry of the region together with other business subjects in order to increase competitiveness of the region's product.

Territorial-aerial planning and development of the territory allows us to consider national interests, perspectives of developing infrastructure, environment, and natural resources of the territory, transport and trade flows, flows of actives while projecting and constructing new enterprises.

Creation of comfortable zone for development of forestry business in the region provides for realization of large megaprojects, including development of infrastructure of cities and districts of the region, improvement in level of social security.

Improving efficiency of usage of the existing forest resources provides for multiplicative effect in development of mutual areas.

Major functions of the regional level of executive authorities in the area of forest relations between organizations and forest usage consists in protection, preservation, replenishment, undertaking federal state forest supervision (forest protection), federal state fire supervision in forests, maintenance of state forest registry, and investment policy in terms of forest relations.

On the whole, our analysis showed that forest industry of the region is in stable condition, most of the revealed trends are positive. It should be underlined that positive shifts in structure of wood production export remain the most export-directed priority.

Realization of the main objective in development of forest complex within the period up to 2020, as well as requirements of Forest code of Russian Federation in terms of insufficient budget assignments for replenishment of forests and restoration of the basic capital of business subjects in possible at the foundation of state-private partnership.

The objective of this alliance is to realize social and socially-significant projects in all areas of activity (from development of strategic sectors of economy to provision of state services in scale of separate territories or the whole country).

For this we suggest:

1. Creation (refreshment, Refreshment – Monzales, Sokolskiy cellulose-paper combine) of capital investment object, realized in interest of society (carrying out state functions), territorial, city-building, and sectorial development, defensibility, private partnership on terms of contract (for example, provision of state services);

2. Implementation of projects with attraction of private financing of capital investments in full or in proportion to project costs that can be replenished through revenue, received by private partner during commercial exploitation of an object, or paying for service, that is calculate with usage by a buyer, or leasing an object at account of budget;

3. Realization of priority projects in area of processing wood of leaf species, especially at enterprises, involved in forestry business. Today almost all wood processing enterprises of Vologda region are directed towards usage of pine material, at the same time, part of lands under pine standings, continues to decrease, and from the beginning of 2017 it formed only 56,4%, or 56,2% in root deposit. In case of further broadening of powers, assigned for procession of pine wood, a risk of insufficient exploitation of them arises.

Although forest lands are state property, cooperation in preserving forests as ecosystems and raw materials that serves as foundation for industrial enterprises, should be accepted by all participants of forest relations who receive revenue from usage of forests and water resources. Regional investment fund of innovative development of forestry can serve as mechanism of collecting financial actives (further – RIFIF).

One of the directions is broadening scale of forest replenishment through mutual financing of important programmes and projects, implemented by private companies in terms of state-private partnership, that include intensive forestry activity. In long-term perspective quality and productivity of forests can be improved via optimization of incomes and costs of forest usage.

The suggested algorithm of creating the Fund includes three stages. Each stage has its specific purpose, that is fulfilled through certain problems and measures.

We consider that legislation should be amended in accordance with requirements for replenishment. Department of forest complex is forming an initiative group. This group carries out all the work on creation of fund up to creation of non-commercial Directorate.

After making decision on creation of RIFIF, Department of forest complex founds non-commercial organization, designated to manage RIFIF. The Direction manages RIFIF. Members of initiative group can join direction of the fund if they wish. In its activity, the Direction is guided by the Charter and special regulation on the Fund, established by the Department of forest complex. Coordinator of RIFIF fund is the Department of forest complex. Control over formation and usage of the Fund's money is carried out by bodies of financial control. Control over fulfilment of agreements on broadened replenishment of forests can be assigned to the corresponding services of the Department with attraction of independent specialized organizations (forest-management, forest certification, social, and scientific agencies). The fund RIFIF is formed of assignments from revenue, received from realization of wood products by all participants of forest relations that base their activity upon usage of forest resources. Rates of assignments to the fund RIFIF are unified for all subjects, involved in forest sector of economy.

RIFIF should be enriched by concession. It will provide for ability to correct certain disadvantages of leasing relations. It is necessary to review sequence and procedure of providing privileged terms to subjects in process of conducting leasing contracts with them in terms of implementing priority investment projects through conducting additional agreements, directed towards provision of broadened replenishment of forests at the foundation of innovative technologies, with breakdown of periods of forest usage into 5-10 years. In case forest maintenance measures, planned by agreement for every specific period, are not fulfilled, privileges will be rejected.

Projects, directed towards procession of leaf wood, should be supported actively. Managing leaf standings in combination with restoration of cuttings with valuable species will slow down process of change of species. Apart from investment projects, realization of private-public partnership mechanism can be achieved in small business sector at municipal level in form of the agreement between parties on providing services of fulfilling municipal order while sharing the right for produced goods.



According to the conducted contract, municipality (or requester) provides forest area to small business enterprise (or contractor) for usage on condition of sharing the goods at price, defined according to commodity structure of tree standing, taxation deposit, and minimal rate, established for budget assignation. The contractor bears responsibility of fulfilling municipal order of producing assortment, defined by the requester (or other consumer) at market price. The difference between minimal rate and market price of resources can be returned to municipality from RIFIF. Introduction and balanced development of innovative system of managing the whole forestry activity does not solve efficiently problems, related to storing and broadened replenishment of forests as an object of property, problems of stable forest usage, and receive economically-explained maximum amount of services and products from each hectare of forest. The cost of measures: the cost of fund creation, consisting of 3 members with total wages equaling 100 thousand rubles per month. Every month the money, earned for introduction of innovations, will exceed costs of the fund maintenance. Thus, monthly budget of the region

can be complimented (1 contract will cost a minimum of 50 thousand rubles). By the moment of conducting 10 contracts per month, total income will form 500 000 rubles. Measures, aimed to increasing efficiency: increase of budget through introduction of RIFIF can be used for forest replenishment.

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