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### **SUSTAINABLE FOREST MANAGEMENT OF BELARUSIAN FORESTS IN ACCORDANCE WITH EUROPEAN STANDARDS**

There have been fulfilled sustainable forest management in Belarus. Criteria and indicators of sustainable forest management have been developed in Belarus according to European standards. Ministry of Forestry has confirmed and introduced both technical codes of standard practice (TCP) for different types of forestry activity and main requirements of technical codification system – technical standard acts (TCA).

**Introduction.** Forest and forest resources are an important renewable natural resource of Belarus, one of the main factors of environmental and economic security of the country.

Forests cover 39.1% of the country area and constitute 9.47 million ha with total standing crop of 1.6 billion m<sup>3</sup>. Uneven age structure of forests (young growth occupies only 19.2% of the forested area where middle-aged stands prevail - 47.4%), irrational forest species composition (37% of the area is covered with broadleaved species), imperfect economic relations in forest management and pricing for forest products are the main reasons of non-sufficient income forestry.

Forest policy of Belarusian State is aimed at rational use, conservation and expanded reproduction of forest resources. It is based on international principles and agreements on sustainable management and protection of forests, conservation of biological diversity, implementation of forest economic, ecological and social functions (Strasbourg, 1991; Helsinki, 1993; Lisbon, 1998; Vienna, 2002) [1].

Helsinki process is a continuous political process of development and implementation of principles, rules, criteria and indicators for sustainable forest management and forestry development. At the first conference of Ministers devoted to the Protection of Forests in Europe (Strasbourg, 1990) and the second one (Helsinki, 1993), agreements on European forests have been worked out.

Helsinki resolutions approve joint responsibility of European countries for international UN Conference decision concerning Environment and Development (UNCED) of forests in Europe.

Resolution H1 - general principles and regulations for forest management in Europe.

Resolution H2 - general rules for conservation of forest biodiversity in Europe.

Resolution H3 - cooperation and cooperative system in forestry of such countries undergoing transition period to market economy.

Resolution H4 – strategy of long-term European forest adaptation process due to climate change.

Then, at Lisbon conference in 1998, there have been developed and adopted criteria and indicators

for sustainable forest management. At the meeting of Ministers of forestry in Vienna (2002) there have been adopted additional agreements on social functions of forests, conservation of natural monuments, especially valuable forests, and so on.

Belarus has been actively involved in European processes of sustainable forest management and forest certification gradually moving to market economy.

Sustainable forest management in Belarus presumes target management and utilization of forests and forest lands as a whole and at a level aiming at forest productivity improvement, their environmental sustainability, multipurpose, continuous and nonexhausting forest exploitation, preservation of landscapes and biodiversity of forests and their environmental, economic and social functions performing in global, national and local scales without causing damage to other ecosystems.

Ecological approach of sustainable forest management provides ecological safety for forestry and environmental protection, environmental hardening of forests to adverse factors, conservation of landscape and biological diversity forests, transition to environmentally oriented forestry management.

Economic approach to sustainable forest management assumes economic and ecological balance of rational use of forest resources, expanded reproduction of forests, development of rental profit (land, environmental, forestry) from exploitation of forests and forest resources, continuous and sustainable forest management, forest conservation, and protection of their social functions, ensuring economic safety of forestry and sustainable management, the transition to market economy and self-financing in the forestry sector.

The social aspect of sustainable forest management provides ecological safety and protection of forestry and environmental protection, improving the sustainability of forests to adverse factors, preservation of landscape and biological diversity, the transition to environmentally oriented forestry management.

Sustainable forest management is implemented considering criteria and indicators, scientific knowl-

edge, experience and assessment of possible effect on forest ecosystems, legal and regulatory acts, rules and recommendations for forestry management.

In accordance with European Council resolutions, criteria and indicators there have been developed criteria and indicators for sustainable forest management in Belarus [1]. They include: development of forest resources; increase in productivity of forests and their contribution to the global carbon cycle; maintaining a healthy forest and strengthen their protective functions; conservation of forest biological diversity; development of social and economic functions of forests. System of criteria and indicators for sustainable forest management and utilization ensures preservation and protection of forests, forest management in accordance with ecological, economic and social requirements stipulated by international agreements, laws of the Republic of Belarus, standards of sustainable forest management.

**Main part.** Fundamental standard setting criteria and indicators for sustainable forest management and utilization in Belarus is the state standard "Sustainable forest management and utilization. Fundamentals." [2]. Sustainable forest management and utilization in our country is carried out in the framework of international and European processes involving the Republic of Belarus, and is based on compliance with the relevant provisions of the UN Convention on biological diversity.

Sustainable forest management and utilization is carried out by legal person responsible for forest management and forest utilization on a voluntary basis in cooperation with the Ministry of Forestry of the Republic of Belarus.

Requirements for forest management providing high productivity and stability of forest ecosystems, increasing their biological diversity, minimizing or elimination of negative effect on environment from forest production, inexhaustibility of forest utilization, cost efficiency of forest production and its social orientation are stipulated in 1360 STB, STB 1361, STB 1582 STB 1592 STB 1625 STB 1627 STB 1688 STB 1715.

Based on the STB 5.1.10-2002 «National system of certification in the Republic of Belarus. Subsystem of forest certification. Fundamentals», Ministry of Forestry approved and put into operation technical codes of standard practice (TCP) for different types of forestry activity ( 38 in total): TCP 047-2009 (02080) "Instructions for in the Republic of Belarus", TCP 143-2008 (02080) "Rules for logging in the Republic of Belarus " TCP 060-2006 (02080) "Rules for allotment and taxation of cutting areas in forests of the Republic of Belarus "and others. All the technical normative legal acts are distributed to enterprises (forestry) performing forestry management. TCP 198-2009

(02080) determines application order of technical regulations in the organizations of the Ministry of the Republic of Belarus.

Technical codes (TCP) is used in practice by incorporating their requirements into technical documentation, as well as in the development process, production, operation, storage, transportation and disposal of products.

Application of TCP and STB in the system of the Ministry of forestry is fulfilled according to the principles of coordinated actions of all departments.

Methodical guidance for execution of works concerning TCP application in the system of the Ministry of Forestry is carried out by councils and departments of the Ministry of Forestry, republican parent organization for standardization in forestry sector - UE "Belgiproles" and appropriate departments of GPLHO.

The head of organization as well as main specialists are responsible for the use of technical standard acts (TCA) according to their activity profile. If a manufacturer or supplier of products voluntarily used TCA, declared his products being confirmed to it and used conventional signs of this document, or if the products of supplier or manufacturer are certified to TCA correspondence, they ought to comply with necessary requirements.

Control over the use of TCA in the organizations of the Ministry of Forestry is conducted by Gosstandart authorities, the Ministry of Forestry experts, UE "Belgiproles", appropriate GPLHO. In forestry control over the use of TCA is carried out by master forester, chief engineer, standardization and metrology engineer getting involved appropriate specialists (engineer for forest crops, forestry, and so on).

At the same time, species and age structure of forests of Belarus has significantly worsened. In 1933, mature forests covered 27% of forested area. In view of significant overcutting of periodic yield, are of mature forests of the Ministry of Forestry had been decreased forests to 2.4% by 1988.

The main forest forming and sustainable wood species is Scotch pine. In 1978 almost 60% of the forested area was covered with Scotch pine, and birch forests in 1945 accounted for only 12.1%. Currently pine forests occupy 50.2% of the forested area, and that of birch - 23.2%.

**Conclusions.** 1. In Belarus, sustainable management of forests and forest utilization is fulfilled in correspondence with international and European standards. There have been developed criteria and indicators for sustainable forest management on the basis of European resolutions, criteria and indicators. These criteria and indicators are used in the national system of forest management of Belarus and when certifying forests and forest production.

2. The Ministry of Forestry of the Republic of Belarus approved and introduced into operation technical codes of standard practice (TCP) for different types of forestry activity.

Technical normative legal acts are developed involving all interested parties in accordance with the requirements of technical regulation and standardization of the Republic of Belarus. All TCA and TCP are provided to forestries to be used in practice.

Methodical guidelines for execution and coordination of works concerning TCP application in the system of the Ministry of Forestry is carried out by councils and departments of the Ministry of Forestry, UE "Belgiproles" and appropriate departments of State Industrial Forestry Association.

Developing the state standards and normative acts in forestry sector of the republic there have been fulfilled the requirements for the system of setting of output rates and standardization TCA, providing possibilities to verify standards with participation of all interested parties in correspondence with existing legal acts and technical regulations.

3. In the structural units of the Ministry of Forestry, forestries and forest enterprises insufficient work has been done in order to study and control the use of TCA and TCP in of forestry practice. On the boards of the Ministry of Forestry there have been pointed out violations of Cutting rules, reforestation, forest protection and conservation, calculation and selling of wood.

4. It is necessary to strengthen control over observing the requirements of TCA and TCP. Centers of engineering processes should be specified in job descriptions and spheres of action of the appropriate officials.

### References

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