

# The Role of Afforestation in the Lithuanian Environmental Protection Policy

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Protection and establishment of forests as well as sustainable use and management of forest resources is the source of environmental, social, and economic benefits. Increase in the forest cover of Lithuania is a highly important objective of the Lithuanian forest and environmental protection policy. Our state adhered to the international initiatives and processes related to environmental development and is actively engaged in cooperation with European and other countries of the world, with an intent to ensure the sustainable use of natural resources as well as their preservation for future generations. In 1992, Lithuania signed the Rio Declaration on Environment and Development as well as the Resolutions adopted by the Ministerial Conference on the Protection of Forests in Europe in Strasbourg (1990), Helsinki (1993) and Lisbon (1998). In 1996, Lithuania ratified the Convention on Biological Diversity. Lithuania is an active participant in the Baltic 21 process, which means the cooperation of the countries of the Baltic Sea region in the field of environmental development. Sustainable forest management and protection have become an inherent part of the present-day environmental protection and essential principles of the forest policy.

As per January 1, 2001, the percentage of forest area in Lithuania amounted to 30.9 %. Among the three Baltic States, Lithuania is currently the least afforested country (47 % of the territory of Estonia and 43 % of Latvia are covered with forests). Over the recent 8 years, the forest cover of the country has increased only by 0.8 %. The increase was conditioned by the changed forest inventory procedures as well as natural afforestation of meadows, pastures, and arable land. The issue of the increasing of the country's forest cover is fairly complex, as it requires the coordination of the landscape management, preservation of natural and cultural heritage and social issues. According to the data of the State Land Survey Institute, the low fertility land (up to 32 fertility points) in Lithuania, which could be afforested, amounts to about 600 000 ha. With a view to more reasonable use of the land that is not suitable for agricultural activities as well as the vacant state land fund, the planned increase of the country's forest cover is 2-3 %.

Furthermore, over the recent decade, plenty of abandoned and uncultivated areas have emerged in Lithuania. It is often the case that not only unproductive lands with poor soils, but also fertile areas remain uncultivated. The reasons for such a situation are that land holding areas are frequently too small for efficient agricultural activities, the majority of landowners are not interested in farming, they lack farming experience and skills and reside in towns far from their land holdings. Therefore, afforestation could be among alternative activities. I would like to mention a few reasons, why such activity is of benefit to the society.

The establishment of forests in agricultural areas is a gain for **the protection of biological diversity**, since new forests extend the areas available for the country's specific flora and fauna species, especially when established with native species and using "nature friendly" methods. In the territories with sparse or even poor biological diversity (for example, vast agricultural areas with one or two valuable habitats), new forests would provide conditions for biodiversity improvement. The afforestation could be used to connect the existing isolated forest patches thus allowing free migration of flora and fauna species and establishment of more viable populations. Besides, some sensitive habitats such as large wetlands or meadows may be protected by planting forests around them, as the use of pesticides and fertilizers, capable of having an adverse impact on habitats, is lower in forestry than in case of intensive agricultural activities.

On the other hand, it is important to note that afforestation, from a biodiversity point of view, should not mean 100 % forest cover in an area. In individual cases, afforestation may be unacceptable, as it may damage the biological diversity of other ecosystems. Afforestation of open and natural ecosystems such as wetlands and meadows would mean the destruction of such ecosystems and their valuable species.

Forests play an important **recreational role**, as forest is a fairly stable system providing a great number of possibilities for different forms of recreation. Pine-forests, which are the most popular for recreational purposes, account for about 40 % of the entire forest area in Lithuania. They prevail in Varėna, Lazdijai and Trakai districts. Protected areas, which are attractive to tourists and where organized tourism activities are developed, are mainly established in the territories with rather large forest cover. A great number of the Lithuanian population (over 68 %) reside in large towns, therefore, it is important to have sufficient green network areas close to towns. Afforestation is particularly meaningful around large towns with scarce forests in the surroundings, as it improves recreational possibilities of town inhabitants. In the long run, forests could also increase the general recreational value of the area.

Over the last decade, **the carbon accumulation role of forests** has become more important. The United Nations Framework Convention on Climate Change and Kyoto Protocol provide that the global warming can be noticeably reduced by investing into afforestation of the areas not used for agricultural activities, increasing the number of natural strict reserves and allocating more funds for the maintenance of the existing forests. Thus, the forest sector plays a highly important role in regulation of the carbon cycle balance, concurrently reducing the so-called greenhouse effect and the global climate warming. Pertaining to the mentioned international agreements, the larger

the forest cover of the country, the more rights could be granted to it for the so-called emission of gas causing the greenhouse effect. Therefore, the establishment of new forests will strengthen the country's negotiation positions and increase its possibilities to develop industry and other sectors related to the carbon dioxide emission.

Nearly all drinking water in Lithuania comes from underground water-bearing levels. Naturally, underground water is of good quality and requires no major treatment before use. However, in the areas with intensive agricultural activities, the concentration of nitrates in groundwater is significantly higher than normal and some of its indicators are very close to the highest allowed concentration levels. Ground water is used by over 1 million of the Lithuanian population. Shaft well water exceeds the allowed nitrate concentration in about 40 % of cases and microbiological rates – in 60 % of cases. The use of pesticides is very low and fertilizers are hardly used in forestry. Therefore, afforestation of the areas where dispersed pollution has effect on groundwater quality would serve as an **effective underground water protection measure**.

There are about 6,000 lakes of natural origin in Lithuania with a total area of approximately 900 km<sup>2</sup>. Apart from the natural lakes, there are about 3,400 artificial lakes such as pools and ponds in Lithuania. To a certain degree, all these water bodies experience anthropogenic load primarily originating from agricultural activities, promoting water quality deterioration and eutrophication. The water body research showed that a third of the lakes were eutrophic and about 15 % of them were intensely eutrophic. **Forest plantations around water bodies** retain surface and soil water flow from the surrounding fields, soil and organic particles carried by it as well as dissolved chemical substances washed out from mineral fertilizers and toxic chemicals. Besides, forest stands reinforce and prevent the soil erosion of steep banks of water bodies. Afforestation is an effective measure for **reduction of wind and water erosion**, also if assessed from the economic point of view, since it requires no intensive care in a later phase (e.g. mowing of meadows and perennial grass is necessary every year).

The main reasons for the low present-day afforestation of Lithuania (over the recent years, forest enterprises have established 2,350.2 ha and private land owners – about 200 ha of new forests) are of legal nature.

Currently existing legislation regulating afforestation on agricultural land does not promote the establishment of forests on agricultural land. The main problem is that, pertaining to Article 31 of the Law on Land of the Republic of Lithuania, afforestation of the agricultural land is allowed only after changing the designated land use type. Another problem is that the Law on Territorial Planning of the Republic of Lithuania provides that in order to change the land use type or land area composition, the owners, managers and users of land parcels must have detailed plans prepared. Preparation of a detailed plan costs to the landowner about 300 LTL/ha. In September of this year, the Ministry of Environment prepared proposals regarding the amendment to Article 31 of the Law on Land. The amendments to this law and Article 17 of the Law on Territorial Planning are necessary in order to simplify the Procedure for Afforestation on Private Land approved by the Resolution No 425 of the Government of the Republic of Lithuania on April 9, 1998.

Within the framework of the Program of the Government of the Republic of Lithuania, the directions of the forestry policy of Lithuania and their implementation strategy are prepared. The preparation of the Lithuanian Forest Cover Increase Program has started this year.

It is necessary to pay great attention to provision of information to the society on afforestation by information dissemination, organization of various awareness raising campaigns, training and cognitive trips to neighbouring countries and also within the territory of Lithuania for policymakers, operating personnel and landowners. In this respect, an especially great contribution has been made by the common Lithuanian/Danish Project "Afforestation of Abandoned Agricultural Land Based on Sustainable Planning and Environmentally Sound Forest Management". Other noteworthy contributors to the promotion of afforestation on agricultural lands are the annex "Giria Žalioji" to the newspaper "Valstiečių Laikraštis" and the Group of Young Forest Friends.

The planned allocation from the European Union SAPARD program for afforestation and improvement of forest infrastructure amounts to 20.5 million EURO for the period 2002-2006. The allocation consists of the European Union funds – 7.7 million, Lithuanian state funds – 2.6 million and private funds – 10.2.