



**SEMINAR ON ENVIRONMENTAL SERVICES AND
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**FINANCING FOR THE PROTECTION AND
SUSTAINABLE USE OF ECOSYSTEMS IN ESTONIA**

Ms Riina Martverk, Senior Officer
Forest Department
Ministry of the Environment
e-mail: riina.martverk@envir.ee

INTRODUCTION

The questionnaire offered to prepare the national report, operates with the concept of payments for ecosystem services. The paper presented is drawn up mainly from the forestry point of view and concerns water, the main topic of the above mentioned workshop. The boundaries between water-related or non-water related ecosystem services are hard to determine. Many activities, like land-use practices for the management of forests and soil, do relate to water issues.

Below, I would like to share our experience that might be relevant and which has helped our country to promote efficient use of natural resources and protect our sensitive ecosystems. There are different regulations and compensation systems in Estonia for stimulating environmentally friendly land-use practices for the management of forests, soil and other sensitive ecosystems, including water-related ecosystems. Current report focuses on the compensation systems for stimulating landowners to use nature-close management practices. Information about environmental taxes has been touched upon only very briefly in this report.

GENERAL INFORMATION

The total area of Estonia is 45,228 sq.km, including 42,398 sq.km of mainland and 2,830 sq.km (6%) of inland waters. Estonia is rich in forests and wetlands. Forests cover 52% of the territory and 20% of the territory is covered by peatlands. The arable area is 6,983 sq.km (16% of the territory), however, 12% of this area is out of production.

Estonia is situated in the temperate zone. The North-Atlantic cyclone belt, locally modified by the Baltic Sea, dominates the climate. It is characterized by rather warm summers and moderate mild winters. The vegetation period lasts 170-185 days, the period with an average

temperature above +10 degrees lasts 120-130 days. The climate is humid, especially in the coastal regions.

The topography of Estonia is flat, being situated between 0 and 317 meters above sea level, with the hilliest part of the country in the southeast. The average height is about 50 m above sea level.

The landscape and the climate in Estonia have favoured the formation of mires, which form one of the dominating elements of the landscape. There is also a rather dense network of rivers and a large number of lakes. The density of rivers and streams on the territory of Estonia is 0.72 km/sq.km and the number of lakes with an area over 0.1 ha is more than 1,500.

The population of Estonia is 1.4 million. Population density is 31 persons/sq.km in average. The population density is very uneven, as 69% of Estonian population lives in urban areas.

Today, due to low population density and rather low economic intensity the state of the environment in Estonia is quite good. The legal framework which regulates the sustainable use of forests, wetlands and soils as well as their protection against pollution is of great help.

ENVIRONMENTAL FEES

Environmental fees have to be paid in Estonia for the right to use all the main natural resources belonging to the state and for releasing pollutants and waste into the environment. Environmental fees have been implemented in Estonia already since 1991, but so far the positive impact of the fees on the environment has been insufficient as the rates of the fees have been too low. The new **Environmental Fees Act** will enter into force on 1 January 2006 and will make provision for increasing the rates so as to contribute to environmental protection much more efficiently than before.

In essence, environmental fees are pollution charges and charges for using natural resources. Pollution charges are payable for waste disposal and for releasing pollutants from stationary sources into ambient air, groundwater, water bodies or soil. Fees for the right of use are payable for mineral rights, special use of water, fishing right, regeneration cutting of standing crop and for the right to use hunting districts.

The estimate of total amount of fees for pollution in 2005 is as follows: EUR 13,166 for waste disposal, EUR 11.389 million for releasing pollutants into ambient air, EUR 2.831 million for releasing pollutants into groundwater, water bodies or soil.

The estimate of total amount of fees for using natural resources in 2005 is as follows: EUR 6.954 million for mineral rights, EUR 5.835 million for special use of water, EUR 1.278 million for fishing right, EUR 10.418 million for regeneration cutting of standing crop and EUR 0.415 million for the right to use hunting districts.

The environmental fees shall be used to fund projects and measures, which are associated with environmental protection, preservation of biological diversity, environmental monitoring, waste management, and research or renewal of natural resources.

COMPENSATION SYSTEMS FOR STIMULATING ENVIRONMENTALLY FRIENDLY LAND-USE PRACTICES

Many economic activities are depending on ecosystem services. Forestry makes a significant contribution to the Estonian economy by creating employment and providing forest-based products and services for local consumption and export. The forest ecosystem services used to

be undervalued and had been considered free. The understanding, that timber represents only a small proportion of the total value of forest ecosystems, has rapidly grown since the 1990s. Today the Estonian forest policy first recognizes that the Estonian forests have high environmental and ecological values, including biological diversity and landscapes, natural stand structure, etc., the existence of which contributes to alleviation of environmental problems both at local and global levels. Forests play a significant role, providing different kinds of ecological, economic, social and cultural values. They are essential for the long-term well being of local populations, national economies, the maintenance of all forms of life and the earth's biosphere as a whole. Forest policy is closely linked with environmental, agricultural and rural development policies, industry, energy and other sectors.

The main factors for using payment for nature-close land-use practices

1. The land-use practices should be considered valuable (from both economic and, ecological as well as social aspects).
2. There should be a demand for those practices, as basis for natural values trading.
3. There should be a legal framework for payments for nature-close land-use practices.
4. The areas in need for nature-close management should be inventoried and mapped.
5. The topic requires wide public discussion, as it concerns a wide range of stakeholders.

Characteristics of forest and meadow ecosystems favourable for compensation payments

The main factors in Estonia that make position for getting compensation are activities supporting the protection of the state of the environment and conservation of biodiversity.

In frames of different programmes and projects the characteristics of ecosystems favourable to establishing payments for maintenance or nature-close management have been described. According to the parameters the mapping of areas with high value has been carried out. Some examples of projects for measuring and registering habitats and ecosystems considered to be valuable for using payment for ecosystems services are presented below:

- **Standard stand-type inventory of forest data** has been carried out for decades in Estonian forests, primarily to establish forest management plans. In management plans also water protection forests with management restrictions are described. The first water protection forests were established in 1945. According to the current Forest Act water protection forests are situated on the shores and banks, near springs, in the areas with pressured ground-water, in infiltration areas as well as at drinking water intakes. An annual survey of all forests important for water management is available in a detailed table format in the forestry yearbook published by the Ministry of the Environment.
- **Inventory and mapping of woodland key habitats** (*a forest area with a high probability of non-accidental occurrence of an endangered, vulnerable, rare or care demanding habitat specialist species*) was carried out in all Estonian forests in 1999-2003. Many of Woodland Key Habitat types are water-related, for example: steep slopes of rivers and lakes, glide slopes of rivers and lakes, stream banks, low banks and floodplains of river, floodplains of stream, shores of a temporary water-body, spring-influenced areas etc. The concept of key habitats is formulated in the Forest Act. The protection of woodland key habitats is based on a contract between the state and forest owners.
- **Inventory of forest protection areas** and the development of the Estonian Forest Conservation Area Network was carried out in 1999–2002. Criteria for the inventory were harmonized with the Natura 2000 principles. In all the proposed public forest areas of high environmental value the managers have interrupted forest management activities; at later stages the protection will mainly be based on the Nature Conservation Act. The target set in the Estonian Forestry Development Programme is to increase the area of strictly protected forests to 10% of the total forest area. Altogether more than 7% of the forests are

- currently (2005) under protection.
- **Mapping of Natura 2000 network areas** with evaluation of the existing conservation values and the need of habitat restoration work. As stipulated in the EU Birds and Habitats directives, the Natura 2000 network of bird and nature protection areas has been established. Areas for the Natura programme are selected from among the existing protected areas, important bird areas (IBA), Ramsar areas, areas of the Estonian Forest Conservation Area Network, protection-worthy wetlands, and forest and meadow associations. The main work was done in 2001-2004. Protection of the Natura 2000 network areas will mainly be based on the Nature Conservation Act.
 - Ongoing **inventory of semi-natural areas** hosting communities of natural biota (*such as wooded meadows, wooded pastures, alvars, paludified meadows, fen meadows, coastal meadows, flooded meadows, meadows in river valleys, dry meadows, grasslands on mineral soils, which have developed in the course of long-term human activity, such as grazing or mowing*) was started in 1999. In frames of the inventory the existing values and the need of maintenance and management is being estimated. The concept of semi-natural area is formulated in the Nature Conservation Act. Protection of semi-natural areas is based on a contract between the state and landowners.

Social aspects

Throughout the Soviet period the nature conservation and protection in Estonia was considered far more important than raising funds through timber felling. It was believed that each tree people managed to conserve demonstrated their loyalty to Estonia. The focus switched dramatically after Estonia regained independence and resources were required to back the Estonian economy and the national forest industry needed raw material. Head foresters, having played the role of a forest manager had to change it for that of an auctioneer. This fact emphasized the need for the state to develop an advisory and compliance system. The Ministry of the Environment began to look for foreign partners to assist in the development of forestry. As a result of the cooperation with Nordic governments it was soon clear in Estonia that sustainable forest management would not be possible without taking the nature conservation values into consideration. Today the Estonian forest policy first recognizes high environmental and ecological values of Estonian forests.

The intensification and specialisation of agriculture in the Soviet period led to serious environmental problems such as water pollution, soil degradation, loss of natural habitats and traditional agricultural landscapes. Since the beginning of 1990s, the negative impact of agriculture on the environment (e.g. water pollution) has somewhat decreased as the production volumes have gone down. However, many problems have remained and new problems arisen, such as abandoning of agricultural lands, which in its turn allows the spreading of weeds; open agricultural landscapes are overgrowing and valuable semi-natural landscapes are disappearing. As economic conditions improve, the negative impact on the environment increases again. For example, the use of plant protection products and mineral fertilisers is increasing again and may bring about water pollution and decrease in biodiversity unless environmentally friendly modern technologies are applied.

One of the reasons for the aforementioned problems is the low environmental awareness of foresters and farmers and their failure to consider environmental protection aspects when planning production.

There is a need to keep in mind that sustainable management has three pillars: environmental, social and economic. At planning the entire landscape system with multiple demands should be taken into account. Any management restriction requires wide-scale public discussions, as it concerns a wide range of stakeholders. Since the payments for stimulating environmentally

friendly land-use practices started, public awareness in Estonia has improved. Public discussions and supporting systems are slowly leading to established nature-close management.

LEGAL AND CONTRACTUAL ASPECTS

Institutional Framework

The **Estonian national strategy for sustainable development “Sustainable Estonia 21”** is a strategy for developing the state and society up to 2030. Sustainable Estonia 21 establishes an overall framework for long-term sustainable and balanced development of the state and integrated development of the social, economic and environmental spheres. The strategy specifies the development objectives and general activities.

In Estonia the Ministry of the Environment has the leading role in preparing the environmental and forest policy and the corresponding legislation. Since the beginning of the 1990s important steps on the way towards sustainable development were the elaboration of the **Sustainable Development Act** approved by the Parliament in 1995, and the **National Environmental Strategy** approved by the Parliament in 1997. To implement the Strategy the **Ministry of the Environment** launched a detailed **National Environmental Action Plan**.

The positions fixed in the **Estonian Agriculture and Rural Investment Support Programme for 2000–2006** (the **Rural Development Plan**) and the **National Development Plan for the Implementation for the EU Structural Funds – Single Programming Document 2004-2006** provide the list of rural development measures.

The Ministry of the Environment launched the **Estonian Forestry Development Programme** with the principal task of formulating the **National Forest Policy** in 1995 already. The Estonian Forest Policy was approved by the Parliament in June 1997. The long-term objectives of forest management are fixed in the document.

In order to implement the Forest Policy, the Ministry of the Environment decided in 1999 to launch the elaboration of the **Estonian Forestry Development Programme** for a ten-year period. After the Parliament’s approval in 2002 the document gained the status of an official sustainable development strategy for the Estonian forest sector.

Legal/Regulatory Framework

The **Act on Sustainable Development** establishes the principles of the national strategy of sustainable development and provides the framework for the sustainable use of the natural environment and of natural resources.

The **Forest Act** provides the framework for sustainable forest management. According to the Act, different production and environmental functions and goals, as well as social aspects of sustainable forest management have equal priority.

The **Nature Conservation Act** provides the framework for nature conservation and management of protected areas in Estonia, including the protected forest area network.

The **Planning Act** provides guidelines for regional planning, including the identification of areas reserved for potential afforestation, recreational areas and areas of high environmental value.

Examples of compensation systems established within the aforementioned frameworks

- **Agri-environmental support**

A premium for agri-environment is granted on the whole territory of Estonia. The premium is paid for the following activities: organic production, raising horses of Estonian breed,

implementation of the techniques of good plant production practice, environmentally friendly management, renovation and maintenance of stone walls, planting of hedgerows of different species, building and maintenance of ponds or wetland areas, and maintenance of arable land that is out of production.

Some examples of agri-environmental support:

Environmentally Friendly Production Scheme

Estonia has supported the Environmentally Friendly Production Scheme since 2002.

The objectives of the Environmentally Friendly Production Scheme are:

- raising farmers' awareness of the environmental value and environmental impacts of their farms;
- encouraging the farmers to use environmental planning;
- reducing the risk of water pollution posed by plant nutrients, maintaining soil fertility, and improving the aesthetic value of agricultural landscapes.

As a result of the implementation of the measure, environmental awareness of the applicants will increase and the adoption of environmental planning and introduction of environmentally friendly farming practises will contribute to the maintenance and enhancement of the overall environment of an agricultural enterprise.

The amount of support for the Environmentally Friendly Production Scheme for arable land (except permanent grasslands) is EUR 45.63 ha/year. The amount of support for the Environmentally Friendly Production Scheme for grasslands (except temporary grasslands) is EUR 21.15 ha/year.

Organic production support

Organic production support payments have been made all over Estonia since 2000.

The objectives of the activity are:

- to support the development of organic production as a nature-friendly method of production and to satisfy the growing demand for organic products;
- to support and increase the competitiveness of organic farming.

Since organic production support payments were first made in Estonia, the area under organic crops has increased by about 10,000 ha every year. This growth rate is expected to continue in 2004–2006, meaning that 70,000 ha of land would be used for organic production in 2006. The output of organic products and their relative share should also increase noticeably. Implementation of the activity will reduce environmental and health risks from using mineral fertilisers and plant protection products and help to maintain the soil fertility and biodiversity. Support payments for organic production will be made in three groups depending on the type of crop:

- for permanent and natural grasslands, per ha of which there are at least 0.1 LU in the enterprise and at least 50% of these LU are reared organically, the amount of support is EUR 73.91/ha;
- support for grains, legumes, industrial crops, potatoes, black fallow and short-term grasslands is EUR 96.89/ha;
- support for open field vegetables, fodder vegetables, medicinal and aromatic herbs, and fruits and berries is EUR 240.54/ ha.

- **Premium for afforestation of low-grade agricultural lands**

The support payments for afforestation of low-grade agricultural lands have been made all over Estonia since 2005.

The support is provided for afforestation activities (purchasing forest reproductive material, planting and soil scarification) and for tending of thicket (improvement of the daylight and nutrition conditions).

The objective of the activities is to reduce the area of low-grade arable land that is out of production. The measure is aimed at better land use.

The amount of support for afforestation activities is EUR 882/ha and for tending of thicket EUR 77/ha.

- **Premium for reforestation**

The support payments for reforestation of clear-cut forest areas have been made all over Estonia since 2000.

The support is provided for purchasing forest reproductive material, for reforestation activities (sowing of forest seed, forest planting or fostering of natural regeneration by soil scarification) and for tending of thicket (improvement of the daylight and nutrition conditions).

The objective of the activities is to contribute to maintaining the biological diversity, productivity, capacity and vitality of forests as well as their potential to fulfil ecological, economic and social functions both now and in the future.

Support payments for reforestation of clear-cut forest areas are covering up to 70% of all aforementioned expenses. In 2004 the amount of support payments made for purchasing forest reproductive material was EUR 183/ha, for reforestation activities EUR 55/ha and for tending of thicket EUR 76/ha.

- **Nature management support**

The nature management support for management and restoration of valuable semi-natural grasslands started in 2001. Since then ca 18,000 hectares of semi-natural areas are managed or restored every year.

The objective of the activities is to preserve biodiversity and cultural and esthetical values of semi-natural areas.

The amount of nature management support for management of semi-natural grasslands is EUR 64/ha and for restoration of semi-natural grasslands EUR 192/ha.

- **Woodland key habitat protection support**

The Forest Act states that woodland key habitats on private land should be protected through contracts between landowners and the state. The first woodland key habitat protection contract with a private owner was concluded in 1999.

The key habitat protection contracts are long-term contracts and are made for at least 10, but mainly for 20 years.

The main objective of key habitat protection contracts is to save the forest biodiversity in commercial forests. An average allowance is 64 EUR/ha/year.

CHALLENGES FOR IMPLEMENTATION

The Estonian Forest Act establishes management restrictions for protection forests. These are the forests designated for the protection of the state of the environment, including water environment. The water protection forests are situated in limited management zones on the shores and banks, near springs, in areas with pressured groundwater, in infiltration areas as well as at drinking water intakes.

The width of limited management zones on the shores and banks shall be:

- 1) 200 meters on the shores of the Baltic Sea, Lake Peipus, Lake Lämmijärv, Lake Pskov and Lake Võrtsjärv;

- 2) 100 meters on the banks of lakes and reservoirs with an area of more than ten hectares, rivers with a catchment area of more than 25 square kilometres, brooks, artificial recipients of land improvement systems, canals or water ducts;

- 3) 50 meters on the banks of lakes and reservoirs with an area of up to ten hectares, rivers with a catchment area of up to 25 square kilometres, brooks, artificial recipients of land improvement systems, canals or water ducts, except for drainage ditches and main sewers,

and springs.

In all aforementioned areas the objective for protecting forests is the protection of the water and soil, and the preservation of suitable conditions for recreation. To assure the protection and sustainable use of ecosystems in relation to water, special forest management regimes have been established for protection forests.

Clear-cutting is not permitted within the limited management zones on shores of the Baltic Sea, Lake Peipus, Lake Lämmijärv, Lake Pskov and Lake Võrtsjärv.

According to the Forest Act in the management of the remaining water protection forests:

- the width of a clear-cut shall not exceed 30 m and the area shall not exceed 2 ha;
- the area of a shelterwood cutting area shall not exceed 10 ha.

All described management restrictions are provided in the current Forest Act and shall be followed to avoid penalties. Regulations like this are not accepted in the Estonian society nowadays. For approved decisions public discussions are needed, strategies and regulations should be societal oriented.

Currently, elaboration of a new Forest Act is underway in Estonia. Discussions have led to a decision that the management restrictions in protection forests must be compensated for landowners. In the draft Forest Act the financing of the protection and sustainable use of forests in relation to water management (protection forests) is foreseen. The exact rules for payments have not been established yet. As the seminar on environmental services and financing for the protection and sustainable use of ecosystems held in Geneva on 10-11 October is discussing the same topics Estonia is working on today, it is of great assistance to our work to participate in the seminar and learn of valuable international experiences.

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