

# Trends in Marketing of Non-Market Forest Goods and Services in the Baltic States

IMANTAS LAZDINIS<sup>1</sup>, ROBERT MAVSAR<sup>2</sup>, GERHARD WEISS<sup>3</sup> AND MARIUS LAZDINIS<sup>4\*</sup>

<sup>1</sup>*Faculty of Strategic Management and Policy, Mykolas Romeris University of Lithuania, Ateities 20, LT-08303 Vilnius, Lithuania*

<sup>2</sup>*European Forest Institute, Mediterranean Regional Office – EFIMED, Pg. Lluís Companys, 23, 08010 Barcelona, Spain*

*EFI PC INNOFORCE, Innovation and Entrepreneurship in the Forest Sector, c/o Institute of Forest, Environmental and Natural Resource Policy, Department of Economics and Social Sciences, University of Natural Resources and Applied Life Sciences, Vienna (BOKU), Feistmantelstraße 4, A-1180 Vienna, Austria*

<sup>4\*</sup> *Corresponding author: Unit Bioenergy, Biomass, Forestry and Climate Change, Directorate General for Agriculture and Rural Development, European Commission, B-1049 Brussels, Belgium. E-mail: marius@bmm.lt*

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## Abstract

This study focuses on the forest sectors of the three Baltic States – Estonia, Latvia and Lithuania. It aims to acquire summarized information on the state-of-the-art in the field of valuation of and compensation for non-market forest goods and services in the Baltic States as well as on the perceived potential developments in this field in the future. This study is a part of a larger research exercise commissioned by the European Commission and carried out in the 27 Member States of the European Union in 2008.

First, based on literature review, we provide a brief overview of theoretical aspects of classification of financing mechanisms. Then, using survey we acquired information from national forestry authorities regarding the state of forest goods and services and compensation for provision of non-market forest goods and services in the Baltic States. Finally, also using survey as well as the follow-up expert interviews we learn about the potentials for marketing of non-market forest goods and services in Estonia, Latvia and Lithuania.

Our study indicates that in the Baltic States, as well as in the EU overall, biodiversity protection, climate regulation, carbon sequestration, and water regulation functions of forests are viewed as the most important non-market forest goods and services and their importance is seen to be increasing. The results also show that so far there are only few well functioning mechanisms financing provision of non-market forest goods and services. In this context, the issue of valuation also receives very little attention. We conclude that despite the existing interest, it is quite unlikely that there would be a strong increase in the use of financing mechanisms for provision of non-market forest goods and services in a foreseeable future in the three Baltic States.

**Key words:** Forestry, Forest management, Valuation, Financing mechanisms, Non-market forest goods and services, Baltic States

\*\*This draft manuscript represents solely the views of its authors and can not in any circumstances be regarded as the official position of the Commission.

## Introduction

The relationship between humans and forest experienced a significant change since the early 19<sup>th</sup> century. Fossil fuels replaced wood as a source of heat; wood in construction started being substituted with other materials, such as concrete and steel; game and other edible forest produce were gradually replaced with cultivated food products. At the same time, with increasingly urbanised societies the demand increased to use forests to satisfy other needs than only those

stemming from direct consumption of resources. Forests started to be considered as providers of environmental and social goods and services (Farrell *et al.* 2000). The urban growth of the mid-1960s took place along with an increasing demand for the use of forests for leisure, recreation, amenity values. Even though today the direct use of forests has decreased, they still provide numerous goods and services (Merlo and Croitoru 2005). Some of these most recently recognized by modern societies as environmental and social forests goods and services are: protection of

biodiversity and landscape, contribution to climate change mitigation, regulation of hydrological flows and control of surface and groundwater quality, maintenance of cultural heritage and sense of identity.

However, while the price for “traditional” forest goods, such as timber, fuel-wood, in many parts of Europe already for centuries has been determined in the market, the environmental and social goods and services are not traded in markets and their real value is mostly unknown. This has a twofold impact. On the one hand, in the absence of markets for these goods and services, forest owners and managers do not receive monetary remuneration and lack monetary incentives. At the same time governments lack the means to motivate and steer the owners to provide them. On the other hand, the majority of these non-market goods and services are, from the social point of view, undervalued in economic terms as they are expected to be offered for free and to various degrees available to all as public goods. Moreover, the absence of monetary values placed on forest goods and services and their free availability, misinforms the users about the value of these services and costs of their provision.

Without a known value and a pricing mechanism for provision of an individual forest good or service or in absence of financing mechanisms compensating a good or service provider for the services, the only available instruments to influence choices and behaviours of forest owners and managers are regulatory mechanisms that install or ban specific practices in uses of natural resources. However, extensive use of regulation and restrictions on forestry practices may lead to reduced economic viability and competitiveness of forestry.

The EU research project on Recreational and Environmental Markets for Forest Enterprises (Mantau *et al.* 2001) presented case examples and possible ways of how to develop markets for forest-related services. A representative survey of forest owners in seven Central European countries showed that forest holdings offer a broad range of non-wood forest goods and services and that there is a significant innovation activity in this field, but the income shares from these products are often still almost negligible (Weiss and Rametsteiner 2005). Innovative case examples for marketing forest-related services exist in Western and Eastern European countries (see *e.g.* Rametsteiner *et al.* 2001, Weiss *et al.* 2007).

On the European level, the issue of non-market forest goods and services has re-emerged during the last few years in a number of policy documents (Council 2005, Commission of the European Communities 2005a,b, Commission of the European Communities 2006, MCPFE 2008). In the context of the Baltic States,

valuation and marketing of non-market forest goods and services have also been considered as an important issue for several years. However, this consideration only goes as far as to focusing on compensating private forest owners for the service of biodiversity conservation (Estonian Ministry of the Environment 1999, Lazdinis *et al.* 2005a,b,c, Lithuanian Ministry of Environment 2006).

Lithuania, as a part of the Action Plan for implementation of the Lithuanian Forestry Strategy 2007-2010, has expressed a commitment to both carry out an economic valuation of provision of ecological and social functions of forests as well as to establish a system compensating forest owners for the economic losses due to limitation of their economic activity in forests of newly established protected areas (Lithuanian Ministry of Environment 2006). Estonia, already in 1999, committed to setting-up a public programme aimed at financing protection of key habitats in private forests as well as using public subsidies to private forest owners to promote those forest management activities, which are meeting the long-term interests of the state (Estonian Ministry of the Environment 1999). The programme has been launched several years later (Lazdinis *et al.* 2005c). Lack of compensation mechanisms for, in many cases compulsory, provision to society of social and environmental forest goods and services has been indicated as an institutional failure by forestry sector actors in Latvia (Lazdinis *et al.* 2005a, b).

The main objective of this study is to acquire summarized information on the state-of-the-art in the field of valuation of and compensation for non-market forest goods and services in the Baltic States as well as on the perceived potential developments in this respect in the future. We focus on two main questions. First we aim at finding out whether the developments on the theoretical aspects of environmental valuation over the last decades have been translated into operational schemes and mechanisms for valuation of and compensation for non-market forest goods and services in Estonia, Latvia and Lithuania. Then we look into the potentials for marketing of non-market forest goods and services in the three Baltic States.

This paper continues with the section on methodology, where we first build theory and propose classification of financing mechanisms to be used. Secondly, we present our approach to the survey and the follow-up in-depth expert interviews applied in this study. We continue with a section presenting results of the survey and expert interviews, which shed the light on state-of-the-art in the field of valuation of and compensation for non-market forest goods and services in the Baltic States as well as on the perceived

potential developments. We finalise the paper with discussion and conclusions, where developments in the region are compared with the overall trends in the EU and potentials for marketing of non-market forest goods and services in the three Baltic States are discussed.

## Methods

This study is a part of a larger research exercise commissioned by the European Commission and carried out in the 27 Member States of the European Union in 2008 (EFI 2008). The research was launched as a response to the issues raised in the EU Forest Action Plan and in particular in the key action 3 “Exchange and assess experiences on the valuation and marketing of non-wood forest goods and services” (Commission of the European Communities 2006) and aimed at acquiring summarized information on the state-of-the-art in field of valuation of and compensation for non-market forest goods and services in the European Union.

In this paper, we provide a more in-depth analysis of the situation in development and marketing of non-market forest products and services in the Baltic States, namely Estonia, Latvia and Lithuania.

First, based on literature review, we address some theoretical aspects of classification of financing mechanisms. Then, we use survey to acquire information from national forestry authorities regarding the state of forest goods and services and compensation for non-market forest goods and services in the Baltic States. And finally, also using survey as well as the follow-up expert interviews we learn about the potentials for marketing of non-market forest goods and services in Estonia, Latvia and Lithuania.

### Classification of financing mechanisms

A large number of typologies have been developed for classifying financing mechanisms. Within policy instruments, they are often categorized as financial, economic or fiscal instruments, alongside with the regulatory and informational instruments (Bemelmans-Vidéc *et al.* 1998, Lazdinis *et al.* 2005c). Economic policy instruments include incentives (Pigouvian) and market approaches (Coasian). The former aim to correct externalities for which no market can be established. They include taxes, subsidies, deposit-refund systems and liability bonds. The latter create market solutions by defining property rights on the externalities. Voluntary agreements, certification systems and cap-and-trade schemes fall under this category. Scholars that work on market-based instruments or “payments for environmental/ecosystem services” classi-

fy them, among other, into: self-organized private deals, open trading schemes, and public payment schemes (Johnson *et al.* 2001, Powell *et al.* 2002); or private payment schemes, cap-and-trade schemes, certification schemes for environmental goods, public payment schemes (Smith *et al.* 2006).

In our study we use a combination of existing typologies with the aim to cover all – public and private – mechanisms. For this purpose we have developed a tri-fold typology of financial mechanisms which follows the above distinction of incentives and market policy instruments but further includes already existing market solutions for goods and services of the forest. It thus distinguishes public (state), mixed (public-private), and private (market) mechanisms. Public financing mechanisms are considered to include pure public instruments of Pigouvian-type and to comprise negative incentives (taxes, fees and charges) and positive incentives (subsidies/subventions). Mixed public-private mechanisms are viewed to cover state interventions that are voluntary, such as public-private contracts, or aim to create new markets for externalities of forest ecosystems, such as tradable permits. These are considered as Coasian-type instruments. Private financing mechanisms are all market solutions developed without any specific public interventions. These mechanisms include the trade of goods and services, purchase or lease of land, sponsoring or labelling and may be used by public or private actors.

Public spending may fall under the first category (in the case of pure subsidies), under the second (in the case of voluntary contracts), or under the third (in the case government purchasing goods, services or land on the market). The difference between the voluntary contracts for certain services and the purchase of services on the market is that contracts under the second category occur in the course of specific public programmes, such as conservation banks, public financing programmes for biodiversity conservation, but the purchases, under the third category are done as single actions, *e.g.* purchase of land for establishing a national park. The theoretical list of mechanisms used in the study is presented in Table 1.

**Survey.** The purpose of the survey was to obtain information about the importance and trends of non-market forest goods and services and the application of financing mechanisms in the Baltic States.

The questionnaire consisted of two parts. The objective of the first part of the questionnaire was to gather information on the relative importance of different types of forest goods and services in Estonia, Latvia and Lithuania. Respondents were asked to rank the relative importance of forest goods and services, which ranged from 1 – not important; to 5 – very im-

**Table 1.** Classification of financing mechanisms used in the study

Type	Mechanism
PUBLIC MECHANISMS	Taxes, fees and charges
	Subsidies
MIXED PUBLIC-PRIVATE MECHANISMS	Public-private contracts
	Tradable permits
PRIVATE MECHANISMS	Trade with goods and services
	Land purchase
	Land lease
	Eco-sponsoring
	Donations and gifts
	Certification

portant, according to their own perceptions about the total benefits forest goods and services provide to the society.

The respondents were presented with a list of 18 forest goods and services (Table 2), which were classified according to the classification proposed in the Millennium Ecosystem Assessment report (MEA 2005) and asked to specify:

- Importance – the importance of a good or service in the respective country in comparison to other forest goods and services;
- Trend of importance – how the importance of a product/service is evolving (1 being constant; 2 – increasing; 3 – decreasing);
- Area – area important for the production/provision of a certain forest good/service in % of total forest;
- Access – the access to the forest good/service public or limited (1 being public; 2 – limited to forest owner; 3 – limited to permit holders).

The aim of the second part of the questionnaire was to produce an overview of financing mechanisms used in the countries. For this purpose, the respondents were asked to name financing mechanisms, relate them to different goods and services, and to indicate the frequency of use.

The questionnaire was distributed to the national forestry authorities through the Standing Forestry Committee at the European Commission.

**Expert interviews.** The expert interviews served to complement to the information from the questionnaire with an in-depth overview of application of financing mechanisms. The interviewees were individuals indicated as contact persons in the returned filled questionnaires.

Generally, the interviews focused on identifying additional examples of financing mechanisms. Besides clarification, several structured questions were asked on the future trends in application of individual financing mechanisms as well as on the main reasons for use and non-use of certain types of financing mechanisms identified in the theoretical overview.

**Results**

**Importance of forest goods and services in the Baltic States.** No significant differences were found between the responses of the three Baltic States regarding the importance of forest goods and services. In all three countries industrial wood and biodiversity protection are viewed as the most important forest goods and services (see Table 2 for details). At the other end of the range are fodder and forage, decorative materials and pharmaceuticals, which are regarded as less important. Furthermore, in Estonia and Lithuania fuel wood and climate regulation were valued as very important, while forests were viewed as playing less important role with regard to sport activities.

**Table 2.** Overview of the importance and trends of importance of forest goods and services in the Baltic States and in the EU

Forest good/service	Estonia		Latvia		Lithuania		EU 27*	
	I	T	I	T	I	T	I	T
RESOURCES								
Industrial Wood	5.0	(+)	5.0		5.0	(+)	4.1	
Fuel Wood	5.0	(+)	3.0	(+)	5.0	(+)	3.2	(+)
Cork	n.r.	.	n.r.		n.r.		1.4	
Food	3.0		2.0		n.a.	.	2.1	
Fodder and forage	1.0		1.0		1.0		1.5	(-)
Decorative materials	2.0		2.0		1.0		1.7	
Hunting and game products	3.0		4.0	(+)	3.0		3.3	
Pharmaceuticals	2.0		2.0		2.0	(-)	1.8	
BIOSPHERIC								
Biodiversity protection	5.0	(+)	5.0	(+)	5.0	(+)	4.4	(+)
Climate regulation	5.0	(+)	3.0	(+)	5.0	(+)	3.4	(+)
Air quality regulation	5.0		3.0	(+)	3.0		3.4	(+)
Carbon sequestration	3.0	(+)	3.0	(+)	4.0	(+)	3.5	(+)
ECOLOGICAL								
Health protection	n.a.		3.0	(+)	3.0		3.1	(+)
Water regulation	3.0	(+)	3.0	(+)	4.0	(+)	3.5	(+)
Water purification	n.a.	.	n.a.		4.0	(+)	3.4	
Soil protection	3.0		3.0		3.0		3.5	
SOCIAL								
Recreation	4.0	(+)	4.0		3.0	(+)	3.7	(+)
Sport	1.0		3.0	(+)	1.0		2.4	(+)
Tourism	3.0	(+)	3.0	(+)	3.0		3.2	(+)
AMENITIES								
Spiritual and cultural services	3.0	(+)	3.0	(+)	3.0	(+)	2.4	
Historical and educational services	3.0	(+)	3.0	(+)	3.0		2.7	(+)
Aesthetic services	5.0	(+)	3.0	(+)	3.0		3.0	(+)

Legend: I – importance; T-trend; n.a.-not available; n.r.-not relevant;“(+)” - increasing importance, no sign - constant, “(-)” - decreasing importance.  
\*the average for the EU-27 Member States is reported (excluding Italy).

**Forest area for the provision of forest goods and services and accessibility to forest goods and services.** Concerning the area for the provision of certain goods or services we again observe similarities between the three countries (see Figure 1). In all cases the entire forest area is viewed as important for the regulation of air quality, climate regulation and carbon sequestration. Industrial wood, fuel wood, hunting and pharmaceuticals are provided by 80% or more of the forest area in the Baltic States. Furthermore, in Latvia all forests are considered as important for biodiversity protection, while in Estonia more than 90% of forests are serving for provision of food (e.g. berries, mushrooms), recreation, sports, tourism and historical and educational services. In Lithuania more than 90% of the forest area is considered as important for the provision of food goods and sport and tourism services.

The access to forest goods and services in general is unlimited and only in few cases may be restricted to forest owners or permit holders. In all three countries the access to forest is limited for the use of wood, fire wood and hunting, while in Estonia also fodder and forage can only be exploited by forest owners themselves.

**Trends of forest goods and services.** Biodiversity protection, climate regulation, carbon sequestration, water regulation and spiritual services are considered as having an increasing trend of importance in all three countries (Table 2). In general the respondents foresee an increasing importance of the majority of non-market forest goods and services. However, also the importance of fuel wood is considered as increasing in the Baltic States, while the importance of forests as providers of industrial wood is seen as increasing in Estonia and Lithuania, in Latvia being constant. Overall, it is expected that non-market forest goods and services will further gain in importance in the future (see Table 2).

**Financing mechanisms applied in the Baltic States.** Information on the use of financing mechanisms was collected by the questionnaire and clarified as well as complemented during the follow-up expert interviews. The summary of financing mechanisms applied in the Baltic States is presented in Table 3.

A number of financing mechanisms facilitating the provision of non-market forest goods and services are almost identical in all three countries. For example, there is free access to most of forests for recreation and tour-

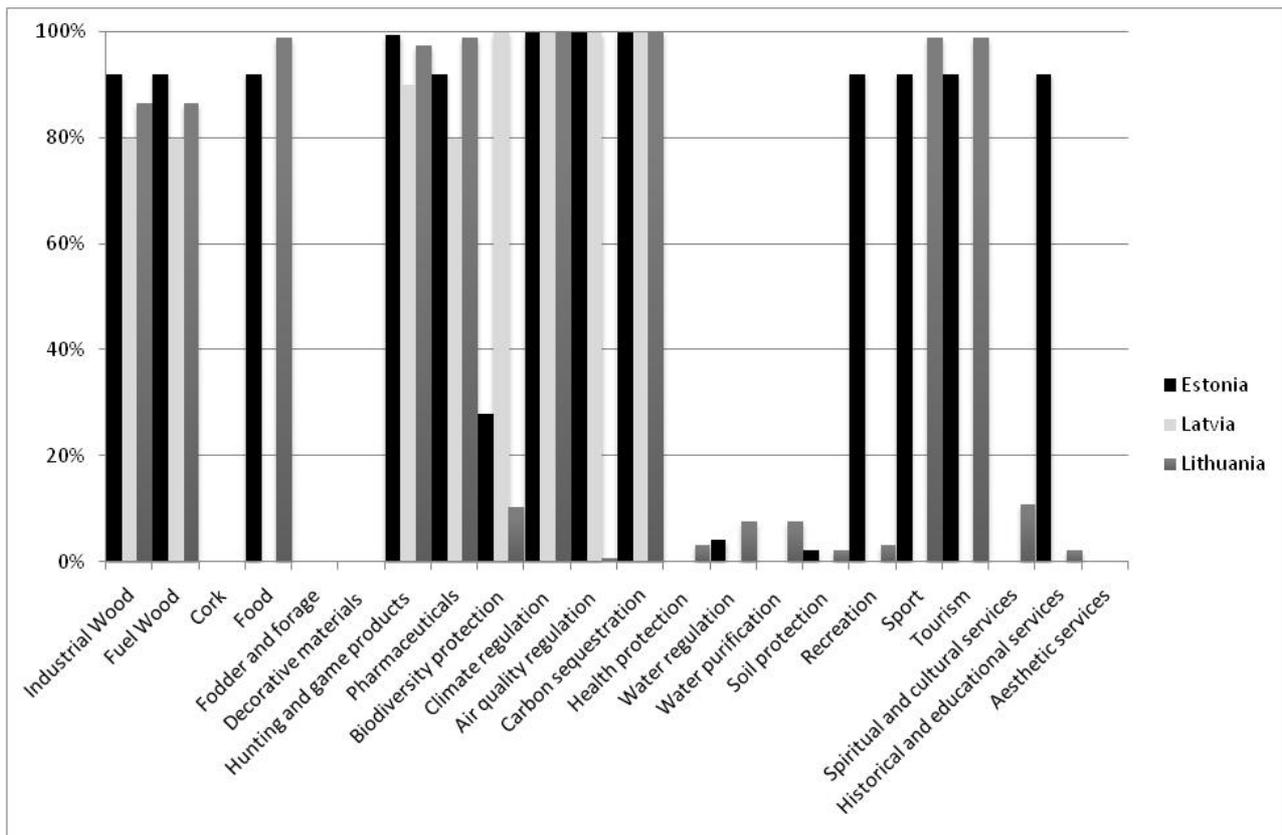


Figure 1. Area important for the provision of forest goods and services in the Baltic States

**Table 3.** Overview of financing mechanisms applied in the Baltic States

Mechanism	Estonia	Latvia	Lithuania
Taxes, fees and charges	No charge for picking mushrooms and berries Forest land tax exemptions in protected areas	Free access to forest Income tax on sold mushrooms and berries Forest land tax exemptions in protected areas Forest land tax exemptions in case of forest regeneration Income tax exemption to private forest owners	No charge for picking mushrooms and berries Absence of forest land tax
Subsidies	Rural development measures Restoration and repair of cultural heritage objects Provision of forest advisory services Development on forest management plans	Rural development measures	Rural development measures
Public-private contracts	Biodiversity protection ("key habitats") Biodiversity protection (Natura 2000)	Biodiversity protection (Natura 2000) Biodiversity protection (national scheme – single payment)	Biodiversity protection (Natura 2000 areas and "key habitats")
Tradable permits			
Trade with goods and services	Hunting permits	Access to privately developed recreational areas	Hunting permits
Land purchase	State purchases private land for biodiversity conservation	State purchases private land for administrative and economic purposes State purchases private land for biodiversity conservation	State purchases private land for administrative and economic purposes
Land lease			
Eco-sponsoring	Provision of recreational sites and tourism infrastructure	Provision of recreational sites and tourism infrastructure by the state	Provision of recreational sites and tourism infrastructure by the state
Donations and gifts			
Certification	Industrial and fuel wood from certified	Industrial and fuel wood from certified	Industrial and fuel wood from certified

ism. Furthermore, forest-related rural development measures and contracts for biodiversity conservation exist in all three countries. All state forests in the three countries are FSC certified, which is contributing to creation of a market for certified industrial and fuel wood.

The publicly funded development of recreational sites in public forests is a form of eco-sponsoring by the state. Examples for eco-sponsoring where forest owners receive money from private actors are not known.

**Estonia**

Tax incentives are used as a financing mechanism facilitating provision of non-market forest goods and services. Generally, forest land tax in Estonia applies to all forest owners. However, in particular cases when possibilities for forest management and income generation from harvesting are significantly reduced or

banned due to the legal forest conservation restrictions, private forest owners are exempt from forest land tax. The exemption is either 100% or 50% depending on the level of restrictions.

In Estonia, public-private contracts seem to be the most commonly used instrument. Two examples of its application are found. The first is financing protection of the so-called "key habitats". This is a national scheme using purely national funding, under which private forest owners are paid for abandoning forest harvesting practices in the areas designated as "key habitats", *i.e.* typically relatively small forest patches (on average two hectares) being of a particular value for biodiversity conservation. The other application of public-private contracts is payments for Natura 2000 forest areas, which is part of the national rural development programme. This instrument uses EU funding, combined with the national co-financing, to compensate private forest owners for abandonment of forest

harvesting activities in the areas designated as part of the Natura 2000 network.

The mechanism of land purchase is also used in Estonia. Under this instrument, the Ministry of Environment is purchasing private forests in order to ensure biodiversity conservation in those forest areas. However, this is not a very commonly applied instrument and is used only in cases when forests are considered being of a very high value for biodiversity conservation.

Hunting permits are another frequently used mechanism in Estonia, applied for marketing of hunting rights.

Under the subsidies, a nationally-funded measure supporting restoration and repair of cultural heritage objects and sites present in forest areas was indicated.

Provision of forest advisory services, to a certain extent being free of charge is also considered as a type of subsidy, enabling provision of non-market forest goods and services. Each private forest owner is entitled to 15 hours per year of free consultation provided by extension agents spread throughout the country. Development of forest management plans could be considered as another financing mechanism, to be placed under the category of subsidies. Under this scheme, the costs of preparation of a forest management plan for the forest holding are reimbursed for all private forest owners, once every ten years.

In the field of recreation, it is reported that the state offers recreation sites and facilities for free. Besides, also a number of private initiatives are known where landscape or forest-related tourism projects provide income to land owners, *e.g.* through music events or theme parks.

### Latvia

Three types of tax incentives are used in Latvia, which may be considered as facilitating the provision of non-market forest goods and services. The first two incentives concern tax reductions or exemptions applicable to forest land. In the first instance, forest land tax reductions are applied in the forests in which commercial forest management is restricted due to environmental considerations. The tax reduction of 50% is applied if clearcutting is not allowed in a particular forest area. Tax exemption of 100% is used when no forest management activities are allowed. The second instance of application of the forest land tax incentive is when the area of just planted forests is exempt from the tax for 20 to 40 years, depending on the tree species planted. This exemption is conditional to the good management of forest. The third type of tax incentive applies to income tax. Private forest owners

are exempted from the income tax on sold wood (once per year) with the condition that they remain in the ownership of the forest for proceeding 36 months.

Related to forest recreation in Latvia, some private businesses exist, which have developed recreational infrastructures in forest areas and are charging an access fee. An income tax in Latvia is charged for sold mushrooms and berries which have been collected in forest. Collection of mushrooms and berries for private consumption is free of charge.

Two types of public-private partnership schemes are present in Latvia and facilitate provision of non-market forest goods and services. One mechanism is designed under the national Rural Development programme for compensating private forest owners for forest conservation constraints in Natura 2000 forest areas. Under this instrument private forest owners receive annual payments calculated on per hectare basis, when some restrictions to forest management are applied. The other scheme is national. Under this mechanism, private forest owner receives a single payment in protected forest areas, depending on the extent of restrictions to forest management due to the conservation objectives. This single payment is based on the estimation of income foregone. However, income foregone is calculated only with respect to the loss in the market value of timber. Therefore, if applied to young forest stands, the compensation is small. This instrument concerns only territories protected by law. For the time being this scheme does not apply to the so-called "key habitats". A private forest owner may not receive compensation from both schemes for the same forest area.

Under the subsidies, in addition to the rural development measures presented in the section below, provision of forest advisory and extension services could be identified. State Forest Service is engaged in providing information to the private forest owners. However, there is no direct obligation expressed in a number of hours of free services.

Land purchase by the state is possible, however due to the difficulties in application may be considered as very rarely employed mechanism. Two types of land purchase by the state may take place. In one instance, the state forestry company "Latvian State Forests" may purchase private forest land, mainly motivated by administrative or economic reasons, which does not in reality facilitate provision of non-market forest goods and services. As the purchase must be approved by a decree of the Cabinet of Ministers, the procedure is time-consuming and is seldom engaged. In the other instance, Ministry of Environment may purchase forest land for conservation purposes. However, this is also rarely applied.

**Lithuania**

In Lithuania, frequently used mechanisms are tax exemptions when forests are exempted from the land tax, eco-sponsoring of forest recreation sites and trade with certified goods, being restricted to industrial and fuel wood. Less frequently applied mechanism is hunting permits.

Public-private contracts/partnerships are still relatively new. Under this financing mechanism, which is one of the measures of the Rural Development Programme, voluntary commitments by private owners are made for the enhancement of biodiversity protection, water regulation, and soil protection. More specifically, two options are possible: either (1) no forest harvesting in designated “key habitats” or (2) use of alternative harvesting techniques in “key habitats” where normally clear-cutting would be applied.

Purchase of forest land by the state sometimes is practiced, subject to availability of funds. State Forest Enterprises are allowed to call public tenders for purchasing private forest land. However, unlike in Estonia, this is not done solely for biodiversity conservation purposes, but rather bearing in mind administrative and economic objectives, thus it can not be considered directly to enhance the provision of non-market forest goods and services.

**Rural development programmes**

Rural development programmes in the three countries contain a number of measures which may be considered as financing mechanisms, most likely to be classified as subsidies, facilitating the provision of non-market forest goods and services. The summary of intended use of forest-related measures in Rural Development Programmes in Estonia, Latvia and Lithuania during the financing period 2007-2013 is provided in Table 4. The relevance in use of individual measures to the provision of non-market forest goods and services would need to be investigated separately. Such an investigation would require substantial resources and reporting on findings would go beyond the space available for the text in this manuscript. Therefore, such investigation is considered outside the scope of this study.

**Future trends in use of individual financing mechanisms**

For Estonia, the highest potential for application of financing mechanism in the future is viewed to be in the form of tradable permits in the context of carbon sequestration (Reinberg 2009). Application of private-public contracts for provision of certain types of services is viewed as the second most suitable prior-

**Table 4.** Use of forest-related Rural Development measures in Estonia, Latvia and Lithuania

	Measure	Estonia	Latvia	Lithuania
Axis 1	Vocational training and information actions, 111	X	X	X
	Use of advisory services, 114	X	X	X
	Improvement of economic value of forests, 122	X	X	X
	Adding value to agricultural and forestry products, 123	X	X	X
	Cooperation for development of new products, 124	X		
Axis 2	Infrastructure related to the development and adaptation of agriculture and forestry, 125	X	X	X
	First afforestation of agricultural land, 221	X		X
	First afforestation of non-agricultural land, 223		X	X
	Natura 2000 payments, 224	X	X	X
	Forest-environment payments, 225			X
	Restoring forestry potential and introducing prevention actions, 226		X	X
	Non-productive investments, 227			X
Axis 3	Diversification into non-agricultural activities, 311			X
	Business creation and development, 312	X	X	X
	Encouragement of tourism activities, 313		X	X
	Basic services for the economy and rural population, 321		X	
	Conservation and upgrading of the rural heritage, 323		X	

ity. Application of individual financing mechanisms is seen largely to depend on the availability of national funding. Continuity is an important factor in application of rural development measures, in particular those with the long-term perspective, such as Natura 2000 payments. Concerns are being raised that under the current EU financial framework the funding has been secured only to the year 2013 (Reinberg 2009). This is viewed to bring uncertainty of whether forest conservation efforts in Natura 2000 areas will continue to be backed by availability of financial resources after that date.

Public-private partnership schemes in Latvia are viewed to have the highest future potential (Silamikele 2009). Law on Public-Private Partnerships provides a framework for extending the application of this mechanism in any area of public administration, including forest management. According to Silamikele, the State potentially may choose to engage in less control of private forest owners and into more trusting relationship, the formal expression of which would be extended public-private partnerships. For the time being, the main constraint for more intense application of this type of mechanism seems to be the lack of resources and awareness in the private sector and, to a certain extent, traditional interest in control function by the state.

Further extension of the application of access fees is viewed as viable and having a potential in the future (Silamikele 2009). More private initiatives in development of forest parks containing recreational infrastructures would probably be welcomed by society and would facilitate the market of recreational services. The largest constraint for development of these markets seems to be competition of the private sector with facilities in the state forests, which are provided free of charge. In spite of the recreational opportunities in the state forests, private recreational sites with an entrance and service fees attract visitors.

Tradable permits are another type of mechanism which is viewed as having a potential in the future, under the condition that existing schemes would be extended to include the trade of harvested wood products, and account for the carbon sink function of forests. However, further developments in this respect remain uncertain.

According to Silamikele, reducing or abolishing taxes could potentially facilitate and foster the trade with forest goods. For example, abolishing income tax for sold mushrooms and berries could probably further commercial use of these forest goods, and could potentially also have a positive impact on the development of new ways of marketing forest services which were not marketed in the past (*e.g.* guided picking tours organised by the forest owner).

In Lithuania, creating conditions for land purchase (private-to-private) is viewed as the most appropriate instrument to be used in the future (Dudutis 2009). Facilitation of more dynamics in the forest land market is perceived to potentially increase the interest of forest owners in active management of their forest estates. Subsequently, this could be expected to raise the interest of forest owners in exploring new possibilities for marketing of a range of forest goods and services. Introduction of the forest land tax is viewed as potentially useful change, which would aid achievement of the above objective. For the time being, in Lithuania, forest land is exempted from land tax, which is viewed as the largest impediment to more dynamics in the forest land market and therefore higher interest in active forest management. This instrument is viewed as having proved to be ineffective (Dudutis 2009).

Public-private partnerships (voluntary environmental protection commitments) with a focus on biodiversity preservation is also considered as a financing mechanism with a high potential for Lithuania (Dudutis 2009). However, due to the recent start of this mechanism it is difficult to estimate its success. It is believed that the main precondition for continuation of this mechanism is the availability of sufficient funds under the Rural Development Programme.

## Discussion and conclusions

Recently the issue of valuation of and compensation for non-market forest goods and services has gained more attention. For example, in 2007, Germany, supported by the European Commission, has engaged in the study anticipated to produce a milestone report on the economics of the loss of ecosystems and biodiversity (The Economics of Ecosystems and Biodiversity 2008). This project aims at promoting a better understanding of the true economic value of ecosystem services and to offer economic tools that take proper account of this value. After the completion of the first phase, the project has reported that for further developing of the economics of ecosystems and biodiversity it is important to: measure the costs and benefits of ecosystem services; reward currently unrecognised ecosystem services and make sure that the costs of ecosystem damage are accounted for; and share the benefits of conservation.

Our study has indicated that also in the Baltic States, the contribution of forests to biodiversity protection, climate regulation, carbon sequestration, and water regulation is appreciated and viewed as increasingly important. However, the financing mechanisms enabling monetary compensation for provision of these goods and services are scarce. Besides the traditional instruments, such as hunting licences and a customary right of everyman's free access to forest, more innovative financing mechanisms in the three countries focus primarily on biodiversity conservation. The compensation for provision of this service is, in one way or another, carried out in a form of public-private contracts for non-management or change of management practices in individual forest areas, usually designated as part of the Natura 2000 network. The main reason behind the use of this financing mechanism may be it being one of the measures under the EU's Rural Development Regulation and the availability of Community funds.

As to the other financing mechanisms, it seems that the focus in all three countries is largely on consideration that incentives are provided and private markets are facilitated by the "absence of disincentives". For example, free access to forest is considered to be an enabling condition for the emergence of the markets for mushrooms, berries, medicinal plants. Free access to protected areas (with some exceptions) and to the state-developed recreational infrastructure is seen to facilitate the emergence of markets for recreational services. However, potential introduction of a "negative incentive", such as forest-land tax, is also seen as likely to facilitate markets of non-market forest goods and services. The most direct outcome from

introduction of this instrument would probably be a more active market for the forest land itself.

Overall, the development of financing mechanisms for provision of non-market forest goods and services in all three countries may be considered to be in an early stage. In such a context, the issue of valuation of non-market forest goods and services is also on a basic level and is not viewed as deserving much attention. Due to the relatively recent launch of several of the financing mechanisms referred to in the Table 3 and the complexity of consolidating the financial flows through all financing mechanisms for provision of non-market forest goods and services, it is impossible to say precisely what the total financial turnover in all these instruments is. However, based on the literature review and the outcomes of the research made in this study, we would argue that this share is still negligible compared to the annual turnover in the market originating from the production and trade of wood. As concerning the provision of non-market forest goods and services, placed in the broader context of the use of policy instruments in the three Baltic States (Lazdinis *et al.* 2005c), we would argue that regulation still remains the most commonly used means.

The findings of this study should not be considered as an exhaustive presentation of all existing financing mechanisms in the region. It is rather a broadly representative indication of the importance, and trends in importance, of non-market forest goods and services. Our survey was distributed only to the national authorities and follow-up interviews were conducted with a small number of individuals – one per country. However, we believe that the above limitation did not compromise the outcomes of the study because a comparison of government answers with private stakeholder answers in the original European study showed largely similar views from all groups in this aspect (EFI 2008). New detailed findings might emerge, should such a survey be repeated also including various stakeholder groups in the countries and if a larger number of individuals would be interviewed.

**Comparison with the situation in the European Union.** The findings from all EU Member States indicate that many non-market forest goods and services are considered as being of significant importance and it is expected that this importance will further increase (see also Table 2). In particular, biodiversity protection and recreation received high importance scores. Nevertheless, also traditional goods, like industrial wood, fuel wood and hunting are being seen as important, though for the future it is believed that their importance will remain constant. These results also coincide with the data reported by the Member States

to the 2007 MCPFE report (MCPFE 2007), according to which in about one fifth of the forests in the EU the main management objectives are biodiversity or landscape conservation. Furthermore, in the period 2000–2005 the area of these forests increased by more than 2 million hectares. Similar trends are also reported for forests designated to prevent soil erosion, protect water resources or maintain other ecosystem functions.

Responses to the questionnaire also showed that in most of the Member States the access to market forest goods and services is restricted, while the non-market forest goods and services can be mainly freely accessed. The exceptions are only limited access to some protected forest areas, where the regulation is due to the protection of rare species or habitats, or in the case of some recreation activities (*e.g.* visits to picnic areas, mushroom picking) where entrance fees or other type of payments are requested from the user.

#### **Possible future developments and conclusions.**

The study for the EU overall concluded that taxes and subsidies for the time being remain the most popular financing mechanisms. Our study confirms this finding. Our focus on the three Baltic States indicated that even though being present in the forest sectors, other types of financing mechanisms are not used very intensively.

It was reported for the whole of the EU that there is a trend to an increased use of market mechanisms. In this respect, there seems to be a double trend of growing government interest in non-market forest goods and services and an increased use of market mechanisms in their financing. On the one hand governments increasingly engage in the provision of forest ecosystem services; and on the other – they increasingly aim to better ensure efficiency of public funds. Thus a trend for stronger utilisation of market mechanisms in various categories, including tax systems, subsidy allocation and the creation of markets through cap-and-trade regimes may be anticipated. This may also be seen as the direction for future developments in the Baltic States, as, like everywhere else, the demand for non-market forest goods and services is deemed to increase and the public funds available to the forest sector decrease. However, for the time being the use of market-oriented financing mechanism in Estonia, Latvia and Lithuania is very limited.

In the context of this study we acquired summarized information on the state-of-the-art in the field of valuation of and compensation for non-market forest goods and services in the Baltic States. The results showed that so far there are only few well functioning mechanisms financing the provision of non-market forest goods and services. In this context, the is-

sue of valuation also receives very little attention. We also presented the potentials for developments in this field in the future as perceived by representatives of national authorities. We conclude that despite the existing interest, it is quite unlikely that there would be a strong increase in the use of financing mechanism for provision of non-market forest goods and services in a foreseeable future in the three Baltic States.

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**ТЕНДЕНЦИИ ТОРГОВЛИ НЕРЫНОЧНЫМИ ПРОДУКТАМИ И УСЛУГАМИ В СТРАНАХ БАЛТИИ****И. Лаздинис, Р. Мавсар, Г. Вейс и М. Лаздинис***Резюме*

В данном исследовании представлен анализ лесных секторов трёх стран Балтии – Эстонии, Латвии и Литвы. Основной целью исследования является получение новейших обобщённых данных в области оценки и компенсации за нерыночные продукты и услуги лесного хозяйства в странах Балтии, а также возможности развития в этой сфере в будущем. Исследование является частью большой работы, проводимой Европейской Комиссией в 27 странах членах Европейского Союза в 2008 году.

На основе литературного обзора представляется короткое понятие некоторых теоретических аспектов классификации финансовых механизмов. Считая обзор основным методологическим инструментом нашей работы, мы получили информацию от национальных лесных служб о состоянии оценки лесных продуктов и услуг, также компенсации нерыночных продуктов и услуг леса в странах Балтии. Пользуясь обобщёнными данными и опросом экспертов, получили данные о возможностях торговли нерыночными продуктами и услугами леса в Эстонии, Латвии и Литвы.

Исследованием установлено, что в странах Балтии, как и во всём Европейском Союзе, ценится роль леса в охране биологической разновидности, регулировании климата, связки угля и регулировании водного режима, и это считается необычайно важным нерыночным продуктом и услугой леса. Исследование также показало, что пока существуют лишь несколько механизмов финансирования потребления нерыночных продуктов и услуг леса. В связи с этим и вопросу оценки также придается слишком маленькое значение. Таким образом, несмотря на существующий интерес, совершенно ясно, что нельзя ожидать в ближайшем будущем роста употребления финансового механизма в обеспечении нерыночными продуктами и услугами леса в трёх странах Балтии.

**Ключевые слова:** лесное хозяйство, устройство леса, оценка, нерыночные продукты и услуги леса, страны Балтии.