

Short Term Scientific Mission (STSM)

Report

COST action: CA15206 PESFOR-W

Topic: WG1 – PES Design and Governance

Title: Experience of payments for ecosystem services implementation

Time: 02 October 2017 – 20 October 2017

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1. Purpose of the STSM and methodologies

The aim of this Short Term Scientific Mission (STSM) was to analyze the experience of payments for ecosystem services (PES) implementation and to understand of the institutional factors facilitating the development of PES.

The method used for gathering primary data was face-to-face interview with following stakeholders: Ministry of Agriculture (one representative), Croatian Forest Ltd (one representative), Advisory service (one representative), Croatian Chamber of Forestry and Wood Technology Engineers (one representative) and PES payers (three respondents). The interviews were conducted to gain an insight of their perception on existing drivers and barriers for development of PES, their comments on importance of governance aspects and collect financial data of PES. Also, for collecting secondary data was used literature review and internet research.

2. Description of the main results obtained

2.1 PES in Croatia

In Croatia forests and forests land cover 46% of total land area which amounts to 56 594 km² and makes Croatia one of the countries with the highest forest cover in Europe. The amount of forests and forests land per inhabitant is 6 000 m² (Forests and Forestry in Croatia).

In addition, 76% of forests in Croatia are state owned and mostly managed by Croatian Forests Ltd and 43% (1 143 250 ha) of total amount of forests are forests on karst (General Forest Management Plan, 2016).

According to the Forest Law (art. 62) adopted in 2005 imposed obligatory payment ("green taxes" or PES) for all economic subjects who are registered in Croatia in the amount of 0,07% of annual income to Fund for forest functions of general benefits. Since than the PES rate was decreased several times: in 2010 – 0,0525% of annual income, in 2012 – 0,0265% of annual income and according to draft of a new law (art. 65) the proposal is to decrease it on 0,021% of annual income, but this draft is not officially accepted yet.

Forest Law (art. 3) recognizes/identifies following forest services related to water: soil protection from erosion caused by water or wind, water balance and prevention of floods and high water waves, water purification by filtration through forest soil and contributing to sources of potable water.

In addition, there is important the Regulation on the procedure for exercising the right to obtain funds for the general forest functions in forests (official gazette [22/15](#) i [93/15](#)). This Regulation defines the procedure for exercising the right to obtain funds from the compensation fund for the use/performance of the general forest functions. Funds should be used for works performed in forests (1. Works related to forests regeneration; 2. Costs of forest management on karst; 3. Rehabilitation and reconstruction of stands threatened with drying and other disasters, construction of forest roads, demining of forest areas and other works necessary to preserve and improve the general function of forests; 4. Works regarding the seed and nursery activities in forestry, preservation of gene diversity and establishing of clonal seed plantations and 5. Scientific works in the field of forestry).

The funds are distributed in following way: scientific work – 5%, demining – 13% (Regulation on the procedure for the right to obtain the compensation for the use of beneficial functions for work performed in the forests), fire protection – 5% and the rest is distributed in accordance with the share of ownership, in our case according to the new management plan for 2016-2025 24% goes to private owners (to the Advisory service, which then announce call for tenders for private owners and funds development of management), 76% – to state owned forests.

According to the Regulation on the procedure for exercising the right to obtain funds for the general forest functions in forests the fees are going to the Ministry of Agriculture from the beginning of 2015. Before 2015, Croatian Forests Ltd was collector and distributor of the PES. Ministry sends to Advisory service the amount of PES (around 3.6 million EUR each year) prescribed for private forest owners directly on the account (personal communication).

According to data of reports on collection and distribution of green tax provided by Croatian Forests Ltd for 2005-2016 the amount of collected PES varied especially in the 2000s with six time decreased between 2009 and 2016 (Figure 1). In 2009 record amount of approx. 59.6 million EUR was collected.

In respondents' opinion should be spent most of the PES funds to biological reproduction; demining (until it is finished), forest guarding and forest protection, forest infrastructure, firefighting and fire infrastructure, fire protection, conversion of degraded forests (seven personal communication).

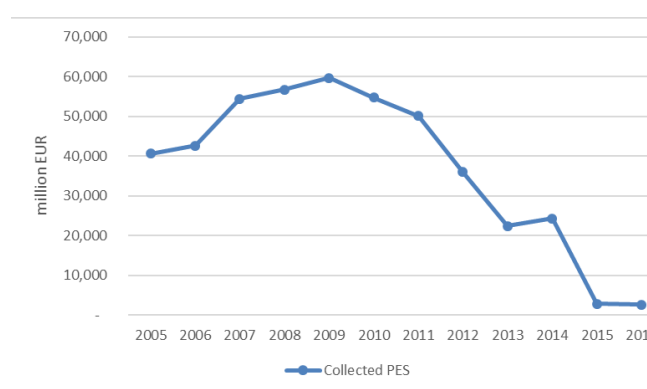


Figure 1. PES collection during 2005-2016 (Data of Croatian Forests Ltd)

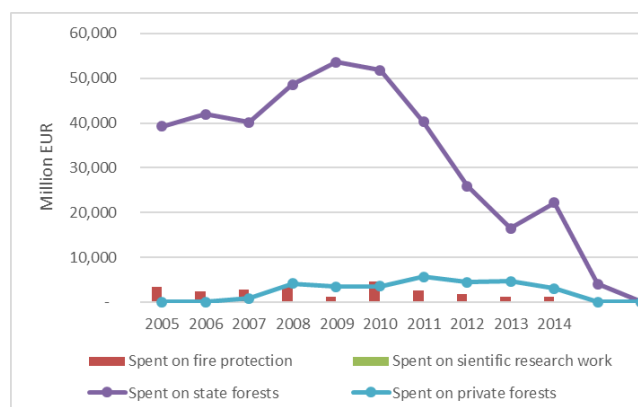


Figure 2. Spent PES during 2005-2016 (Data of Croatian Forests Ltd)

2.2 Payments for water provision and water management in Croatia

Waters in Croatia are under jurisdiction of state owned public company Croatian Waters Ltd. State established public payments to support management and protection of water. For example, *water regulation fee* is calculated by square meter for any real estate with the exception of agricultural land and paid by a landowner or by other legal possessor of real estate (Act on Water Management Financing). The amount of the water fee on forest land is 0.0015 HRK/year by square meter and Croatian Forests Ltd pays around 4 million EUR per year to Croatian Waters Ltd and then they get 30% of that amount back to invest in water protection (i.e. water source capture, construction works, drainage system and so on). Unfortunately, this agreement between two state companies was active only during period of four years from 2010-2014th and was in relation to one government mandate.

Another kind of water fee is *water protection fee* paid for the reason of water pollution by the persons that discharge wastewater, and persons that produce or import mineral fertilizers and plant protection products. Actually diffuse agricultural pollution is not directly included in that fee.

2.3 Existing drivers and barriers for development of PES in Croatia

It turned out that forming of rates is usually a result of different influence of economy and politics. In overall opinion government has definitely the biggest role when determining the PES tax rate (personal community).

The main stakeholders of PES evaluated the role of following institutions/organizations in forming rates of PES from very low to very high. The results are presented in Table 1.

Table 1. Evaluation of the institutions/organizations role in forming rates of PES

Respondents Institutions/ organizations	Ministry of Agriculture (gathering and distributing PES since 2015)	Taxpayers	Advisory service for agriculture and forestry	Croatian Chamber of Forestry and Wood Technology Engineers (Member of a committee for PES fund distribution to private and state owned forests and science)
Ministry of Agriculture	very high	very high	very high	medium
Ministry of economy, entrepreneurship and craft	high	very low	medium	high
Government	very high	very high	high	very high
Croatian Forests Ltd	medium	very low	medium	low

Also the main stakeholders of PES identified the internal strengths and weaknesses, external opportunities and threats of PES as well. The results of SWOT-analysis are reflected in Table 2.

Table 2. *SWOT-analysis of PES in Croatia*

	Strengths of PES	Weaknesses of PES
Internal	<ul style="list-style-type: none"> a) Control over spent and collected PES funds; b) Fixed rate of PES invested in different categories- fire brigade, scientific research work, demining and private forests; c) PES as economic incentive which ensures ecosystem services; d) Ensured source for PES 	<ul style="list-style-type: none"> a) Avoidance of payments by taxpayers; b) Low transparency of tax distribution; c) Mandatory status of the PES; d) Reduction of prescribed rate (for 25%); e) Prescribed amount is not a result of actual evaluation of forest ES; f) Collected amount is still not enough for provision of all forest ES; g) Payments are made in at least 2 rates, first in the beginning of the year based on previous year income like prepayment on around 30-40% than it is calculated and corrected after 6 months and last time at the end of the year; h) Amount of unspent funds in the category private forests; j) Not a flexible instrument adaptable to local needs and circumstances (because they have categories and prescribed percentage for each category)
	Opportunities of PES	Threats of PES
External	<ul style="list-style-type: none"> a) Using of ecosystem services; b) Opportunities for development of rural areas and communities (opportunities for cash income in rural areas where poverty might be concentrated); especially for private forest owners; c) Opportunity for increment of knowledge in sustainable forest resources usage by providing training and technical assistance; d) Water quality protection; e) Reduce liability with regards to flooding, dredging and water treatment costs 	<ul style="list-style-type: none"> a) Shortage of skills and capacity in using PES funds; b) Lack of ES valuation on national level; c) Unsolved property rights; d) Financial risks (economic crisis etc); e) Time lags in payments of PES; f) Agricultural diffuse pollution. Identifying the amount of pollution can be problematic; g) Policy and decreased willingness for payments of taxpayers due to the feeling of mandatory obligation and low awareness h) Strong influence of large business player which paying large amounts and do not want to do that. They trying to influence politics and ask for lowering of the rate or even for complete canceling the taxes.

In respondents' opinion the key existing barriers for creating the new payments for ES are: existence of the present PES; increase of the amount of PES; big companies lobbying; nonexistence of political will; no need for additional PES, because Croatia is not polluted country and generally have preserved ecosystems.

According to the interviews the main existing drivers for creating the new payments for ES are: cancelling the existing PES, but that would have catastrophic effects on private forests and karst forests, which would suffer from forest fires; or decrease the amount of existing PES; increasing transparency when deciding on the amount of fees for ecosystem services (by involving stakeholders); opportunities for

rural areas; determination of compensation based on estimation of total value of ecosystem services and general forest functions.

2.4 Conclusions

According to the conducted interviews Croatian Forests Ltd spent negligible amount of PES on water protection. Furthermore, they are obliged to prescribe water source captures, settling the surrounding area and to take care of water sources, but it is usually not payed from fees or taxes, but from wood selling. Moreover, regarding water streams, Croatian Forests Ltd does channeling as well. But anyway they give priority to building forest roads and then to water protection, because those are minor costs. Besides Croatian Forests Ltd are proposing to spend some amount of the VAT, state budget tax on fire brigade, reinvest in forests etc. It is very difficult to trace the spending of PES funds in forest management directly related to water protection or improvement but based on definition of forest functions of general benefits we can say that forest function related to water quality protection, water purification and erosion protection is very important. But sustainable forest management which strive to be ecologically accepted, socially sensible and economically viable (Mission and Vision of the State forest company) contributing to the water purification and water quality in many indirect ways. Nevertheless, according to overall opinion there is no need for additional or new PES in Croatia, because it is not polluted country and generally has preserved ecosystems and the state is already overwhelmed with existing taxes. In conclusion, we may say that from the one side there are PES and from the other side there are payments for water provision and water management. Actually existing PES is not spent a lot into the water preservation in forests, but there is a water tax that should be more investigated.

I kindly thank the host STSM Dr. Dijana Vuletic and all colleagues from EFISEE office on the dedicated time and unselfish help in realization the goals of the STSM mission. Also thanks a lot Dr. Dijana Vuletic for organized the interviews with different institutions/organizations (Croatian Forestry Ltd, Ministry of Agriculture, Croatian Chamber of Forestry and Wood Technology Engineers and others) and my participation in a meeting of the COST action in Opatija.

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