SHORT TERM SCIENTIFIC MISSION (STSM)
SCIENTIFIC REPORT

This report is submitted for approval by the STSM applicant to the STSM coordinator

Action number: CA15206 PESFOR-W
STSM title: Existing Motivations and Barriers of Potential PES Participants in the EU (Slovak Republic as a Case Study)
STSM start and end date: 03/09/2018 to 03/10/2018
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PURPOSE OF THE STSM

The aim of the STSM was to identify possible motivations and barriers of potential PES participants. We also analysed the public policy and current situation of the PES in the Slovak Republic (SR), reviewed public and private case studies of PES mechanisms in the SR. The following combination of scientific methods and approaches such as consultations and interviews with host scientists, literature reviews and analysis of collected data were used in order to achieve proposed aims. Furthermore, we tried to compare PES mechanisms in the SR and Ukraine.

DESCRIPTION OF WORK CARRIED OUT DURING THE STSMS

The duration of the mission at the Technical University in Zvolen was four weeks. The first week was used to detailed PESFOR-W's literature reviews and analysis of PES case studies in the SR.
The second part of STSM was dedicated to (1) collection of key data, including financial and socioeconomic information on W-for-W PES mechanisms and identification of PES participants in the SR, comparison of PES schemes in the SR and Ukraine; (2) identification of existing motivations and barriers of PES participants and (3) preparation of scientific report.

DESCRIPTION OF THE MAIN RESULTS OBTAINED

2.1 PES in the SR

The document analysis and literature reviews have the absence of "pure" PES schemes in Slovakia. However, in Slovakia public schemes are predominantly used to ensure forest ecosystem services provision. There can be identified three types of public PES schemes or government-financed PES (Pigouvian type): (i) forest land tax relief for protective and special purpose forests, (ii) refunds for the restriction of ownership rights, and (iii) forestry support for non-productive forest functions (Báliková et al., 2018). Private schemes or user-financed PES (Coasean type) are very rare in Slovakia. Besides these national schemes, the Rural Development Programme also contains measures that can be considered as PES, namely NATURA 2000 payments.

According to the Act on Forests No. 326/2005, forests in Slovakia may be declared as a protective or special purpose if they fulfil specific public interest objectives (including water regulation and supply). Forest management in these forests is limited, therefore the forest owners are exempt from the property tax for these forests. This compensation for limited forest use can be considered as a specific type of PWS. Protective forests are of high societal importance as they protect soils, water resources and infrastructure. Their area has been slowly increasing over the years and reached

Funded by the Horizon 2020 Framework Programme of the European Union

335,200 ha (17.25%) in 2016. Their percentage is almost equal in both state (17%) and non-state (17.6%) forests. The current area of special purpose forests is 204,550 ha (10.5%). Their area has reduced since 2000, mainly due to the exclusion of the sub-category of air pollution damaged forests from this category, but also due to lower demand for the designation of these forests. The proportion of special-purpose forests is higher in state forests (13.5%) than in non-state forests (7.1%) (Report on the Forest Sector of the SR, 2016). In accordance with the Amendment to the Act No. 582/2004 Coll the forest land tax relief for protective and special purpose forests in Slovakia represents the support for all services that are part of the forest ecosystem on the specific forest land. The Land tax relief for protective forests and special purpose forests (estimation based on the Land Tax from Production Forests) reached 2 653 969,42 EUR and 1 619 617,57 EUR in 2016. Because the tax relief is not a direct payment and the principle of voluntariness or conditionality are not adhered, we can consider it as other economic incentives supporting forest ecosystem services.

Another specific type of PES is refund for the restrictions of ownership rights, which is regulated by the Act on Forests No. 362/2005 and the Act on Nature and Landscape Conservation No. 543/2002. Compensation for restriction of ownership rights is the compensation mechanism where, by agreement, the owner or administrator compensates, the one to whom the request or proposal results is the restriction of the ownership rights. Compensation for the loss of ownership rights is a combination of a regulatory and economic public policy instrument. Its essence is based on the constitutional guarantee of property rights. If these ownership rights are limited, it is a fair compensation. It is a powerful tool for financing forest ecosystem services, especially in nature conservation (Šálka et al., 2017). The amount of paid refunds for the restrictions is presented in Figure 1. The biggest amount of refunds was paid by the Ministry of Environment of the SR, the State Environment Administration to forest owners and representatives of the co-owners in 2015-2016.

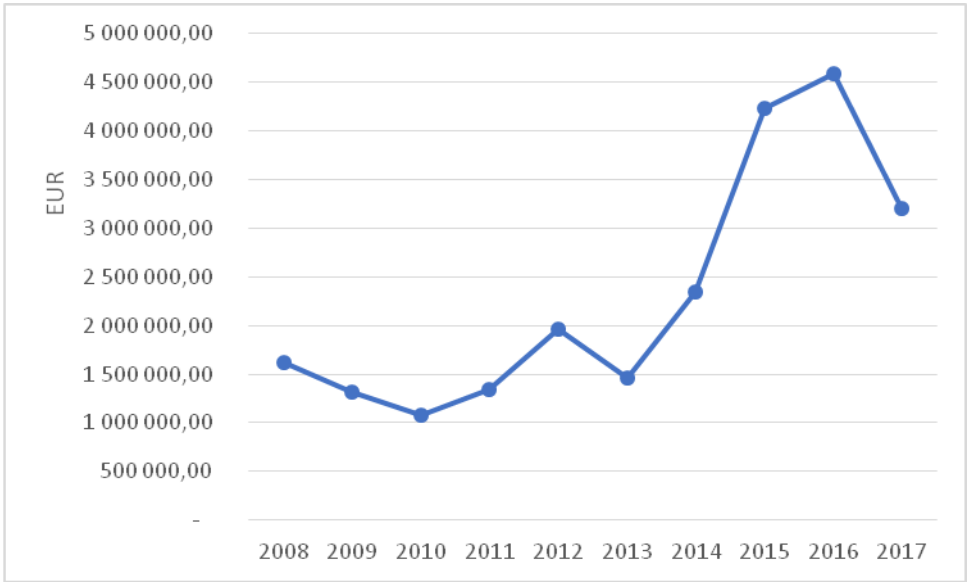

Figure 1. Paid refunds for the restrictions of ownership rights in 2008-2017 in the SR (Data of the Ministry of Environment of the SR)

The Ministry of Agriculture and Rural Development of the SR has prepared the Decree No. 226/2017 on Providing Forestry Support for Non-productive Forest Functions, which will form a basis for the framework mechanism providing forest owners with compensations for the delivery of ecosystem services to public. The main aim of the forestry support for non-productive forest functions is to stimulate forest managers to ensure ecosystem services in the territory of the SR in accordance with the forest management plan (Kicko, 2017). The state motivates forest owners or managers to apply sustainable forest management principles, which will lead to increased production of non-productive forest functions. In 2017 the number of received applications reached 118, of which two applications were rejected and the Agricultural Paying Agency of the SR paid to the recipients the amount of 2 069 946.28 EUR. (Agricultural Paying Agency of the SR, 2018).

The EU plays an important role in the financial system of the SR and its Rural Development Fund provides financial support for biodiversity conservation or other environmental issues, which can be considered as a PES scheme. For example, Rural Development of the SR 2007-2013 includes such measures connected with PFES: Measure 122 – Improving the economic value of forests; Measure 221 – First afforestation of agricultural land; Measure 224 – NATURA 2000 payments – Forest land; Measure 225 – Forest-Environmental Payments; Measure 226 – Restoring forestry potential and

introducing preventive measures. The structure of this payments during 2007-2013 is represented in Figure 2. The biggest number of subsidies was paid for restoring forestry potential and introducing preventive measures – 154 522 940,00 EUR.

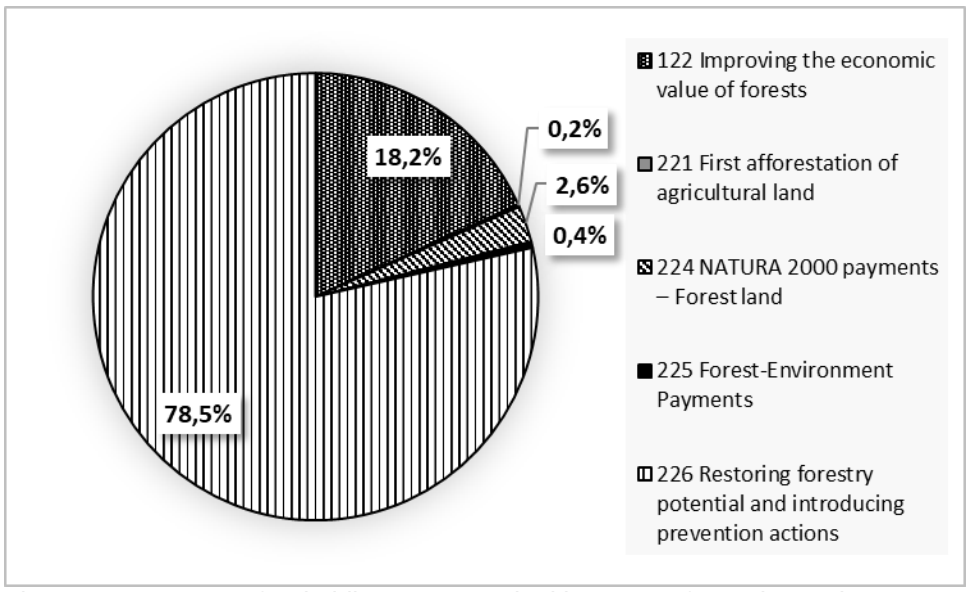

Figure 2. Structure of subsidies connected with PFES of Rural Development Programme of the SR 2007 – 2013 (Data of the Agricultural Paying Agency of the SR)

The implementation of new RDP of the SR 2014 – 2020 includes measures connected with Woodland-for-Water objectives. Although, there aren't measures directly focused on PWS, following measures support actions that are indirectly targeted to improving water management, increasing the water capacity of the area and water retention: Measure 12 – Natura 2000 and Water Framework Directive payments provides compensation payment for Natura 2000 forest areas; Measure 15 – Payments for Forestry – Environmental Services and Forest Protection, Sub-measure of Payments for Forestry – Environmental obligations in SPA, Sub-measure of Payments for Forestry – Environmental obligations in SAC (Rural Development Programme of the SR 2014 – 2020).

2.2 Payments for water provision and water management in the SR

The example from Slovakia is a private PFES water scheme between the Military Forests and Estates of the SR (MFE), owned by the state, but more less act as private company and local water management and supply company (Podtatranská vodárenská prevádzková spoločnosť, a.s.). A significant part of the territory of MFE, includes important water areas classified in the 1st to 3rd degrees of water protection. Many watercourses are sources of drinking water. In some places, water payment schemes are introduced to provide drinking water for local use (e.g., Branch office of the State Military Forest Enterprise in Kežmarok). The Company repairs and maintains the facilities of forest and land improvements and stream dikes. The Company's branch plants Kažmarok and Kamenica nad Cirochou sell surface water (1 300 000 m3 per year). The payment scheme for water is a long-term business relationship, lasting for more than 10 years. Contracts and prices are negotiated with the approval of the Regulatory Office for Network Industries of the Slovak Republic for 3 years. In these areas, the MFE provides water management in accordance with the area needs and environmental regulations. The company manages and maintains forest land and is responsible for land improvements and stream dikes. In this case the "Piggy-backing" principle is applied where a single service generated by the water managing authority (MFE) is sold to one specific buyer (the local water management and supply company) (Štěrbová, 2018).

2.3 Current situation in water and forest areas in Ukraine

In the coming years, environmental policy should be substantially changed to harmonise with the EU standards as a part of the obligations under the Association Agreement. However, all natural resources in Ukraine are treated as a government property and natural resource rights are overseen by public local institutions. So, water resources are managed by the Ministry of Ecology and Natural Resources, forest resources and agrarian lands by the Ministry of Agrarian Policy and Food of Ukraine. Water mismanagement in agricultural production may have long-term negative environmental impacts.

Forests cover about 9.6 million ha, half of which is used for commercial purposes. They are all state-owned: 77% are managed by the State Forestry Agency, with the remaining 23% spread across approximately 50 public agencies, local municipalities, and educational organisations (State Statistics Service, 2015).

Water management suffers from the lack of private property rights, as all water resources are treated as government property and water rights are overseen by public local institutions as set out in the Water Code (1995) and the Law "On Drinking Water and Drinking Water Supply" (2002). Nowadays integrated water resources management based on river basin principle is considered as a fundamental methodological principle of the reform in Ukraine. However, the application of river basin principle to water management can not solve all complex problems of effective use of water resources, especially in the increase of its capitalization in the reproduction process, investment modernization of water management infrastructure, implementation of reengineering tools of waterworks serving drainage systems in the areas of irrigation and drainage. In addition, the problem of legislative support for new projects needs to be solved, especially in rural communities.

An analysis of current legislation and practice has shown that: (i) in the Forest Code of Ukraine (1994) term "forest functions" (art. 1) is used for describing ecosystem services; (ii) there are connection between forest and water resources in the Forest Code of Ukraine (№ 3853-XII dated 21.01.94): forest resources also include the useful properties of forests (the ability of forests to reduce the negative effects of natural phenomena, protect soil from erosion, prevent pollution of the environment and clean it, promote the regulation of water drainage, improve the population and its aesthetic education, etc.) used to meet public needs (art. 6); (iii) the PES mechanism has not been implemented at all. However the term "ecosystem services valuation" and "use of ecosystem services valuation" is mentioned in the Law of Ukraine "On Main Principles (Strategy) of National Environmental Policy of Ukraine until 2020" (2011) as a task for achievement of the strategic goal 5 – To stop the loss of biological and landscape diversity and the formation of an ecological network.

There are some fees connected with water and forest resources, such as the environmental tax, the rent for special use of water and forest resources. All payments are collected and distributed on the principle of decentralization. For example, with the adoption of the Law of Ukraine dated 28.12.2014 No. 79 "On Amendments to Budget Code of Ukraine on the reform of intergovernmental fiscal relations" in 2015, the percentage of environmental tax enrollment to local budgets has increased from 35 to 80 percent, and to the state budget has been reduced from 65 to 20 percent. The payments of environmental tax were not send to the special funds (State and Local Funds of Environmental Protection), and to the general funds of the respective budgets. Environmental tax with the adoption of such changes is no longer part of the special funds of the state budget and also lost its purpose function. Moreover, the lack of differentiation of environmental tax rates in the country regions and coefficients applicable to excessive tax rates emissions / discharges of pollutants into atmospheric air / water objects, the discrepancy between the tax rates for the emission of one ton of particular species of the pollutants in the air and the tax rates set depending on the class of substance hazard, lead to the ineffectiveness of environmental taxes in Ukraine. So, one of the main obstacles to the decentralization of water supply and discharge in Ukraine is the lack of necessary funding for operation and infrastructure investment, which is typical not only of rural areas but also of cities. The four main alternative mechanisms of projects funding have been suggested to support water management enterprises at the local level: association of investment projects in the common pool; combining of funds in a common pool; creation of public-private partnerships; forming of investment resources generated by improving management.

An example of PES mechanism is the international project HYDROFOR: Systems of optimal forest management for enhancing the hydrological role of forests in preventing the floods in Bodrog river catchment (in Ukraine these are rivers Uzh and Latorica), which has been implemented in 2013-2015 in the framework of the Hungary-Slovakia-Romania-Ukraine ENPI Cross-border Cooperation Programme with the co-financial support of European Union. The area of Demonstrational catchment is 1710 ha. In the analyzed case study a "beneficiary pays principle" is coupled with indirect payment. To enhance the ability of mountain forest ecosystems to maintain a hydrological cycle and water flow, and to ensure flood protection (regulation & maintenance ecosystem services in terms of CICES, 2013 classification) and water quality (provisioning ecosystem services) the first of all in flysch zones, participants of HYDROFOR project (Slovak and Ukrainian scientists) designed and two Ukrainian state forest enterprises, namely Perechyn and Svalyava, applied principles of integrated forest and water management. These recommendations reveal complex interaction of local environment, forest infrastructure and silviculture practices (species selection, methods of logging, reforestation, harvest machinery, intensity of soil panning, close to nature forestry etc.) in flood prevention or even promotion. Now these recommendations are explicitly specified in state regulation of harvest practice in mountain areas. Thus this indirect payment generated benefits not only to down-stream communities in Ukraine, Slovakia and Hungary but for other mountain regions (Korzov, 2015).

2.4 Existing barriers and motivations for the PES participants in the SR

Typically potential PES participans are water, forestry and agriculture land users who can stimulate the mainstream adoption of W-for-W PES, including: water utility companies (and representative organisations such as the European Association of water utilities); water regulators; municipalities/ local councils; river basin and catchment management planners; landowners, farmers, foresters and their lobby groups and advisors (e.g. farmers' unions, angling associations, CEPF and EUSTAFOR); government bodies/Agri-Environment-Scheme policy-makers (including European Federation for Information Technology for Agriculture); businesses reliant on clean water resources (including social enterprises and food and beverage producers); finance and insurance companies; and organisations interested in Corporate Social Responsibility and water foot-printing (Valantin et al., 2017). So, the main PES participants in SR are introduced in Table 1.

Table 1. PES participants in the SR

Economic instruments	Potential "sellers"	"Buyers" (beneficiaries - acting on behalf of the users of the ES)	Actors responsible for implementation ("payers")
Land Tax	Forest owners, forest enterprises	Public schemes or Government-financed PES - State	Local Tax Administrators - municipalities
Refunds	Forest owners, representative of the co-owners		Ministry of Environment of the SR, State Environment Administration
RDP Measures	Forest owners, forest enterprises		Agricultural Paying Agency of the SR
Forestry support	Forest owners/enterprises/managers		Agricultural Paying Agency of the SR
PWS, Military Forests	Military Forests and Estates of the Slovak Republic	Private schemes or user-financed PES	Podtatranská waterworks services company

In our opinion, the main barriers for PES participants in the SR are: (i) policy traditions, (ii) gathering and dissemination of information to support nature resources decision-making and property rights because they define the participants who can have an access to benefits and a responsibility for the costs of delivering those benefits, (iii) lack of communication, (iv) problems resulting from bureaucracy in different agencies involved in the management of water and forest resources, etc.

On the other hand, there are some important motivations to stakeholders' effective participation such as (i) financial motivations, (ii) participation in decision-making as to fund allocation, (iii) domestic nature users are willing to pay higher fees if the revenue is invested in the basin where it was generated, and if they are able to participate in taking decisions on how it should be spent, (iv) involving government and/or other intermediaries to facilitate transactions among numerous stakeholders and to establish priorities and others.

2.5 Conclusions

The research of motivations and barriers of potential PES participants allowed to draw the following conclusions:

In the SR were identified three types of public PES schemes or government-financed PES: (i) forest land tax relief for protective and special purpose forests, (ii) refunds for the restriction of ownership rights, and (iii) forestry support for non-productive forest functions. Private schemes or user-financed PES are very rare in Slovakia. Besides these national schemes, the Rural Development Programme also contains measures that can be considered as PES, namely NATURA 2000 payments. The example from Slovakia is a private PFES water scheme between the Military Forests and Estates of the SR, owned by the state, but more less act as private company and local water management and supply company (Podtatranská vodárenská prevádzková spoločnosť, a.s.).

The potential barriers and motivation for PES participants in the SR are: policy traditions, gathering and dissemination of information to support nature resources decision-making and property rights lack of communication, problems resulting from bureaucracy in different agencies involved in the management of water and forest resources, etc.

The main motivations are: financial motivations, (ii) participation in decision-making as to fund allocation, (iii) domestic nature users are willing to pay higher fees if the revenue is invested in the basin where it was generated, and if they are able to participate in taking decisions on how it should be spent, (iv) involving government and/or other intermediaries to facilitate transactions among numerous stakeholders and to establish priorities and others.

I am grateful to the Chair of the Cost Action CA15206 PESFOR-W Dr. Gregory Valatin and the STSM coordinator Dr. Zuzana Sarvašová, as well as the relevant individuals in the Core group and MC members who facilitated this STSM. Particular thanks is due to my host institution for the warm welcome, especially Dr. Jaroslav Šalka and Dr. Zuzana Dobšinská, as well as other colleagues from the Department of Forest Economics and Management, Technical University in Zvolen for the dedicated time and help in realization of the aim of the STSM.

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