

SHORT TERM SCIENTIFIC MISSION (STSM) – SCIENTIFIC REPORT

Action number: CA15206 “Payments for Ecosystem Services (Forests for Water)”, PESFOR-W

STSM title: The stakeholders perspectives related to the Payment for Ecosystem Services (PES)

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STSM start and end date: 26/03/2019 to 04/04/2019

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PURPOSE OF THE STSM

Purpose of the completed STSM was to help to build stakeholder understanding of PES schemes and fostering collaboration between researchers within the objectives of the Action CA15206 “Payments for Ecosystem Services (Forests for Water)”, PESFOR-W. PES schemes are developed in environmental, economic, social and political context. Furthermore, diverse stakeholders are empowered in PES scheme design. Stakeholders from these contexts have different understanding, knowledge, interests, needs and perception of the current state of ecosystem services and their active support. That is way the research focused on stakeholders perceptions of PES schemes is needed for further development of payments for water ecosystem services. We followed the objectives of the working group WG1 and aims to compare the stakeholders’ opinions about the water PES schemes in several countries involved in COST Action CA15206 through the online survey.

DESCRIPTION OF WORK CARRIED OUT DURING THE STSMS

At the beginning of the STSM the final version of the questionnaire was discussed and pre-tested with two stakeholders. The final version of the questionnaire – translated in three languages (English, Italian, Slovakian) – is formed by twenty closed-ended and open-ended questions, divided into four thematic sections: General and personal information; Relationship between forests and water; Payments for Ecosystem Services (PES) schemes and Stakeholders’ involvement in the PES schemes (Annex 1). The first thematic Section is focused on general and personal information of respondents and is formed by five open-ended questions. The second thematic Section is focused on relationship between forests and water. This section is formed by four questions aimed to understand the perceived importance of forests to provide water services. The third thematic Sections focused on Payment for Ecosystem Services (PES) and its implementation aspects and environmental effectiveness. The last thematic Section is focused on

respondent's opinions about the involvement of different groups of stakeholders' in the PES scheme design and is formed by two questions.

Next step of STSM was the identification of the stakeholders in the countries involved in the COST Action CA15206 PESFOR-W by using snowball sampling method. Firstly, some representatives of member countries of the COST Action CA15206 PESFOR-W were approached to filled in the questionnaire and asked to distribution of the questionnaire to the possible stakeholders according to targeted group: "buyers"; "sellers", "intermediaries" and "knowledge providers". The stakeholders were approached to filled in the questionnaires through the email with online link (<https://www.surveymonkey.com/r/L67SSJ2>).

During the STSM we also identified methods for data processing according to the responses:

The Section 1 – evaluation based on qualitative parameters according to the general and personal information provided by respondents (Q1 – Q5).

- The Section 2 – evaluation based on symmetric five-point Likert scale format (Q6) and paired comparison through AHP method (Q7 – Q12). The last two question in this section will be evaluated according to the linguistic expression (Q13, Q14).
- The Section 3 – the implementation aspects and environmental effectiveness evaluation based on symmetric five-point Likert scale format as in previous questions (Q16, Q17).
- The Section 4 – evaluation of stakeholders' opinions about the role of the government and other stakeholders will be based on the simple frequency distribution (Q19, Q20).

At least we prepared the first draft of scientific paper with describing the theoretical basement of the questionnaire structure, sampling methods and data processing methods. We also planned the future steps to finish the study focused on stakeholders' perception and opinions on forests for water Payment for Ecosystem Services (PES) schemes.

DESCRIPTION OF THE MAIN RESULTS OBTAINED

Till the end of the STSM we have received 63 completed questionnaires from 12 countries (Table 1). We agreed the involvement in the study with four another countries and have contacted another.

Table 1 Identification of respondents according to the country

Country	No. of respondents
<i>Bosnia and Herzegovina</i>	2
<i>Croatia</i>	8
<i>Czech Republic</i>	agreed
<i>Finland</i>	1
<i>Global</i>	2
<i>Ireland</i>	1
<i>Italy</i>	17
<i>Latvia</i>	7
<i>Luxemburg</i>	agreed
<i>Morocco</i>	agreed
<i>North Macedonia</i>	1
<i>Serbia</i>	1
<i>Slovakia</i>	8
<i>Slovenia</i>	7
<i>Turkey</i>	agreed
<i>Ukraine</i>	8
SUM	63

According to the WG1 and WG3 aims we describe preliminary results of thematic Section 3, that is focused on Payments for Ecosystem Services (PES) and its implementation aspects and environmental effectiveness. The statistical data processing has shown the preliminary results about the opinions of the stakeholders about the level of importance of the implementation aspects (Table 3) and level of importance of the environmental effectiveness (Table 4). The most important implementation aspect according to the survey is the Shared values for ecosystem services. Understanding the various values (e.g. ecological, ethical) that can be shared by different groups within the society in relation to the natural environment are crucial for implementation of the PES schemes. Preliminary results show that all of the observed aspects are important for implementation of the PES schemes related to the water ecosystem services. The higher level of importance of the factors determining the environmental effectiveness stakeholders assigned to the Direct changes in management activities induced by the program compared to the traditional management activities (without PES). In both questions we found 61 answers (two respondents skipped these questions).

Table 3 Stakeholders' opinions about the level of importance of chosen implementation aspects

IA/Responses	1	2	3	4	5	Total	Mean	Median	Mode	StDeva
<i>Multi-level governance</i>	0,00%	3,28%	18,03%	40,98%	37,70%	61	4,13	4	4	1
<i>Shared values for ecosystem services</i>	0,00%	4,92%	16,39%	34,43%	44,26%	61	4,18	4	5	1
<i>Bundling or layering of services across multiple scales</i>	3,28%	11,48%	31,15%	34,43%	19,67%	61	3,56	4	4	1

Table 4 Stakeholders' opinions about the level of the environmental effectiveness of PES

EE/ Responses	1	2	3	4	5	Total	Mean	Median	Mode	StDeva
<i>Transaction and implementation costs</i>	1,64%	11,48%	40,98%	21,31%	24,59%	61	3,56	3	3	1
<i>The direct changes in management activities</i>	1,64%	6,56%	19,67%	36,07%	36,07%	61	3,98	4	5	1
<i>The indirect positive or negative effects of the PES</i>	1,64%	11,48%	39,34%	27,87%	19,67%	61	3,52	3	3	1

FUTURE COLLABORATIONS (if applicable)

The future collaborations include:

- To finish the data collection on 30th of April.
- To process all collected data till the 30th of May.
- To show the results on The sixth full PESFOR-W meeting from 4th to 6th June 2019 (Ireland),
- To revise the draft paper in collaboration with co-authors from June to July (2019).
- To submit the final version of paper to the Forest Policy and Economics journal in September