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Innovating for Forest Ecosystem Services

Spurring INnovations for forest eCosystem sERvices in Europe

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D3.1 Pre-Feasibility Assessment

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Executive summary

This document reports on the status of the implementation plans developed across the relevant case studies, describing their finally selected Innovative Mechanism (IM) to pursue in their Innovation Action (IA) and their plan for implementing it. The implementation plans have been elaborated around the 2nd MAG meeting in the case studies and include the nine plans that were supplied to University of Copenhagen by May 30 2019 by the individual case partners.

The plans cover the choice of one or two specific innovative mechanisms to be implemented and descriptions of the expected resulting change in forest ecosystem services (FES) provision. Most cases provide a clear identification of the FES supply and demand side and suitable strategies for interacting with the actors representing these. Most cases have a clear plan to secure the financing for the FES they implement.

In most cases the contracting format is either considered or already in place and in one case the contracts have already been signed. All case studies that have submitted an implementation plan seem to be well aware of potential legal issues that may need to be handled and several are in the process of handling them or have resolved the issues.

In general, plans seem to be in place for logging data although a few cases need to consider registration of data and handling of sensitive data before final design and implementation. Most present good draft timelines for the remainder of the implementation period. Finally, suitable end of project plans seem to be in place for most of the cases.

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1. Introduction

This deliverable has the purpose of reporting on the stats of the implementation plans developed across the relevant case studies, describing their finally selected Innovative Mechanism (IM) to pursue in their Innovation Action (IA) and their plan for implementing it. It furthermore allows for assessing and comparison of the results of the IM which could serve as inspiration between the different cases. The implementation plans have been elaborated around the 2nd MAG meeting in the case studies. An implementation plan is just that: A description of how the case partners would go about implementing the IM, they have decided to pursue in the SINCERE project. It includes their ideas about how they plan to track, monitor and evaluate the IM functioning during the project. It includes a description of how they currently envision the IM designed and embedded in the case study, in a way that allows it to have a value also after SINCERE ends, in that way leaving a legacy.

The plan is just a plan, which means the plans presented here may be adapted, revised and actions may deviate from the plan as the project proceeds and decisions are made that further the goal of the IM and SINCERE in the best possible way.

To support the IA partners in structuring and writing down their first IM implementation plan, the WP3 partner UCPH provided all IA partners with a structured set of questions to think about and enabling the IA partners to provide a written statement underpinning their plan, as far as relevant. The set of questions are included as chapter 4 in this deliverable. We stressed to IA partners that the list of issues included need not be exhaustive and in any particular case study, it may be necessary to raise and describe other implementation plan aspects of importance, too.

As per 30.04.2019 we have received six out of 11 implementation plans from the partners. In agreement with the coordinator, we prolonged the deadline to 30.05 and received nine implementation plan drafts and the status of received implementation plans is shown in the table below:

Country	Contact person(s)	Status 30/5
Belgium	Alexander Therry	Plan received
Croatia	Martina Jurjević	Plan received
Denmark	Tanja Blindbæk Olsen	Plan received
Finland	Juhani Pyykkönen	Plan received
Switzerland	Andreas Bernasconi	Plan received
Italy	Enrico Vidale	
Italy	Giulia Amato, Allesandro Leonardi	Plan received
Peru	Bruno Locatelli	Plan received
Russia	Daria Tebenkova, Anton Kataev	Plan received
Basque Country,Spain	Leire Salaberria	
Catalonia, Spain	Jose Antonio Bonet Teresa Baiges Zapater	Plan received

Some partners have not returned the implementation plans yet due to delayed 2nd MAG meetings. We will update the current report with the additional implementation plans as they become available – if necessary also after this deliverable has been submitted.

The different implementation plans returned to us for inclusion in the deliverable are shown in Chapter 3, with each a sub-chapter. In Chapter 2, we briefly summarise some general observations about the status of progress in implementation across the case studies where implementation plans are available. The general observations and reflections are structured according to the template for an implementation plan that was distributed to partners in early March 2019 (see Appendix 1). The case study preparations and their work with their IAs was supported also by detailed WP3 feedback on their first self-assessment report following their first MAG meeting. We include this detailed feedback to the case studies in Appendix 2 to document the process of feedback and interaction supporting the SINCERE cross-cases learning and innovation.

2. Reflections on progress in case studies

2.1 The case studies and their selected IM(s)

The implementation plans clearly demonstrate that most the case studies have selected 1-2 IMs to implement, including a short description and in some cases a justification for the selection. Their choices are assessed to be well reasoned and with sufficient ambition to support very well the purpose of SINCERE.

2.2 The case studies' expectations on changes in FES provision

This point seems to be well considered by most case studies. Almost all cases have provided a qualitatively exhaustive list of planned or expected changes in ES provision and are demonstrating a clear focus on the relevant FES, actors and related instruments.

None of the case studies have at this point reported expected nor observed quantitative changes. For some case studies it is too early in the process where for others the quantitative impact on e.g. biodiversity is difficult to assess. However, in relation to capturing data (see point 2.5 below), some cases reflect on how to acquire quantitative data by e.g. baseline measurements in the relevant areas.

2.3 Reaching FES providers and financing sources

At present, the case studies are at different stages of the implementation, and in general, they are very well progressed for this stage of the project. We note of course, that this is true for most of this set of nine case studies that have submitted an implementation plan. In most cases, there is a clear identification of the FES providers/suppliers and suitable strategies for interacting with the FES providers are included. In some cases this dialogue has been initiated at this point of time.

The identification of who benefits (the demand side) from the enhanced FES provision is in most cases well described. This identification also assists, where relevant, from whom to secure support in terms of financing for the enhanced provision of FES and how to secure it. Most cases have a clear plan for this. However, in one case, the specific design of instruments to secure funding appears to be still under consideration and the partners are pursuing different avenues. In another case this issue is not mentioned at all.

2.4 Agreement between FES provider(s) and FES 'buyers'

In most cases, the contracting format is either considered or already in place and in one case the contracts have already been signed. On the contrary, in one case there seems to be conflicts between suppliers and demanders and an agreement here is crucial for the implementation of the IM.

Most cases consider legal issues and seem to be aware of potential legal issues that may arise as a consequence of the agreement/contracts. Consideration of how legal aspects/challenges can be handled is included or is under clarification at the moment.

2.5 A plan to monitor and log data for documentation

Some cases provide a very good overview of the expected data and have a plan in place for logging these data and a plan for documenting the quantitative impact of the FES. Other cases have a draft plan for logging data in place, but will need to be more detailed on e.g. registration of data and handling of sensitive data before final design and implementation. This does not constitute a problem or a critique at present, as this is only what is to be expected at the current stage. A single case presents an exhaustive plan for data collection, including semi-structured interviews to reveal challenges and solutions related to the IM.

2.6 The tentative time schedules

There are good and promising plans and ambitions in place or even descriptions of already implemented points. In some cases, the plans are at present only sketchy and will need to be more detailed once organisation and implementation is better defined. Again, this does not constitute a critique as the current detail of plans are acceptable at this stage of the project, however, the different case studies should of course to be attentive of the overall plans for progress in SINCERE.

2.7 Ideas for your end-of-project status to further the IA

In general there are suitable end of project plans in place for all the cases. The implementation plans include sound considerations of how to ensure the long term impact of the IM and sustainability. This includes detailed plans of how to engage stakeholders and evaluations

communicated to policy makers. In some cases this also includes a plan for consequent phases of the implementation of the IM.

3. Implementation plans for case studies

To assist the development of the implementation plans, all case studies received guidelines consisting of seven questions to consider when describing how they plan to carry out their individual case studies. The questions were generic and presented in Chapter 4), so not all questions are equally relevant for all IM, and partners were encouraged to add more details on the parts of particular relevance for their case studies. In the following sections on case studies, the full set of guiding questions are displayed in italics for the first case (Flanders). For the following cases, only the main questions are shown at not the lengthy explanations in order to avoid redundance.

Flanders – Reversed auctions for regulating wild boar

***1. Selecting the IM(s)**: Decide on which IM to implement. If you have suggested several IMs in an earlier stage, now is the time to select the one (or more) that you decide to actually pursue and briefly argue why.*

Reverse auction as mechanism, with two variants: wild boar buffers and habitat improvement and restoration in forested hunting areas. Keeping two variants allows us to test two types of reverse auction (first rejected price and discriminatory price auction). The variants have also been selected based on a set of criteria previously established:

Habitat restoration and improvement:

- No effective existing subsidy system for this type of actions
- Hunting sector is often neglected when it comes to funding for nature management, and there is a strong desire from that sector to be considered as legitimate actors in that area.
- Real potential to generate sufficient competition, which is necessary for the reverse auction to function

Wild boar buffers:

- Extremely timely and relevant (wild boar population generating problems)
- Concept is fairly straight forward and suitable for a format as reverse auction
- Opportunity to bring together agricultural and hunting sector, which is not always easy, + generating win-win situation, also for the nature conservation sector (triple win)

More than two variants would not be feasible with the available budget and staff.

***2. Describe the actual/planned changes in forest management to take place as a result of the IM implementation.** What are the management changes?*

Describe briefly what impacts the IM will on forest management and hence the current practice of the Forest Ecosystem Service (FES) providers, e.g. forest owners. What will be different as a result of the IM implementation? You may already have this written down from your earlier input to SINCERE, so this is a chance to reflect on this again in the context of an actual IM implementation. This may also help you identify the relevant population of FES providers.

The first subject of the reverse auction will be the creation of buffer strips which are low vegetation strips between forest edge and arable field to allow better wild boar hunting. These buffers should be wide enough to easily spot crossing wild boars and long enough to prevent unseen crossing of wild boars into arable fields. The strips will be established on the arable field.

The second variant included in the reversed auction aims to encourage and support habitat restoration for game species and doing that for protected and other species too. Three main types of measures can be expected: (1) increasing variety in forest structure, (2) restoring hydrology and (3) creating open spaces.

In case the hunters are the owners of the forest, nothing really changes. However, when the hunter is not the owner of the forest, there will need to be interaction between those two actors addressing the participation in the auction, division of task and a possible change in management planning.

Describe the impact (quantitatively and/or qualitatively) on all affected Forest Ecosystem Services?

As above, you may already have a description of this from your earlier input to SINCERE, so this is a chance to reflect on this again in the context of an actual IM implementation. This may also help you identify relevant FES buyers/supporters.

- The buffers will facilitate the shooting of wild boar, helping to control the population, mitigate the negative effects wild boar have on their surroundings (crop damages, traffic accidents, spreading of porcine diseases), and contributing to the public support for this species.
- The buffers also contribute to nature conservation: reduce the impact of the (mostly corn) fields on the forest edge and the forest complex as a whole.
- The habitat restoration and improvement pilot will lead to more biodiversity. This generally leads to more robust and resilient systems. More specifically, we expect to see the following: (1) increasing variety in forest structure, (2) restoring hydrology and (3) creating open spaces. Therefore positive effects can be expected on water quality and quantity (restoration of wetlands), vitality (increase in structure) and biodiversity. By improving the biodiversity and resilience of the forests, we expect to see an increase of game species, allowing better harvesting possibilities for the hunting sector.

3. Set up the planned procedure to start a dialogue with potential FES providers (supply side) as well as potential financing sources (demand side). *Who will provide the FES? You may have in mind specific types of forests, forest owners or a geographical region etc. As close as possible, identify now the population of potential FES providers (suppliers).*

- Farmers in areas with high numbers of wild boar (east/north-east of Flanders)
- Private forest owners (individuals or their organisations)
- Hunters (individuals or their organisations)

Initiate dialogues with forest owners or other ecosystem service providers.

How do you plan that you or others are to reach out and engage with the FES providers in the context of implementing the IM. Perhaps describe this in different stages, if you expect different stages in such a dialogue, contact or interaction and exchange.

A communication plan will be developed in collaboration with the sector representatives (hunters, farmers, private forest owners). Dialogue with the representatives has already started and will continue. General communication towards the FES providers will be done by the Flemish Agency for Nature and Forests, by Natuurinvest and by the Huntingfund. This communication will be limited to website. Direct communication towards the FES providers will be done through the communication channels of the representative entities.

Who benefits? Reiterate your understanding of who benefits from the targeted enhanced FES provision. The purpose is to build your case for how you target securing financing/funding/support for the enhanced provision.

Hunters:

- they can submit bids and receive the payment
- they can see their harvest potential increase through the measures included in the bid

Farmers:

- They can also submit bids and receive the payment
- They can face less crop damages caused by wild boars, thus reduce their costs

Private forest owners:

- They can submit bids and receive the payment
- Increased satisfaction by contributing to more biodiverse and resilient forest

Are there payments involved, who can/will pay or in other ways provide resources to support enhanced FES provision from providers? Based on an assessment of who benefits, identify the specific groups you plan to address as 'buyers'/'funders' of the enhanced FES provision. This can be users of the FES, it can be people or other legal entities willing to donate towards the FES

provision, it can be authorities or their subsidiaries. The 'payment' may be in the form of money transfers, but also in the form of labor or other in-kind contributions.

There will be payments. The budget comes from the Flemish Hunting fund (buyer of the FES on behalf of society).

4. Arriving at an agreement (conditional) among one or more FES provider(s) and FES 'buyers'.

Here you are to describe how you envision and plan to support providers and 'buyers' to arrive at an agreement within the context of the IM you design and implement.Consider how to outline the agreements/exchange between the parties. For example: Will there be an actual enforceable contract between one or more parties, and in case yes, then who. How will your implementation plan guide the process towards this? Or will the exchange be based on voluntary measures, and if yes, by whom and how will your implementation plan support this process? There are many possible arrangements of an exchange, so the suggested are just for your inspiration, when describing this aspect.

Once the bids have been selected and a price has been set, the selected bidders will have to sign a contract with the Flemish Agency for Nature and Forests (or the Hunting Fund).

Legal issues (deed registration, tax issues, need for modifications, etc.)? If there are legal issues that need to be addressed and clarified for the involved parties when implementing the IM, then briefly describe them and describe how you aim to support their resolution.

There is an issue with the rules on state support for companies. The solution is to consider the financial support provided to agricultural companies in the framework of the reverse auction as so-called de-minimis support. A declaration on honor by the company will inform the different parties of the previous support the company has already received.

Another topic is the double funding: to avoid payment to a company that already receives financial support from another governmental agency for the parcels he/she submitted for the reverse auction wild boar buffers, data will be exchanged between the relevant governmental bodies (VLM and ANB).

5. Monitor and log data across steps 2-4 for documentation. How do you plan to measure the impact and progress?

Describe how you plan foresee or hope you will be able to measure the effect of the IM implementation at different stages. It may be in terms of both quantitative and qualitative data and observations. For example, in early stages it could be FES providers engaged, FES buyers/supports/users engaged, and in later stages it could be number and amount of donations made, contracts signed etc. And in terms of in-field changes, it could be degree of changes implemented in forest management and how it impact FES provision e.g. water, timber,

biodiversity etc). Again note that other measures may be relevant, and in some cases, only some stages may be secured during SINCERE.

Monitoring and logging procedures? Describe how, e.g. at what intervals or in what stages, you plan to monitor and log the IM implementation progress and impacts.

- Number of submissions (bids)
- Number of selected bids
- Number of buffers and surface covered
- Types of habitat improvement/restoration measures
- Price setting, compared to similar subsidy systems
- Field controls (timing to be discussed with ANB/Natuurinspectie/AVES)
- Evaluation forms for all participants (January 2021)

Consolidating /registration of data. Describe how you expect consolidate and register data, and make them available for analysis.

- To be discussed

Awareness of sensitive data. Describe if and how you need to deal with possible sensitive data from the above.

- To be discussed

6. A tentative time schedule

Based on the entire above, outline for your own benefit a timeline of how you expect to proceed with the different activities.

- 15/10/2019: number of bids received
- 15/11/2019: number of bids selected, price setting, surface covered, types of habitat improvement/restoration measures
- 01/06/2020-30/09/2020: field monitoring activities
- 15/01/2021: feedback survey distributed to participants
- 15/02/2021: feedback compiled and recommendation distilled

7. Provide your current ideas for your end-of-project status to further the IA (SINCERE's legacy)

Consider already at this stage how to report on end of project status and actions to ensure IM long term impact. This could include a description of your plans to engage stakeholders, owners, organizations or authorities in adopting and using your IM experience, e.g. with an eye to in upscaling towards other FES, other areas or other related ES provisions cases, e.g. in agriculture or similar.

With the feedback received from the participants, including the relevant staff of ANB, an evaluation will be done in collaboration with the participants of the MAG on the relevance and

efficiency of the reverse auction as a means to achieve more impact with available resources. Based on that evaluation, a report with conclusions, lessons learned and policy recommendations will be developed to the Flemish government. In case the evaluation is favorable, the recommendation will be to replicate the approach of reverse auction for the FES included already in the SINCERE pilot projects as well as for other FES (still to be selected). The report can be expected to be finalized by April 2021.

Denmark – Reversed auctions for biodiversity

1. Selecting the IM(s).

We have selected as our project test IM the idea to set up a reverse auction inviting forest owners to submit bids outlining actions they suggest towards enhancing biodiversity content and protection on their land. Thus, we plan for owners to compete for support grants on two parameters, *i*) the price they ask for their suggested action and *ii*) the quality of the idea and its content as such for enhancing and protecting biodiversity locally. This combination we believe to be innovative and to be likely to find great support among suppliers/owners.

2. Describe the actual/planned changes in forest management to take place as a result of the IM implementation.

We are inviting forest owners to submit bids outlining actions they suggest towards enhancing biodiversity content and protection on their land. We foresee the set of possible actions to include e.g. restoring minor wetlands, streams and ponds, to set aside as untouched smaller valuable patches of forest land below the 1 ha government instrument size limit, to restore forest meadows and to restore e.g. micro habitats of various sorts. As inspiration for forest owners we expect to use a guideline booklet published by the National Natural History Museum

Describe the impact (quantitatively and/or qualitatively) on all affected Forest Ecosystem Services.

We expect the first impact to be an absence or substantial reduction in provision services (timber, wood for energy etc.). Second, as a result of this we expect enhanced provision of non-marketed ecosystem services like biodiversity conservation, enhanced amenity and recreational values, and where relevant, improved water way services. Note that the change in management practice is the earliest measurable indicator of the services, whereas the actual change may be much slower to show as part of natural processes.

3. Set up the planned procedure to start a dialogue with potential FES providers (supply side) as well as potential financing sources (demand side).

We need each forest owner to think she has a reasonable probability of being selected, if making a fair offer. As we have a limited amount of funding for this experiment, we therefore need to select a limited geographical area. We suggest this to be municipalities in Vejle, Hedensted, Horsens, Silkeborg, Ikast-Brande og Skanderborg.

Initiate dialogues with forest owners or other ecosystem providers

We expect to reach out through the communication channels of the Danish Forest Association as well as the extension services and information challenges in HedeDanmark and Skovdyrkerne. Since it is a limited area we intent to include in this bid, the information could be supplemented with an information meeting in the area.

We expect an introduction to be send out with a description of the focus and scale and with links to information online as well as a bid-offering functionality, where the forest owner can upload descriptive documents (pictures, maps) as well as a description of the actions and change and the required price.

Who benefits?

We are targeting pure public goods albeit with a local common pool or public good aspects, and potentially also private amenities and recreational values. Beneficiaries are all with an interest in the abovementioned ecosystem services. The private amenity values for the landowner should be reflected in the required price under competition. The value of the ecosystem services provided to the public as such, can be translated to payments only through institutions that aggregate and are accountable to the public for securing public goods. This include national and local authorities, but also private philanthropic foundations.

In the MAG meeting it was emphasised that the implementation should be able to clearly explain the selection criteria in terms of selecting the forest owners who will receive financial support through the auction or not.

Another important issue discussed at the 2nd MAG meeting, was the importance of making sure that both forest owners who receive financial support through the auctions (winners) as well as those whose projects are not selected, are satisfied with the mechanism as such. This is likely to provide more bidders in potential auctions in the future due to good publicity etc. and thereby also promoting the SINCERE legacy of the project.

Are there payments involved, who can/will pay or in other ways provide resources to support enhanced FES provision from providers?

In our SINCERE case, there are direct payments involved and we expect that to be also part of the future legacy of the instrument. The value of the ecosystem services provided to the public as such, can be translated to payments only through institutions that aggregate and are accountable to the public for securing public goods. This include national and local authorities, but also private philanthropic foundations. There may also in the future be other forms of payment, e.g. voluntary groups may manage forest grazing or wetlands for free, in turn reducing the need for monetary compensation.

4. Arriving at an agreement (conditional) among one or more FES provider(s) and FES 'buyers'.

There will be a contract between each landowner and the Danish SINCERE partner DS, outlining the "product" that is "bought" by SINCERE and delivered to the public. Any perpetual aspect of the contract may in addition be written into the official property register as a condition on the deed of the land, ensuring permanence under Danish law. The terms is settled as far as possible before bids are made, and finalised after selection of bids.

Legal issues (deed registration, tax issues, need for modifications).

Apart from the contracting above, there may be other legal claims on the specific land offered. As per standard procedure in Danish law, any contract made with a landowner and the implied action and state needs to be within the law. It is the responsibility of the landowner to ensure this *ex ante* and *ex post* contracting. Thus, the contracting of FES do not pre-empt existing regulation, rather it builds upon it. We will ensure awareness about this, highlighting it in the communication with potential suppliers.

Agreements with external providers (etc. mobile phone apps, survey instruments).

We do not foresee such needs. The landowner may decide to involve others in implementation, but that is outside the exchange.

5. Monitor and log data across steps 2-4 for documentation. How do you plan to measure the impact and progress?

We expect to register this in the following levels during SINCERE: *i*) registering contracts including details on content, site, targeted state and actions, *ii*) visiting and confirming baseline state prior to contracting, *iii*) visiting and registering progress in implementation and status once or twice before SINCERE ends. We note that actual changes on FES provision may be difficult to measure in the brief period, but the baselining may open for later effect studies.

Monitoring and logging procedure. Describe how, e.g. at what intervals or in what stages, you plan to monitor and log the IM implementation progress and impacts

We plan to ensure a baseline visit and 1-2 follow-up visits for monitoring implementation over the period. The need for inclusion of experts (biologist) in the monitoring will be considered.

Consolidating/registration of data. Describe how you expect consolidate and register data, and make them available for analysis

We log the above-mentioned baseline, contract and monitoring data in a database for documenting. We will make them available for analyses in a legal form, which may include masking features that identifies some individual owners. However, we hope to obtain consent for data sharing from all forest owners included, as there is a natural interest in accountability in this form of instruments.

Awareness of sensitive data. Describe if and how you need to deal with possible sensitive data from the above

We hope to obtain consent for data sharing from all forest owners included, as there is a natural interest in accountability in this form of instruments. UCPH will ensure that data are logged and secured within a framework compatible with GDPR, FAIR and OpenScience guidelines.

6. A tentative time schedule. Based on all of the above, outline for your own benefit a timeline of how you expect to proceed with the different activities.

March 2019: Finalising implementation plan

Sept. 2019:	Mock-up contracting platform developed (text, guidelines, contract format, etc. in word documents)
Oct. 2019:	Contracting platform ready online, and outreach material ready and outreach channels engaged.
Nov. 2019:	Launch primo November with deadline ultimo 2019 or primo 2020.
Jan. -March 2020:	Selecting, visiting, contracting
May -June 2020:	Follow-up dialogue and visits Oct. 2020
May 2021:	Monitoring visits according to types of projects
June 2021:	Undertake survey of bidders to evaluate the instrument design and implementation

7. Provide your current ideas for your end-of-project status to further the IA (SINCERE's legacy). Consider already now how to report on end of project status and actions to ensure IM long term impact.

We will engage with other actors in the following ways to pursue end-of-project legacy and up-scaling of our instrument: We engage with private foundations like the Danish Nature Foundation (https://ddnf.dk/) and Aage V Jensen Foundations (http://www.avjf.dk/), who are active and have by-laws that allow them to implement this kind of instruments. We engage with the Danish Ministry of Environment and Food, which administers related instruments, and who might find a potential for up-scaling the instrument type to e.g. the management instruments considered in relating to the WFD and agriculture, e.g. for wetland patches to reduce nitrogen leaching. We engage with stakeholders among green NGOs, farmers and forest owners, as involved in our MAG all the way through SINCERE to build ownership.

Croatia – Health functions of peri-urban forests in PINPM

1. Selecting the IM(s).

Understanding the health functions of peri-urban forests in protected areas and Payment for Ecosystem Services – PINPM.

Implementation plan: The proposed mechanisms at the 1st MAG meeting were :

I. Donation boxes,

II. One - time concession permits,

III. Infrastructure plan and sponsors,

IV. Application for mobile phones.

We decided to proceed with the Donation boxes and One - time concession permits because they are regulated by the law; the budget for mobile app is not enough and also the procedure due to bad signal on the park area is complicated; for the infrastructure plan there was not enough time.

2. Describe the actual/planned changes in forest management to take place as a result of the IM implementation.

Describe the impact (quantitatively and/or qualitatively) on all affected Forest Ecosystem Services?

In Croatia there has been payment for ecosystem services by large legal entities ~~in Croatia~~ in amount of 0.0265% of the total income. This has been used for works of biological renewal of forests, forest management work on karst, works on 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, works of seed and nursery activities in forestry, preservation of genofond and raising of clonal seed plantations, scientific works in the field.

The result of our IMs is the formation of the special health fund. Resources collected through this two mechanisms will form the health fund that will be used to maintain and to create new contents for the visitors of the park and this will help to disperse visitors from the peak zone which is constantly heavily visited, and therefore will enhance the ecosystem services.

This fund will also be used to enhance the people awareness about forest ecosystem services.

3. Set up the planned procedure to start a dialogue with potential FES providers (supply side) as well as potential financing sources (demand side).

Initiate dialogues with forest owners or other ecosystem providers

Who benefits?

Are there payments involved, who can/will pay or in other ways provide resources to support enhanced FES provision from providers?

The providers of FES are private forest owners and Hrvatske šume l.t.d. who is the manager of state forests and in general our Public Institution which manages the entire area.

Our park covers the area of three municipalities, and it is under the government of the State and the City so there is always an issue of jurisdiction.

Park users aren't completely aware of FES, so dialogues are necessary and is very important part of our IA. Through IMs we will inform people about forest ecosystem services and about the benefits that forest has on their health. Some infrastructure will be the outcome of mentioned mechanisms.

All of these information, IMs and services will be available to all visitors of the Medvednica Nature Park, and these mechanisms can be implemented in any protected area.

One-time concession permit is the form of financial payments, and all payments are made to the PINPM or to the institution that manages the protected area. Organizations, companies, associations and all who organize sports events in the park are those who pay one-time concession permits.

4. Arriving at an agreement (conditional) among one or more FES provider(s) and FES 'buyers'.

Legal issues (deed registration, tax issues, need for modifications).

Agreements with external providers (etc. mobile phone apps, survey instruments).

Donation boxes is on voluntary basis, so no kind of an agreements aren't required, and the implementation of one-time concession permits requires just a decree of the Public institution so the amount of approximately 20 % of charged one-time concession permits will be used for a health fund.

5. Monitor and log data across steps 2-4 for documentation. How do you plan to measure the impact and progress?

Monitoring and logging procedure. Describe how, e.g. at what intervals or in what stages, you plan to monitor and log the IM implementation progress and impacts

Consolidating /registration of data. Describe how you expect consolidate and register data, and make them available for analysis

Awareness of sensitive data. Describe if and how you need to deal with possible sensitive data from the above

The impact of two IMs that are being implemented are measured in number of one-time concessions made and in the amount of money collected through the donation boxes.

The money collected will be allocated to the health fund, and depending on the amount, will be used for proposed infrastructure at the end of year. So we plan to monitor and log the IM implementation progress and impacts on yearly basis. Every year visitors will decide what infrastructure will be made and the amount of collected money will be crucial for realization.

6. A tentative time schedule. Based on all of the above, outline for your own benefit a timeline of how you expect to proceed with the different activities.

Our activities for the implementation of the IMs that are already been done ar: survey conducted, donation boxes placed on the selected paths. Our next step is to start with the awareness raising campaign about benefits that forests provide to human health.

At the end of the year we plan to implement infrastructure (IMs outcome). For this year we plan to make a ramp that will prevent vehicles from parking and driving on.

a Nordic skiing trail. We are also planning to make a trim track on our most visited trail - Bikčevićeva trail. By the end of the year our awareness raising campaign should be completed and we can then conduct our second survey on people's awareness on benefits that forests provide for their health.

7. Provide your current ideas for your end-of-project status to further the IA (SINCERE's legacy). Consider already now how to report on end of project status and actions to ensure IM long term impact.

We plan to go further with our IMs if they come up successful.

Our two mechanisms are instruments by which we can raise money for the realization of new contents and infrastructures that actually supports human health and wellbeing (workout, enjoying nature, exercise in nature).

Primarily our goal is to evaluate health function of ES services and express the monetary value of health function of Medvednica Nature Park forests, which are also the peri - urban forests of the capital.

One of the goals is to raise the awareness of visitors and the local population about forest ecosystem services.

How much we have succeeded in it will actually be measurable through ~~the mechanisms:~~ the funds raised, the willingness of people to donate, the greater number of one-time concessions and less events without approval/concessions.

All this also means that we have managed to reach a larger number of users who have recognized the importance of ES services.

A new survey will show whether more people have realized the importance of ES services and whether the awareness raising campaign has succeeded.

By involving stakeholders, owners, organizations in suggesting what would be of their interest in infrastructure, we can easily continue to carry out activities after the project and also involve and encourage stakeholders and other similar institutions and protected areas to do the same.

Finland – Landscape FES in Ruka-Kuusamo

***1.Selecting the IM(s)**.*

The IM is business to business based PES model. IMs:

- The production of landscape services by forest owners. Other ecosystem services, like biodiversity and carbon storage, will bring co-benefits and synergies. According to the previous research there is a need for those services and forest owners willing to produce them.
- The new ways of finance, trade and agreements are developed. Those who benefit from services, tourists, tourism companies and the society, will pay.

2. Describe the actual/planned changes in forest management to take place as a result of the IM implementation.

Landscape, biodiversity, carbon sink and storage and other ecosystem values will become in the focus of forestry management planning in areas defined valuable and visual sensitive in the process. The aim is to design procedures, products and services for tourism sector that will sustain and enhance landscape and ecosystem services.

Comprehensive set of data will be used to identify ecosystem services hotspots and to combine them to a holistic planning procedure. The data will cover forestry resources, visual landscape, biodiversity of forests, carbon sink and storages by stand compartments, water and watershed protection but also intrinsic values in the field of human-nature relationship.

The practical change will be visually seen in the forest landscape. Final cuttings will be postponed, continuous cover forestry without clear cuttings will be used on appropriate sites, regeneration measures will be done in a small scale with minimum impact principle.

IA will create 3-5 pilot areas in different types of forest ecosystem with different type of forest and ecosystem operations.

Describe the impact (quantitatively and/or qualitatively) on all affected Forest Ecosystem Services

The implementation scale, and so the impacts in IA depends on the finance resources. The new holistic ecosystem planning procedure and the new ways of finance are designed so that they enable the up-scaling. This will improve ecosystems, their structure, functioning and enhance ecosystem services.

This is easier said than done, but it is in practice extremely important see and express the new possibilities for the further development, as a start of innovation process. Valuable impacts can be a new direction curiosity and enthusiasm.

3. Set up the planned procedure to start a dialogue with potential FES providers (supply side) as well as potential financing sources (demand side).

Initiate dialogues with forest owners or other ecosystem providers.

Valuable areas are identified on the areal, municipality level. Single forest areas and forest stands, in IA mainly old forests with extra benefits from other ecosystem services, are sought out from those valuable areas.

We know the owner of the every single stand. Forest owner like to make independent decisions, and some are willing to co-operate and offer services, some not. We take a contact and start negotiations on a voluntary basis.

The awareness raising campaign is needed for forest owners to see the possibilities to offer new landscape and recreation value services and for tourism companies see negative gradual landscape changes without new mechanism for paying ecosystem services.

Who benefits?

Reiterate your understanding of who benefits from the targeted enhanced FES provision. The purpose is to build you case for how you target securing financing/funding/support for the enhanced provision.

Are there payments involved, who can/will pay or in other ways provide resources to support enhanced FES provision from providers?

Based on an assessment of who benefits, identify the specific groups you plan to address as 'buyers'/'funders' of the enhanced FES provision. This can be users of the FES, it can be people or other legal entities willing to donate towards the FES provision, it can be authorities or their subsidiaries. The 'payment' may be in the form of money transfers, but also in the form of labor or other in-kind contributions

During the process there are direct and indirect beneficiaries. Direct beneficiaries are the forest owners that will receive compensation, as well as the local actors and stakeholders that utilize the nature resource in their activities (e.g. tourism businesses). In addition, tourists will benefit as the natural environment stays appealing. The model benefits also wider stakeholder groups such as residents, second-home owners, and brings image value also for the whole destination.

The initial idea is to collect funds from the main beneficiaries, namely tourists and tourism companies. Additionally, other stakeholders may also contribute to the model. The main need is for monetary contributions. In addition, stakeholders are encouraged to support the PES model implementation by distributing knowledge of it and marketing it in their premises.

Specific products and plan for their marketing will be developed together with tourism sector and other key stakeholders.

4. Arriving at an agreement (conditional) among one or more FES provider(s) and FES 'buyers'.

Here we need to address the two perspectives: contracts between forest-owners and the organization responsible for distributing the funds, and the solution, how the monetary contributions are collected from diverse stakeholders to support the model.

The steps to have contracts with forest-owners in the pilot phase are following:

1. Preliminary willingness of forest owners for the LRVT. Only with forest owners who have potential hotspots in areas defined in areal/spatial planning process.

2. Preliminary willingness of forest owners for the agreement. Proposal for specific ecosystem services and forests management. Support and advise from forestry specialists.

3. Pilot areas are valued (method so far open) by bundling different ecosystem services. Most valuable areas are taken first under agreements.

4. Making an agreement.

Legal issues (deed registration, tax issues, need for modifications).

Agreements with external providers (etc. mobile phone apps, survey instruments).

Legal issues regarding collecting payments will be checked. To collect payments from tourists and visitors, the mediating organization (organization responsible for collecting funds and distributing compensations) need to have a money collection permit according to Finnish Money Collection Act (https://www.finlex.fi/en/laki/kaannokset/2006/en20060255). The organization collecting the funds needs to be association of public utility (non-profit organization). Another solution for collecting money from tourists is to "sell" a service of "support" or "compensation" by the regional tourism association. In this case, taxation issues need to be taken into account as the money collection this way is seen as an economic activity and taxes need to be paid accordingly. In either case, the compensation paid for forest-/landowners is subject to taxation (forest-owner pays). The legislation related to compensation models is unclear in Finland and at the moment here are discussions about what laws apply to this kind of activity and how the existing laws should be interpreted. The examination of this is still on progress and we wait for the recommendations from National Police Board of Finland (responsible for implementing the Finnish Money Collection Act).

Depending on the form of fund collection, diverse contracts need to be made for external service providers (mobile application developers, phone operators/service providers etc.). The project supports the organization selected for the fund collection to select and choose suitable ways for collecting the funds (e.g. financing the development of a mobile app?).

The functionality of the PES model is dependent on the moderator collecting the funds and distributing the compensations for the forest landowners. In this case the organization that is responsible for this is still unclear and depends on the suggestions of National Police Board of Finland. Preliminary screening and discussions related to diverse possibilities to manage the model have been started with local stakeholders and organizations.

5. Monitor and log data across steps 2-4 for documentation. How do you plan to measure the impact and progress?

Monitoring and logging procedure. Describe how, e.g. at what intervals or in what stages, you plan to monitor and log the IM implementation progress and impacts

Consolidating /registration of data. Describe how you expect consolidate and register data, and make them available for analysis

Awareness of sensitive data. Describe if and how you need to deal with possible sensitive data from the above

The amount of the money collected for finance.

The number of the pilot agreements, 3-5 different type of cases with different forests owners.

Total size of the area of the pilot agreements.

The quality of stakeholder dialogue, measured by feedback forms.

6. A tentative time schedule. Based on all of the above, outline for your own benefit a timeline of how you expect to proceed with the different activities.

June 2019: Preliminary selection of pilot areas, which will be used in marketing and awareness raising campaign.

November 2019: 3rd MAG meeting. Pilot areas are selected and forest owners are contacted.

November 2020: Pilot agreements are done, depending on the finance.

Forest ecosystem services:

Areal planning and defining valuable (hotspot) areas.
Selecting pilot areas.
Marketing and awareness raising.
Negotiations with forest owners.
Making agreements with forest owners.
Implementing forestry measures of the agreement.

Quality control.

Finance:

Different financing possibilities.
Legal issues.
Mediators role.
Marketing and awareness raising.

7. Provide your current ideas for your end-of-project status to further the IA (SINCERE's legacy). Consider already now how to report on end of project status and actions to ensure IM long term impact.

The aim is to develop a model that can stand of its own and is sustainable in terms of financing, and has effective processes to implement the activity also in future. When successful, this kind of model can also be translated into other regions and destinations in the future.

Switzerland –Funeral Forests

Selecting the IM(s)

Im Zentrum stehen die CES und damit verbundene erfolgversprechenden PES. Als idealtypischer Fall innerhalb der CES wurden die Funeral Forests und die damit zusammenhängenden Gestaltungs- und Inwertsetzungsmechanismen ausgewählt.

Allgemein stehen zwei PES im Zentrum: Marktangebot (Angebot wird auf dem Markt zu Marktpreisen angeboten) oder Pacht (Bäume/Wald werden einem Anbieter verpachtet).

The major topic of the further work will be linked to CES. As typical case the IA will focus on funeral forests and the along going processes for management and PES.

There are two possible PES, on one hand the forest owner/forest enterprise sells the offer on the free market to market prices or the owner/enterprise leases single trees or forests to a seller.

Planned changes in forest management

Durch CES-Angebote ist die Waldbewirtschaftung betroffen einerseits durch möglicherweise erhöhte Nutzungsaktivitäten seitens der Waldbesuchenden sowie andererseits durch Auswirkungen auf die Entwicklung des Ökosystems und/oder auf die Waldbewirtschaftung/Walderhaltung. Nachhaltige CES-Angebote finden im Rahmen des gesetzlich erlaubten statt, tragen zum Wohl der Gesellschaft und zum Wohl der Waldeigentümer und Betriebe bei, und sie erhalten oder fördern die Biodiversität des Waldes.

Bei Bestattungswäldern sind grundsätzlich zwei Arten von Angeboten denkbar, einerseits Verträge über einzelne Bestattungsbäume oder Verträge über ausgewählte Waldökosysteme (mehrere Bäume, Baum und Umgebung). Im Falle der Himmlischen Eichen bezieht sich das Angebot auf einzelne Bäume (ab einem minimalen Durchmesser).

Bestattungswälder sind häufig in Wäldern anzutreffen, welche bereits ein gewisses Alter erreicht haben (z.B. Reifephase der Waldentwicklung). Es ergeben sich hauptsächlich zwei Arten von waldbaulichen Konsequenzen:

- Die Bestattungsbäume werden – soweit aus Gründen der Walderhaltung und Sicherheitsgründen möglich - über die vereinbarte Zeit stehen gelassen (beispielsweise 30 bis 50 Jahre).
- Im planerisch bezeichneten Gebiet im Umfeld des Bestattungsbaumes erfolgen die nötigen Eingriffe sehr zurückhaltend. Die Waldbaumassnahmen erfolgen naturnah im Sinne der Dauerwaldbewirtschaftung.

Allfällige darüberhinausgehende Massnahmen werden in der gegenseitigen Vereinbarung präzisiert.

Die Auswirkungen auf andere Waldleistungen sind insgesamt positiv oder neutral (vgl. dazu die Nachhaltigkeitsbeurteilung im Anhang). In ökonomischer Hinsicht sind allfällige Risiken und

Imponderabilien für den Waldeigentümer oder den Forstbetrieb im Preis einzurechnen (Business Case).

There are two possible changes in forest management (silviculture): single trees will be kept for a long time (often 30 to 50 years) and the silvicultural treatment of the surrounding forest is very decent. The impacts on sustainability are positive or neutral (see Qualitative Sustainability Assessment in Annex 1).

Dialogue procedure

Grundsätzlich sind zwei Arten von Providern tätig, einerseits unabhängige Institutionen wie beispielsweise die Friedwald GmbH, andererseits Waldeigentümer/Forstbetriebe, welche derartige Angebote in ihr Portfolio aufgenommen haben. Im weiteren Sinne können Waldeigentümer/Forstbetriebe in der ganzen Schweiz als Provider in Frage kommen (Verbreitung von Erfahrungen).

Im Falle der Himmlischen Eichen ist der Forstbetrieb (Lenzia) der Anbieter.

Die Kommunikation mit den Nachfragenden erfolgt zum einen über Mundzumundpropaganda sowie über Artikel in lokalen Medien. Die Anzahl der Bäume ist beschränkt; die Nachfrage ist beachtlich. Eine Erweiterung des Angebots ist in Prüfung.

In der nachfolgenden Tabelle sind die wichtigsten Zielgruppen der Angebote genannt, die zugehörigen Benefits und die PES.

Tabelle 1: Schlüsselkunden, benefits und Finanzierungsmechanismen (PES).

Schlüsselkunden (*target public/clients*)	Einzelpersonen, Paare und Familien primär aus dem lokalen und regionalen Umkreis.
Kundennutzen (*benefits*)	Bäume, welche Verstorbenen gewidmet sind; Orte der Ruhe, Besinnlichkeit mit einem Bezug zum Kreislauf der Natur.
Finanzierungsmechanismus (*PES*)	Marktangebote (freier Markt)

In general there are two possible providers on the market: Forest owners/forest enterprises and funeral forest sellers (external institutions renting the trees or the forests). In the Swiss IA the forest enterprise (Lenzia) is the provider. The marketing is based on mouth-to-mouth-communication and articles in local newspapers. The above table shows target public (buyers/clients), benefits and PES.

Agreement among FES provider and FES buyer

Zwischen den Kunden und den Anbietern wird eine Vereinbarung (Vertrag) ausgehandelt. Der Vertrag präzisiert die Modalitäten der Bestattung, die Rechte und Pflichten des Kunden ebenso wie die Leistungen seitens des Anbieters und die Dauer des Vertrags.

Die rechtlichen Rahmenbedingungen hängen von den kantonalen Gesetzesgrundlagen ab. Im Falle der Himmlischen Eichen bedarf es keiner formalen behördlichen Bewilligung für die Erbringung des Angebots.

Es bestehen keine zwingenden vertraglichen weiteren Abhängigkeiten. Die Zusammenarbeit mit externen Dienstleistern entlang der Wertschöpfungskette wird fallweise gelöst und auf individueller Basis geregelt.

The details of the offer is precised in a contract, which clarifies duties and services of provider and client. There are no fix external providers, the collaboration along the value chain is arranged individually.

Monitoring and documentation

Die Kenngrössen zur Erfolgsmessung sind zur Zeit noch nicht festgelegt. Es wird darum gehen, möglichst wenige Indikatoren zu bestimmen, welche eine möglichst hohe Aussagekraft haben (beispielsweise: Anzahl Bestattungsbäume; durchschnittlicher Preis pro Baum; Anzahl abgeschlossene Verträge).

Die Erfassung der Kennzahlen wird Sache des Forstbetriebes sein (Teil der Geschäftsabwicklung). Die Form und der Zeitpunkt der Berichterstattung sind zur Zeit noch offen. Die Daten sind höchst sensitiv und können nicht herausgegeben werden.

The parameters for a success monitoring is not yet established (part of the business case). Possible indicators might be number of funeral trees, average price per tree, number of contracts). The data is registered by the forest enterprise. The data is highly sensitive and cannot be made available.

Tentative time schedule

Aufgrund der bisherigen Arbeiten und der Erfahrungen im Betrieb zeichnen sich die nachfolgenden Arbeiten ab (vgl. nachfolgende Tabelle).

Tabelle 2: Überblick über die weiteren Arbeiten (Stand der Arbeiten).

Wann/When?	***Was/What?***	***Wer/who?***	***Wie/Womit (How)?***
II-2019	Erarbeitung eines Analyserasters für die Beurteilung von Charakterbäumen	Pan mit Forstbetrieb	Als Grundlage für die Einschätzung der Bedeutung der Bestattungsbäume.
III-2019	Aufnahme von Charakterbäumen und Analyse der Beweggründe für die Auswahl von Bäumen aus Kundenperspektive	Pan mit Forstbetrieb	Abgleich und Einschätzung von Kundenwünschen und Besonderheiten als Grundlage für das künftige Marketing und die Kommunikation.
IV-2019	Seminar	Pan mit fowala	Nationales Seminar zur Bekanntmachung erster Erkenntnisse (FES, CES).
IV-2019	Erarbeitung der	Pan	Grundsätzliche Struktur als Grundlage für Anwendungen im

	Modellgrundlagen Business Case		Bereich CES.
I-2020	Prüfung der Erweiterung des Gebietes für den Bestattungswald	Forstbetrieb	Gestützt auf bisherige Erfahrungswerte und die betriebswirtschaftlichen Grundlagen (Business Case)
II-2020	Erarbeitung Prototyp Business Case für die Erweiterung	Pan mit Forstbetrieb	
III-2020	Evaluation der Erfahrungen	Forstbetrieb	Auswertung der bisherigen Erfahrungen und Integration des Business Case in den Businessplan des Forstbetriebs (vollständige Integration der Prozesse)
IIV-2020	Artikel zum Business Case	PL mit WaldSchweiz	Zusammenfassung der Schlüsselerkenntnisse und Hilfen für die Entwicklung eigener Business Cases im Bereich CES

Based on the discussions and experiences so far the further steps and procedures are summarized in the above table. There are two levels of implementation: on one hand the implementation within the IA, on the other hand the implementation of the knowledgetransfer on a national level.

SINCERE's legacy

Die Erkenntnisse, Erfahrungen und Beispiele sollen auf einfache und gut verständliche Art und Weise – zusammen mit den Erkenntnissen aus den anderen SINCERE IA – in der Schweiz verbreitet werden. Dies geschieht im Rahmen von Weiterbildungsanlässen (z.B. Seminare) und zum anderen über die Publikation von Artikeln (nach Möglichkeit in Zusammenarbeit mit den nationalen Partnern).

The findings, experiences and examples of all SINCERE IA will be communicated and made well known throughout Switzerland through seminars and publications.

Italy EcoPay – Upscaling PES agreements for poplar plantations

1.Selecting the IM(s).

Our IM has been defined several months ago, because it is based on an already working PES, the most important PES in the region ~~Ecopay Connect~~. It is a win-win public-private partnership for financing sustainable poplar plantations and biodiversity conservation in the Oglio Sud Park. The PES scheme brings together park authorities, the timber industry, and the poplar tree farms under the common framework of FSC® (Forest Stewardship Council) certification. Moreover, the Ecopay case is politically a successful case because it involves all the actors of a territory and enhances a positive circle of the green economy.

We are now working on the scaling up of the scheme, getting other farmers to join in to the payment scheme that has proven to work under the given policy setting.

This solution is win-win and transforms a compliance requirement into an opportunity, where a public-private partnership led to reduction of costs for both partners, and more functional restoration. It also represents the first Payment for Ecosystem Services officially signed between a Park and an FSC-certified private land owner in Italy.

2. Describe the actual/planned changes in forest management to take place as a result of the IM implementation.

The Park must give management permission to the buyers and check their actions. Buyers, on the other side, are obliged to do some management interventions, as thinning, pruning, control of alien species, plant of native species. These management interventions assure the right conservation of the habitats, while giving the Park the chance to use their resources on other natural areas.

This also represents the additionality of the scheme: areas that were already protected, but not properly managed, can now express the maximum of their potential in terms of FES.

Describe the impact (quantitatively and/or qualitatively) on all affected Forest Ecosystem Services.

The ecosystems benefit from the scheme: they are better managed and therefore non-market ES provision is enhanced, especially more habitat for biodiversity and recreation. Water quality benefits because, as foreseen by FSC standards, less pesticides are used in the plantations.

A quantitative evaluation of the improvement is not available at the moment.

3. Set up the planned procedure to start a dialogue with potential FES providers (supply side) as well as potential financing sources (demand side).

You may have in mind specific types of forests, forest owners or a geographical region etc. As close as possible, identify now the population of potential FES providers (suppliers)

The FES will be provided by Regional Park Oglio Sud and other private land owners with natural or restored forest surfaces.

Initiate dialogues with forest owners or other ecosystem providers

We have already made an agreement with the first FES supplier (the Park), who has still other surface available. Also, there is another private owner that have given her natural area (an abandoned wood) for free to one poplar farmer.

Who benefits?

It is a WIN-WIN solution:

1. Dissemination of the FSC® certification with related environmental, social and economic benefits;
2. The Park has new resources to finance redevelopment and management of natural capital;
3. Citizens and visitors enjoy a better territory and ecosystem services produced from natural capital;

From the buyers point of view:

4. The poplar plantations must not give up part of its production area and therefore its income to meet the FSC® standard;
5. The processing industry sourced FSC® poplar timber locally to meet its needs;
6. The processing industry has new marketing opportunities linked to its green image

Are there payments involved, who can/will pay or in other ways provide resources to support enhanced FES provision from providers?

The costs are born by the poplar plantations that must fulfil the requirements.

The Park was originally meant to pay for the whole provision of ESS, but thanks to this scheme, some of the costs are born by poplar farmers.

The payments are partially monetary (as sponsorships to the Park) and partially made by management practices of certain areas to the forest owners (Park or private owners).

4. Arriving at an agreement (conditional) among one or more FES provider(s) and FES 'buyers'.

The farm and the Park Authority signed a 5-year agreement. At the end of the contract, it will be renewed with the same characteristics.

As a side-mechanism, we are spreading the FSC certification in the area. Some poplar farmers have joined the group certification in which also the Park is, with all the related documents. The certification has to be confirmed every year.

With the upscaling of the mechanism, we will need to sign new agreements and extend the certificate to the new areas.

Legal issues (deed registration, tax issues, need for modifications).

There are not legal issues creating obstacles to the implementation of the IM.

Agreements with external providers (etc. mobile phone apps, survey instruments).

There are not agreements with external providers.

5. Monitor and log data across steps 2-4 for documentation. How do you plan to measure the impact and progress?

We will measure mainly the spread of the PES and the maintenance of the working one:

Number of new farmers involved
Hectares of surface under sustainable management
Agreements signed with the Park

Monitoring and logging procedure. Describe how, e.g. at what intervals or in what stages, you plan to monitor and log the IM implementation progress and impacts

Every six month we will update the indicators.

Consolidating /registration of data. Describe how you expect consolidate and register data, and make them available for analysis

We will save the information in a shared Excel file.

Awareness of sensitive data. Describe if and how you need to deal with possible sensitive data from the above

There are not sensitive data we should be concerned of.

6. A tentative time schedule. Based on all of the above, outline for your own benefit a timeline of how you expect to proceed with the different activities.

AprilJune: presentation to the FSC Committee for Pesticides of a Request for derogation in joint form between different organizations. This should help to convince more poplar farmers.

31st of May 2019 (second MAG meeting): we will meet several possibly interested poplar farmers.

The months ahead: negotiation with them.

NB: we have already upscaled the scheme in two new areas.

7. Provide your current ideas for your end-of-project status to further the IA (SINCERE's legacy). Consider already now how to report on end of project status and actions to ensure IM long term impact.

The PES is completely sustainable, both from economical and technical points of view, so after the end of the Project there will not be any problems. Especially because, thanks to Sincere, we will be able to scale-up the scheme that will hopefully become a standard in the area.

Now, the agreements last 5 years: after this period the parts will decide to continue the collaboration or not. But we have largely demonstrated that it is a win-win situation, so we do not expect that they will stop it. Likely, they will re-discuss the terms of the agreement taking into consideration the previous experience, but they will confirm most of the parts and the ideas behind it.

Peru – PES in a Peruvian watershed area

Important preliminary note: There is no practice partner anymore in the Peruvian innovation action, only a science partner (CIFOR). For this reason, the implementation of the innovation mechanism is not under our control.

1.Selecting the IM(s)

The innovative mechanism will be a set of institutional arrangements between upstream local communities, a downstream urban water utility, and other parties for improving vegetation and soil management in a small watershed and enhancing natural infrastructure for water security through technical interventions and financial transfers.

2. Describe the actual/planned changes in forest management to take place as a result of the IM implementation.

The IM implementation will lead to more reforestation and forest restoration. It will also lead to the changes in reforestation practices, from exotic fast-growing species (Pinus, Eucalyptus) to native species that may provide more hydrological services.

Describe the impact (quantitatively and/or qualitatively) on all affected Forest Ecosystem Services.

The IM implementation will affect hydrological services (water quality, water flow regulation, and soil erosion reduction) as well as goods (wood, fuel, and non-timber forest products such as mushrooms and natural dyes for handicraft).

3. Set up the planned procedure to start a dialogue with potential FES providers (supply side) as well as potential financing sources (demand side).

The FES will be provided by the forests that are managed by upstream communities. The communities are well identified as well as the areas already forested and the potential areas for reforestation and forest restoration.

Initiate dialogues with forest owners or other ecosystem providers

Ecosystem service providers are already engaged in a dialogue on watershed management and PES mechanisms with the downstream drinking water utility. The dialogue is somehow conflictual because of diverging interests.

Who benefits?

Ecosystem services benefit communities (water purification and regulation for agricultural and domestic uses and diverse goods) and the drinking water utility (water purification and regulation).

Are there payments involved, who can/will pay or in other ways provide resources to support enhanced FES provision from providers?

The funder is the drinking water utility. The water law allows this utility to charge a water fee to the bills of urban dwellers and use the collected funds to support natural infrastructure interventions in the watershed.

4. Arriving at an agreement (conditional) among one or more FES provider(s) and FES 'buyers'.

There have been agreements between local communities, the provincial authorities and the drinking water utilities but the resulting interventions have led to conflicts. There may be further agreements between the same parties but, as a science partner, we do not control the negotiation process. We will support this process by providing timely information on the impacts of past interventions and facilitating information exchange among stakeholders.

Legal issues (deed registration, tax issues, need for modifications).

The current law on water in Peru provides the legal context that facilitates payments for watershed services. The law contemplates the implementation of a good governance platform, which may help resolve conflicts.

5. Monitor and log data across steps 2-4 for documentation. How do you plan to measure the impact and progress?

Monitoring and logging procedure. Describe how, e.g. at what intervals or in what stages, you plan to monitor and log the IM implementation progress and impacts

Consolidating /registration of data. Describe how you expect consolidate and register data, and make them available for analysis

Awareness of sensitive data. Describe if and how you need to deal with possible sensitive data from the above

We will assess the impacts of the interventions in the watershed on hydrological services (water purification, flow regulation, soil protection, for local communities and the drinking water utility) and non-hydrological services (products for local communities, scenic beauty for tourism).

In addition to observations, meta-analysis and hydrological modelling, we will use participatory methods such as semi-structured interviews and surveys. Semi-structured interviews will deal with how diverse stakeholders perceive challenges and solutions, or costs and benefits. We will design a survey (perhaps inspired from experimental or behavioural economics) to collect data about costs and benefits.

Interviews and surveys will be conducted with local community representatives (men and women, with a diversity of age and livelihoods), local authorities, and representatives of NGOs, the drinking water utility and national or subnational authorities.

Given that there are conflicts between upstream communities and downstream water users, some information on benefit sharing may be sensitive and could reinforce conflicts. As a result, the following issues are highlighted:

- Confidentiality: There are concerns regarding confidentiality, privacy or data protection.
- Dissemination: Some particular groups are likely to be harmed by dissemination of the results of this project.

6. A tentative time schedule. Based on all of the above, outline for your own benefit a timeline of how you expect to proceed with the different activities.

Activities	**Timeline**
Start a dialogue	Already done
Arrive at an agreement	Already done but adjustments will occur (not under our control)
Monitor and assess impacts	April – December 2019

7. Provide your current ideas for your end-of-project status to further the IA (SINCERE's legacy). Consider already now how to report on end of project status and actions to ensure IM long term impact.

The implementation of the IM will continue in our case study and will occur under different modalities compared to the previous phases. Based on the knowledge we will collect and disseminate about the first phrases, adjustments will be made to improve implementation, effectiveness and acceptance from local stakeholders.

Russia - Providing Multiple Ecosystem Services by Forest Renters

Ways of legislative initiatives (recommendations) presentation and implementation as federal and regional laws

Alternative I: using the right of legislative initiative of Russian Federation's constituents.

A. Adoption of a Federal law

Based on the Article 104 of Russian Federation's Constitution, stipulating that the following entities possess the right of legislative initiative: President of Russian Federation, Federal Council, members of Federal Council, delegates of State Duma, Government of Russian Federation, ***legislative (representative) bodies of Russian Federation's constituents***.

1. Preparation of an appeal to the Committee for ecology and nature management of the Legislative Assembly of Nyzhegorodsky region about the legislative initiative approval.
2. Joint work with members of the Committee – delegates of the Legislative Assembly of Nyzhegorodsky region. Consideration of draft law by Committee. Draft's preparation for consideration at the meeting of the Legislative Assembly of Nyzhegorodsky region.
3. Consideration of the draft at the meeting of the Legislative Assembly of Nyzhegorodsky region.
4. Resolving to introduce the draft to the State Duma of Russian Federation as a legislative initiative.
5. Adoption of a Federal law by the State Duma of Russian Federation and the Federal Council and its signing by President of Russian Federation.

Б. Adoption of a Law of Nyzhegorodsky region

1. Preparation of an appeal to the Committee for ecology and nature management of the Legislative Assembly of Nyzhegorodsky region. Elaboration of the draft law and draft resolution by the Legislative Assembly of Nyzhegorodsky region.

2. Realization of the right of legislative initiative. Preliminary consideration of the draft law by the Committee for ecology and nature management. Предварительное рассмотрение законопроекта на Комитете по экологии и природопользованию. Draft's preparation for consideration at the meeting of the Legislative Assembly of Nyzhegorodsky region.

3. Adoption of a Law of Nyzhegorodsky region at the meeting of the Legislative Assembly of Nyzhegorodsky region.

Alternative II (public legislative initiative)

Based on the Law of Nyzhegorodsky region of 8.05.2013 № 62-3 “On legislative initiative of citizens in Legislative Assembly of Nyzhegorodsky region”.

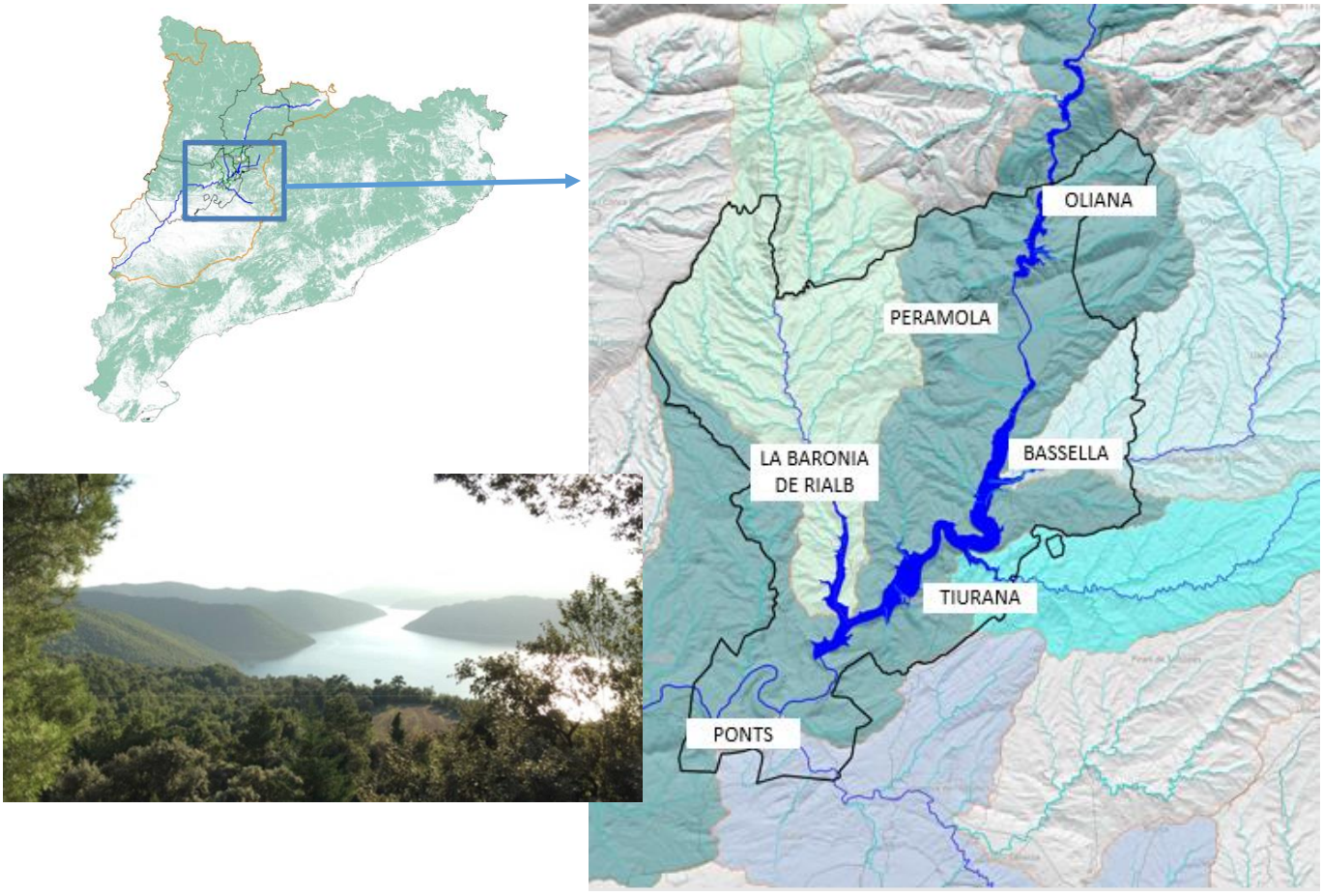
1. Development and registration of a web-site containing the public legislative initiative’s contents, petition letter and supplementary materials, as well as the forms for signature collection.
2. Collection of citizens’ signatures via Internet. No less than 2000 is needed to further the project.
3. Registration of a draft law by the Legislative Assembly of Nyzhegorodsky region.
4. Consideration of the draft by the Committee for ecology and nature management of the Legislative Assembly of Nyzhegorodsky region at the meeting of the Legislative Assembly of Nyzhegorodsky region.
5. Adoption of the Law by the Legislative Assembly of Nyzhegorodsky region, or taking decision to introduce introduce the draft to the State Duma of Russian Federation as a legislative initiative.

Spain, Catalonia. Forests for Water

Background

The case study “Forests for water” to be implemented in Catalonia aims, for the first time in the Catalan country, at exploring the real possibilities of implementing a PES scheme in relation to forests and water. Particularly, it aims at highlighting the role of forestry in water quantity and quality in the Mediterranean and within a climate change context. Because of the novelty of this topic, there are some unavoidable pre-steps to take, for a PES scheme to be successful, being effective communication to all stakeholders the most important key factor.

The Catalan IA will take place in the province of Lleida, in the area surrounding the water reservoir of Rialb, the newest water reservoir in Catalonia, placed in the watershed of the Segre river, affluent to the Ebro. The study area comprises the 6 municipalities affected by the construction of the reservoir (Tiurana, La Baronia de Rialb, Ponts, Oliana, Bassella and Peramola) which conform the Consortium Segre-Rialb for the economic promotion of the area.



1. Innovation Mechanisms (IM)

After the brainstorming phase that took place in the 1st MAG meeting, 2 Innovation Mechanisms have been selected to be implemented as pilot exercises in the area of the water reservoir of Rialb:

a) IM-1: Inclusion of forests and forestry in a legal urbanistic planning instrument: The Urbanistic Masterplan of the water reservoirs

In the 1st MAG meeting, it was clearly highlighted that if an IM regarding PES on forests and water was to be implemented, we first needed to strengthen governance amongst the different sectors involved (water, forests, territory). Participatory joint water-and-forest planning was, then, identified as the previous step to take.

The instrument we chose to frame this joint strategic planning was the **"Urbanistic Masterplan of the water reservoir (PDU)"** which production had been recently started for the Rialb reservoir (as it is the newest water reservoir in Catalonia), matching completely the lifespan of the SINCERE project (2018-2020). It is an urbanistic regulation instrument can include incentives for the economic development of the area.

So far, no water reservoirs have included forests or forestry in their Urbanistic Masterplan, as a sector to plan, regulate or promote in relation to its impact in the water reservoir. The responsible team for the production of the PDU of the Rialb reservoir wants it to be participatory and innovative, and it is really engaged in the introduction of water related FES into this legal document for strategic planning in the area.

Innovation category: New FES included into an existing mechanism

b) IM-2: Design of a local Forest Fund, on forests and water

In parallel to the production of the PDU, a real PES mechanism will also be explored in the project: A voluntary fund for forests and water. The Fund will be included into the PDU as a potential source for financing forest management in the area for the provision of water-related FES. In turn, the Fund will be based on the diagnosis, priorities and recommendations included in the PDU.

The Fund will be local for the 6 municipalities affected by the Rialb reservoir and will only invest on its watershed (aprox. 35.000 hectares)

Innovation category: Adaptation of an existing mechanism in other areas to support a new FES in the area.

2. Planned changes in forest management to take place as a result of the IM implementation

2.1 Forest Management changes

The area is highly forested although the level of forest management is very low. We believe that to guarantee the provision of FES in relation to water (quantity and quality) under a global change context, it is necessary to promote forest management in the area surrounding the water reservoir. A PES scheme would facilitate stakeholders to engage in forest management for water.

The objective of forest management should be **to find the right balance in tree density** to ensure at the same time:

- enough number of trees, to guarantee forest cover (best water quality)
- not too many trees, to enhance vitality of the remaining ones and their water use efficiency - given the shortage of resources - (improving both water quality and quality)

In the 1st MAG meeting, all stakeholders agreed on the need to promote forest management in the area (nowadays only 1% of the area is managed annually) as a means for forest conservation: forest management is seen as a tool to reduce the probability and intensity of forest fires and to enhance tree vitality to better cope with a drier climate and pests.

Figure 1. Thinned pine-tree stand (left). Unthinned oak stand in the area affected by a fire (right)

To improve vitality of forests, we estimate that at least 30 % of the area (around 10.000 hectares), need to be thinned in the short term, and regularly afterwards. Taking into account a rotation period of 15 years, that would roughly mean some 600-700 hectares/year. Nowadays only 200 hectares/year are thinned, so **to triplicate the mean annual amount of thinned**

hectares could be a preliminary figure to expect. Priority areas will be: i) those defined by firemen as “strategic areas”; and ii) those occupied by pines, which have a major impact in water provision.

Different forest fires in the 80`s and 90´s affected 10 % of the total area (around 3.000 hectares). Those areas are nowadays covered by bushes or re-sprouts of oak. Pine plantation here would also advisable to improve forests persistence and both water quality and quantity in the future. So far, plantations are only done in agricultural land, with oak truffle tree species. So, the second expected change would be **to introduce pine plantations in the forest area affected by fires.**

Finally, a third change to expect is that **all forest management measures take into account biodiversity conservation objectives as well as social aspects**. So far, forest management in the Mediterranean is non – profitable with income coming only from the selling of wood products. The consequence of this is that, when forest owners implement thinnings, very often the main criterion is to obtain the highest amount of timber possible at the lower cost. While this may still meet the present legal requirements, it has had negative impacts both on biodiversity and on the contract conditions of the workers.

Figure 2. Demonstrative pine tree plantation in the area affected by fire

2.2 Impact on Forest Ecosystem Services (FES)

Water provision:

Two different theoretical models have been used to assess the impact of forest management on water provision. Both of them have estimated an **increase in the amount of water being released to the reservoir after forest management**, due to the fact that less trees consume

less water**.** At stand scale, the model GOTTILWA estimates an increase **of around 2 - 10 %,** while at watershed scale, the model MEDFATE (CTFC) estimates an increase of **8 %,** meaning an increment of **4,8 hm³/ha per year** for the watershed of the Rialb reservoir, if 10.000 hectares were thinned.

Water quality:

High water quality is linked to the presence of forest cover, which prevents the sediments and pollutants arriving to the reservoir. The main risks for the persistence of the forest cover are forest fires and drought, leading to decay and pests attacks. We have so far analysed with theoretical models the impact of thinning as regard as to forest fire, and results show a **significant positive change in burn probability (Figure 3).** We plan to complete this analysis with the analysis of the impact of forest thinnings in forest vitality using NDVI indexes.

Theoretical exercises based on the costs of water treatment or reservoir sedimentation after an event of fire could also be helpful.

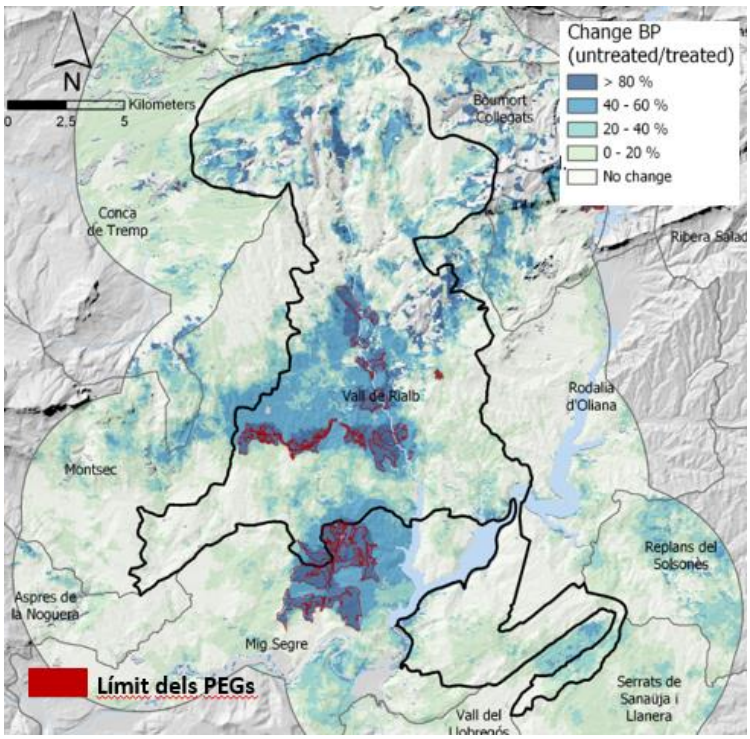


Figure 3. Change in Burn Probability (BP) when the stands placed in "strategic fire prevention areas - PEG" (in red) are thinned, compared to non management, for the municipality of La Baronia de Rialb.

Cultural and social use of the area linked to the water reservoir:

The impact on the social use of the area, which is at present very high, is based upon the consequences of non-management on the landscape assuming this will lead to a higher risk of forest fire and tree mortality. Based in studies elsewhere the impact of this potential change in landscape can lead to **significant economic losses in tourism activities in the area**, especially in the first years following the event.

Although it is not a target ecosystem service of the IA, we expect **biodiversity conservation to be also enhanced by the project.**

3. Planned procedure to start a dialogue with potential FES providers (supply side) and potential financial sources (demand site)

3.1 FES providers – planned approaching actions

FES providers in the area are small private owners accounting for more than 90% of the whole forest area. There are around 1.000 forest owners with an average forest size of 8.2 hectares. There is only one forest owners' association, in the municipality of La Baronia de Rialb.

So far, we have engaged 4 representatives of the local forest owners in the MAG meetings as well as the mayors of the 6 municipalities which also own forests, but we foresee **a meeting with a bigger number of local forest owners, once the 2 IM are more developed, probably in the fall of 2019**. The objective of this meeting will be to define "the ideal forest" they would like to see. Sustainable forest management criteria will be discussed and agreed. We will take advantage of the existing forest owners' association in the municipality of Rialb and the municipalities to contact them. We still have to decide whether it will be held jointly with the 3rd MAG meeting or separately.

3.2 FES beneficiaries – planned approaching actions

In the 2nd MAG meeting, beneficiaries have been identified as belonging to 4 categories, depending on the type of service they benefit from (table 1).

WATER RELATED F.E.S. / BENEFICIARIES	Regulation	Provision	Cultural-Tourism	Social
Downstream Irrigation farmers' association	X	X		
Hydroelectric power plant (ENDESA)	X	X		
Big companies – CSR				X
Small local companies - CSR				X
Responsible banking companies				X
Water-tap users (via public water agencies)		X		
Fishermen associations of the reservoir	X			
Mushroom pickers			X	
Trekkers and runners in the area			X	
Leisure companies using the reservoir (i.e. kayac)				
Rural tourism facilities in the area			X	X
NGOs			X	X
Water public administration (Spanish and Catalan)	X	X		X

We have identified the priority beneficiaries in which the approaching communication actions of the SINCERE project will be focused:

- 1. Rural tourism facilities in the area and leisure companies using the reservoir. They will be approached through the Consortium Segre-Rialb aiming at the economic development of the area.
- 2. Big and small companies willing to invest in the territory in an environmentally friendly way (CSR and marketing).
- 3. Water public administration – (Spanish and Catalan water agencies).

We plan to produce a **set of communication materials** to approach the 2 first groups of stakeholders, based on the awareness campaign information provided by the SINCERE partners. This will be presented at the **3rd MAG meeting, that will be partly devoted to the demand site**.

We are already working with the Catalan water administration (ACA) within the LIFE CLIMARK, and we will share knowledge in networking activities between the 2 projects.

3.3. PDU team

Within the process of elaboration of the PDU, we are working with several stakeholders, including providers, beneficiaries and decision-makers to make a sound diagnosis of the area, the management priorities and the recommendations regarding forest management:

- **Networking meeting with ACA is foreseen by the end of June 2019** to set priorities for forest management in relation to water, that will be included in the PDU**.**
- **Meetings with the PDU team**, on the production of the PDU

4. Types of exchange/agreements envisaged

4.1 Type of contract

During the second MAG Meeting a proposal aroused as follows:

The Fund will provide services to the forest owners, better than direct money (i.e. provide a forest technician to mark or cut the trees). This will cover i.e. 80 % of the forest works, while the forest owner must commit himself in providing the 20 % in some way (i.e wood transport).

Nonetheless, the final type of exchange will be discussed in the 3rd MAG meeting.

4.2 Legal issues

During the 2nd MAG Meeting a proposal aroused as follows:

Creation of a mixed entity formed by a public body (the Consortium Segre-Rialb that includes 6 municipalities) and a private body (stewardship entity formed by forest owners). A collaboration of a third party public entity is seen as necessary for certification purposes (i.e the forest ownership centre - CPF). The mixed entity will have an account where to collect the money raised and a board of directors that will agree on where to invest it based on the PDU set of priorities and recommendations.

Three legal documents are needed:

- The PDU (priorities, recommendations and legal restrictions) – June 2019
- The creation of the mixed entity-Fund: legal type and functioning - 2020
- The basis of the Fund (objectives and legal/technical requirements for access) - 2020

4.3 Need for external providers

In order to find out which would be the best legal instrument to create this entity and best types of transactions, it is foreseen to contract **external services for a consultation report**. This is envisaged for summer 2019.

5. Monitoring and data logging for documentation

Not yet defined

6. Time schedule

Described in previous chapters

7. SINCERE's legacy

(plans to engage stakeholders and other organisations in other areas or in related ES)

Not yet defined

The most plausible strategy would be to start from a few already engaged companies and foresters to prove it is successful to other potential users of the Fund and elsewhere.

4. Appendix 1. Roadmap for your implementation plan

It is now time to start designing an implementation plan for the IM pursued in the different case studies. This implementation plan is to be prepared and completed in the period up to, during and just after the 2nd MAG meeting planned in the case studies. We kindly ask you to submit the first full draft to WP3, Thomas Hedemark Lundhede (thlu@ifro.ku.dk) no later than April 20th 2019.

An implementation plan is just that: A description of how you would go about implementing the IM, you have decided to pursue in the SINCERE project. It includes your ideas about how you plan to track, monitor and evaluate the IM functioning during the project. It includes a description of how you currently envision the IM designed and embedded in the case study, in a way that allows it to have a value also after SINCERE ends, in that way leaving a legacy.

The plan is just a plan, which means you may adapt, revise and deviate as you go ahead and start implementing and making decisions that further the goal of the IM and SINCERE in the best possible way.

To support you in structuring and writing down you first IM implementation plan, this document provides a structured set of questions to think about and enables you to provide a written statement underpinning your plan, as far as relevant. We stress that list of issues included below may not be exhaustive and in your particular case study, you may need to raise and describe other implementation plan aspects of importance, too. We also refer you to our earlier comments on your suggested IM alternatives, sent to you buy Bart Muys in January 2019.

Points and questions for the implementation plan:

1. **Selecting the IM(s)**

   - Decide on which IM to implement
     If you have suggested several IMs in an earlier stage, now is the time to select the one (or more) that you decide to actually pursue and briefly argue why.

2. **Describe the actual/planned changes in forest management to take place as a result of the IM implementation**

   - What are the management changes?
     Describe briefly what impacts the IM will on forest management and hence the current practice of the Forest Ecosystem Service (FES) providers, e.g. forest owners. What will be different as a result of the IM implementation? You may already have this written down from your earlier input to SINCERE, so this is a chance to reflect on this again in the context of an actual IM implementation. This may also help you identify the relevant population of FES providers (see below)

- Describe the impact (quantitatively and/or qualitatively) on all affected Forest Ecosystem Services
  As above, you may already have a description of this from your earlier input to SINCERE, so this is a chance to reflect on this again in the context of an actual IM implementation. This may also help you identify relevant FES buyers/supporters (see below)

3. **Set up the planned procedure to start a dialogue with potential FES providers (supply side) as well as potential financing sources (demand side)**

   - Who will provide the FES?
     You may have in mind specific types of forests, forest owners or a geographical region etc. As close as possible, identify now the population of potential FES providers (suppliers)

   - Initiate dialogues with forest owners or other ecosystem service providers
     How do you plan that you or others are to reach out and engage with the FES providers in the context of implementing the IM. Perhaps describe this in different stages, if you expect different stages in such a dialogue, contact or interaction and exchange

   - Who benefits?
     Reiterate your understanding of who benefits from the targeted enhanced FES provision. The purpose is to build you case for how you target securing financing/funding/support for the enhanced provision.

   - Are there payments involved, who can/will pay or in other ways provide resources to support enhanced FES provision from providers
     Based on an assessment of who benefits, identify the specific groups you plan to address as 'buyers'/'funders' of the enhanced FES provision. This can be users of the FES, it can be people or other legal entities willing to donate towards the FES provision, it can be authorities or their subsidiaries. The 'payment' may be in the form of money transfers, but also in the form of labor or other in-kind contributions

4. **Arriving at an agreement (conditional) among one or more FES provider(s) and FES 'buyers'**
   Here you are to describe how you envision and plan to support providers and 'buyers' to arrive at an agreement within the context of the IM you design and implement.

   - Consider how to outline the agreements/exchange between the parties
     For example: Will there be an actual enforceable contract between one or more parties, and in case yes, then who. How will your implementation plan guide the process towards this? Or will the exchange be based on voluntary measures, and if yes, by whom and how will your implementation plan support this process? There are many possible

arrangements of an exchange, so the suggested are just for your inspiration, when describing this aspect.

- Legal issues (deed registration, tax issues, need for modifications, etc.)
  If there are legal issues that need to be addressed and clarified for the involved parties when implementing the IM, then briefly describe them and describe how you aim to support their resolution.

- Agreements with external providers (etc. mobile phone apps, survey instruments)
  If your IM is dependent on the involvement of third parties and external providers of infrastructure, tools or services, then try to describe exactly who they are, what they are to provide and how and when you expect to engage them.

5. Monitor and log data across steps 2-4 for documentation

- How do you plan to measure the impact and progress?
  Describe how you plan foresee or hope you will be able to measure the effect of the IM implementation at different stages. It may be in terms of both quantitative and qualitative data and observations. For example, in early stages it could be FES providers engaged, FES buyers/supports/users engaged, and in later stages it could be number and amount of donations made, contracts signed etc. And in terms of in-field changes, it could be degree of changes implemented in forest management and how it impact FES provision e.g. water, timber, biodiversity etc). Again note that other measures may be relevant, and in some cases, only some stages may be secured during SINCERE.

- Monitoring and logging procedures
  Describe how, e.g. at what intervals or in what stages, you plan to monitor and log the IM implementation progress and impacts

- Consolidating /registration of data
  Describe how you expect consolidate and register data, and make them available for analysis

- Awareness of sensitive data
  Describe if and how you need to deal with possible sensitive data from the above

6. A tentative time schedule
Based on the entire above, outline for your own benefit a timeline of how you expect to proceed with the different activities.

7. **Provide your current ideas for your end-of-project status to further the IA (SINCERE's legacy)**

- Consider already at this stage how to report on end of project status and actions to ensure IM long term impact
  This could include a description of your plans to engage stakeholders, owners, organizations or authorities in adopting and using your IM experience, e.g. with an eye to in upscaling towards other FES, other areas or other related ES provisions cases, e.g. in agriculture or similar.

5. Appendix 2 – Feedback to partners on feasibility

All the partners received and returned the SINCERE Screening Tool. In January 2019 they received feedback regarding their input and answers related to economic feasibility. This feedback serves as an initiation of the process of creating an implementation plan and therefore we include the individual feedback here. Feedback was given from both University of Copenhagen and KU Leuven which is indicated appropriately under each country/partner.

Belgium

Feedback UCPH

Focus: The IA deals with the establishment of strips of grassland between the forest edge and maize fields. These strips will assist shooting of wild boar in order to control the population. The IA aims at creating a reversed auction scheme for trading this ESS. The IA opens up an opportunity to gather hunters and farmers in a PES scheme, where contracts are allocated through an auction, and where both parties are likely to benefit. Simultaneously targeting a large problem for society, namely that the population of wild boar is increasing too rapidly with large costs for forest owners and farmers. There is also a potential positive impact on biodiversity by reducing the wild boar population and by creating grassland areas. General public support for reducing the population of wild boar is expected.

Strengths: The innovative aspects are the ambitious attempt to address a significant challenge, a 'hard problem', and the use of reverse auction based PES. The topic is timely and may potentially help reduce a major problem and be attractive for both demand and supply side. The approach has upscale potential to other regions with similar challenges, e.g. Germany and Southern Sweden.

Challenges: Here we note a set of questions and concerns we suggest the partners reflect upon, which we believe will help in achieving success for the case:

• A key issue is to get social acceptance for the IM from both hunters and farmers. The partners stress themselves that no farmers were present at the first MAG meeting. This could perhaps be remedied in the next MAG meetings? We have difficulties understanding precisely how the actual bidding process/set-up is imagined:.

1. Is it a matching exercise where both suppliers /demanders (farmers/hunters – the Jachtfonds) place offers/bids at the same time? If yes, then how is matching and transaction implemented?

2. Or is it only farmers who place bids following a call from the Jachtfond? And then the farmers receive payment from the collected funds in Jachtfond? How do the agricultural strips enter the bidding process? We ask because e.g. in response 5.3 you write also hunters can place bids – is that then on behalf of the farmer (to compensate the farmer?). Which attributes do you foresee to describe a bid and be the basis of selection/prioritization? A cost to be compensated, a measure of the strip of land (hectares), proximity to forests or urban areas, population estimates or similar? It may be relevant to know more than just the total cost of the bid, for the efficient prioritization in the auction. Then reading, we assume that farmers receive compensation for the loss they suffer from reduced agricultural land when giving up a part of their field to grassland strips. They then gain the payment compensating them for the loss, and they may benefit from lower damage levels if wild boar population is successfully regulated.

We recommend the partners to try set up a small mathematical model of costs and benefits for the different parts in the transactions, and estimate likely cost/bid ranges, as a benchmark for evaluating the efficiency of the auction. We also suggest you try to consider more detailed what attributes will describe a bid in order to think through how different bids are ranked, if they differ in other aspects than price.

Feedback KU Leuven

Focus/goals

Game meat provision ES/hunting as recreation or tradition ES.

"(1) Habitat creation and maintenance (and depending on the specifics of the auction offers a diverse range of material and non-material benefits and regulating services)

(2) Reinforcement of the support for wild boar (not an ESS per sé), mitigation of effects of arable fields on forests and FESS (not an ESS per sé), and as co-benefits production of game, denitrification and water infiltration"

Reverse auction to subsidize investment in concrete actions to restore biodiversity in hunting areas. OR to subsidize the creation and maintenance of strips of grasslands or low vegetation (shooting strips) between forests and fields by farmers (compensation) in order to facilitate the shooting of wild boars (game hunting ES and mitigation of a disservice (destruction of crops etc.)

Strengths

- Access to thematic experts within the agency – anticipate their potential availabilities.

- "Flanders has a data rich environment with plenty of experience in mapping and valuing ESS and even specific models and tools regarding ESS tailored to the area". "robust knowledge base for the IM to draw on". "The tools, maps and models can play a useful role in for instance the evaluation of auction offers".

- As expressed in your answers to the screening tool, you are addressing a timely issue in the current context. It is also a strength to have the possibility of using an already existing fund.

Challenges/suggestions

- [we need] “more knowledge on the legal implications”

- Enlarge the stakeholder group, by possibly Inviting more thematic experts to the MAG meetings

- “Legislation encourages hunters to organize in so-called hunting units. This is a voluntary collaboration between individual hunters on a specific territory. For these units, which enjoy certain benefits (authorisation to hunt certain species whereas individual hunters not linked to a hunting unit cannot hunt those), it is also necessary to coordinate with other stakeholders (landowners, farmers…)” it could be beneficial to select part of the locations for pilot projects where such hunting units are already implemented. This will allow to start from a context that already counts with some coordination efforts and dialogue. It would be interesting to see which kind of “governance”, dialogue, shared initiatives and shared modes of coordination already exist in these areas as well as the type of tensions or conflicts, including a reflection or strategy on how the IM could contribute to ease these tensions.

- Regarding the hunting fund and the IM from a long-term perspective, please consider estimating the potential scale at which the foreseen IM could be implemented – constraint by and depending the available fund?

- Governance structure of the fund: you mention that this is a recently created fund and the governance structure has just been created. Considering the goals of the fund (“sustainable game populations, biodiversity protection, support of sustainable hunting, limiting damage caused by game and the training of hunters”), are there non-hunting actors (biodiversity related actors, farmers,…) who could have a stake in the goals of this fund (rights and responsibilities) represented in the board of this fund? This could be for example in the steering committee or through punctual or structural consultative status

- Lack of resources for broad participation in MAG meetings: “for the design of the Natura 2000 programme in Flanders, huge efforts were done to ensure public participation at local and regional level. However, the SINCERE project is more limited in scope and less high on the agenda, which impacts the capacity and relevance of broad participation on decisions regarding the project”. We understand this limitation, yet as already done for the first MAG, we encourage you to continue finding the right balance between the available resources and the necessary representation of different interests and perspectives.

- Another important issue might be to clarify the future status of those grassland strips. You mention in your screening list the concern from stakeholders regarding the possibility that these might “end up becoming nature areas instead of agricultural land”. Will the compensation through the auction be only for use rights? What will you deal with property rights? You also mention a

possible interference or friction with agri-environmental agreements from the VLM (Are these based on CAP subsidies or not?). We wonder if there is also a potential interference or "double subsidy" risk with the VLM and/or CAP? Could those grassland strips be used to access CAP subsidies if the strips remain property of the farmers?

You state in the screening tool, "the price is set through the competition (i.e. limited impact on the price setting by other grant systems)". We believe this very important as according to you this is a crucial success factor.

- Will the foreseen strips created only on agricultural lands or possibly on forest lands as well? And in the case of forest lands does this imply a risk of deforestation (permanent conversion to grassland?)

- The risk that the hunting fund refuses to participate in the IA/IM is a real one and therefore problematic. What are you doing or what do you plan to do in order to ensure a continued and open dialogue with the fund representatives? How to involve them better, convince them and build mutual interest and trust? Given the political constraints, building communication and dialogue is a priority.

- Regarding the IM for habitat restoration: to ensure that small owners are not excluded (as expressed by your stakeholders), does/can the foreseen auction consider/allow the participation of a "coalition" of forest owners?

- There are strong controversies in the broad society around hunting and the role of hunters regarding nature and their sustainability impacts. Have you considered the potential impact of your IA/IM in this debate and within the context of these controversies? In your words, "the hunting sector tries to position itself as a legitimate actor in nature conservation". Are there other reactions e.g. by conservation NGOs or other actors that you could anticipate and that could affect the success of the mechanism?

- Have you considered consulting or developing a spatial strategic plan to identify the most appropriate areas for setting up the shooting strips or game habitat restoration measures? This plans could for example be developed together with the hunters interested in participate in the IA/IM, as a means to prioritize the selected areas for the SINCERE.

- Your analysis of ecological effects of the mechanism is quite concise. You see potential gains in biodiversity through improved forest structure, etc. The mechanisms behind this improvement need to be made more explicit. Also possible negative ecological effects should be anticipated and made explicit, while thinking about mitigating measures.

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• In general, IA leads have a clearly envisaged a path on how to proceed with the IM

• There is a need to check if there is a clash between the envisaged IM and the protected area status of the forest – relevant legislation needs to be checked, IM has to be modified accordingly. Also, there is still need to check if there is a clash between what the IM envisages to do and the habitat restoration and nature management fund.

• There is also a need to check if the auctions comply with rules on the statue / EU level support & subsidies.

• When looking into the relations with stakeholders; there seems to be a need to enhance cooperation between farmers and hunters on the topic, and at the same time there is a need to communicate the concept openly with environmental organizations.

• Given the legal nature of some of the “policy obstacles”, the IA will probably need a legal expert/legal advice to support them (which may be covered from their budget)

Switzerland

Feedback UCPH

Focus: The IA deals with Spiritual Forests and Forest Kindergartens as ESS and exploring these and their related benefits etc. The IA also aims at describing the associated forest management changes which are needed, and ultimately develop a business model for these two ESS. The IMs are already implemented. The IMs will develop guidelines for best practices and possible up-scaling.

IM – Spiritual forests and forest kindergartens

The aim of the IM is, in addition to the above, to convert the current existing provision of ESS into one which to a larger extent benefits the forest owners. Today, the forest owner typically received a small rent, and then the business themselves adapt the forest area to their use and realize the business themselves. In detail, the first IA deals with providing the option of using the forest as a burial place for placing urns in the forest ground.

The second IM deals with forest owners, who rent out a small part of their forest where a (private?) firm can establish a forest kindergarten.

Strengths: There seems to be a demand for these ESS since both are established in some regions of Switzerland.

Challenges: More in-depth descriptions are needed to asses exactly the degree to which the IA represents an actual additional action under the SINCERE project. The two different types of IMs are described simultaneously, and not all questions are applied for each IM. And in places, it is not clear which IM the answer relates to. E.g. for the question regarding land use change, it could be more specific ("Modest silviculture. Specific trees remain in the forest for a long duration. / No specific signalisation (decent communication)"). The section on supply / demand is extremely briefly described and does not provide much information. A number of responses suggest that little knowledge about the common challenges and design aspects relevant for PES designs is present. We suggest that more time is spent on understanding the challenges.

It should be noted that the IA case as such is not only well established in Switzerland, but also many other places in Europe, where forests are used as an active playground for kindergartens or school classes. They are favoured to enhance physical activity, well-being and sense of peace and nature among the children, and in schools to also enhance specific learning abilities.

Yet numerous reasonable questions are left unanswered, and we suggest the IA partners consider these carefully before they proceed in the development.

• If both services are established today, the information on the current and potential demand-side in the future could be developed and better explained:

1. Are the demand for forest kindergartens among private or public actors? What is the potential scale of markets? Are there additional costs for users/buyers of switching to forest kindergartens?

2. Who represents the demand-side in forest burial places? Is this to be individuals or private companies, already facilitating burials elsewhere?

• On the supply side, a similar set of considerations seems fair to undertake:

3. Engaging with a forest kindergarten, does that entail additional costs as seen from the forest owner, e.g. does it disturb other actions in the forest (hunting, harvesting etc.)?

• There are also questions regarding the transactions and the basis of them:

4. How do transactions take place? Among parents and forest owners? Municipalities and forest owners? Similarly for the burial sites.

5. Are there legal issues etc. related to e.g. risks in the forest? Who are responsible for security and insurance of the kids in the forest kindergarten? The parents, the kindergarten or the forest owner?

6. Are back-up kindergartens needed in periods of storms and other forms of dangerous weather in the forest?

7. In case of windthrows and uprooted trees, who shall carry the costs of re-establishing burial sites? The forest owner? Someone else?

Feedback KU Leuven

Funeral forests and kindergarten

Focus/goals:

Cultural ES: “Different cultural ecosystem services within the categories “physical experience”, “cognitive experience” and “emotional-spiritual experience”: 10 ecosystem services in total according to the CICES-classification”

Type of IM: new business models, funeral forests and kindergarten. Led by forest owners or forest enterprises, and combined with specific forest management measures, which could have positive impacts on other ES and biodiversity.

Strengths

- This is already a well-developed case, based on a holistic and participatory perspective. It has considered a feasibility study and a stakeholder analysis at the Swiss level. Furthermore, a tool to analyze the FES was developed which covers all different elements from silvicultural aspects up to legal and social factors. This sounds interesting, would it be possible to tell us more about this tool and provide more detailed information on the factors it addresses?

- The presentation and explanation of the IA are clear and show awareness of the different perspectives present in the IA.

- In addition to the spiritual and religious ES that are the focus of the IM, other positive consequences are considered such as new income, biodiversity conservation, potential for creation of work for elderly forest work force... The IA is also thought beyond its central goals. An important issue of interest concerns the use that will be made of the outcomes that will be generated: how much of the amount will be invested in forest management measures (which can have impact on other ES)? Does this investment compensate for decreasing wood production?

- Your screening tool offers a very clear vision on the meaning of the actions in the IA and their coherence. We believe this is particularly important when dealing with these kind of cultural ES

- Some stakeholders mentioned as a positive aspect the “possibility to come in contact and involving new actor groups in the region”. Is this interaction mainly happening through the foreseen participatory process or will also be the case once the IM is implemented?

Challenges/suggestions/questions

Technical and project terms used in the SINCERE project – April 2018

SINCERE Innovating for Forest Ecosystem Services 2

- “An important part of Swiss forests are owned by private actors” but “80% of the forest area in the canton Aargau belongs to public entities. 20% of the forests belong to private owners”. Bearing this in mind, we wonder if this is a particularity of this canton compared to other cantons. This makes a difference with other IA of the SINCERE project which mainly concern forest areas covered belonging to private owners.

- Regarding the potential of this IM to be scaled up in the future and implemented in several other local contexts, you mention: “Each case/each example is different and needs a different and

specific proper strategy. For each new case a new strategy has to be developed, and adapted structures and procedures have to be enhanced." Did you already identify which elements are more context dependent than others?

- In the contract signed by both parties, your screening tool mentions commitments from the landowners in terms of management measures and which ones. Is this obligation valid around the single tree and/or more generally for that whole forest?

- Competition with other local/regional suppliers of the same service: Have you considered the risk of potential tensions or conflicts related to competition at a larger scale in the future?

- Challenge with the participatory process: funeral forests exist in other forest areas in Switzerland (but not in combination with specific forest management measures, and not run by forest owners but by other private actors who pay a small rent to forest owners in order to be allowed to use their land for funeral forest services). As the broader goal of the IA is also to promote the concept of funeral forests at the national level, you mentioned that "it would be quite bad if the 'competitors' are invited to the MAG meeting. However, for the context of a case-study in SINCERE, it would be good to invite them, as this is what is in accordance to the procedures of SINCERE project. This needs to be discussed at the Co-design event." How are you planning to deal with this issue?

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• In general, the IA lead has clear ideas on how to proceed, and adequate capacities to do so.

• The case operates in a complex policy environment, and policies differ across cantons and the IA case may stretch across a bigger territory. This makes it very difficult to make a plan on how to proceed, as some activities (e.g. burying the urn, scattering ashes) may be allowed in one place and not in another one. IA could analyze the legal framework systematically for some cantons, detailing which activities are allowed where, and which ones are not (according to all relevant legislation). This would make it easier to make further plans. IA lead also mentions clash between forestry and public health policies - this should be investigated further.

• In addition, 'local politics' / relations with stakeholders seems to be very important, and it is still unsure who should be invited to the second MAG meeting (i.e. to invite 'competitors' or not). This should be discussed at the Co-design event

Russia

Feedback UCPH

Focus: The IA deals with 'Club GREY HORSE – Providing multiple ecosystems services by forest renters', which is an area of approximately 8500 ha in central Russia, located in the southern taiga. Timber harvesting is the main source of income in the area. The commercial activities, carried out by the club Grey Horse, consist mainly of wood harvesting, recreational business, including sports hunting, canoeing, hiking and equestrian routes and agriculture. The local population uses the forest for collecting firewood, mushrooms and berries. In the region, one of the main issues is frequent timber harvesting and declining biodiversity. The area for the IM is state owned.

IM – The IM deals with renting out forest plots for multiple ESS. Today it is prohibited to rent out the same plot for several FES simultaneously. The aim is also to conduct an evaluation of all the types of FES the area/plot may provide. It is also described, that a main aim is to establish some sort of PES mechanism so public goods from the forest may be preserved. The IMs are expected to be realized through laws and regulations.

Four different types of IM are described simultaneously in the report (as we understood it).

Strengths: The case/region seems to be very relevant and there also seems to be scope for forest resource improvements and improved economic transactions may also be needed in order to make in impact on FES provision. In addition, a successful IM would be the first in the country with potential to make way for more PES.

Challenges and questions: It would be beneficial to use other partners in SINCERE to utilize knowledge across case studies and IM implementation. The description of four IMs simultaneously makes it more difficult to get in-depth perspectives on each one. Some of the IMs aims at making it possible to rent out/provide more FES in one area and make longer contracts an option. This is a valuable focus and could improve ESS provision. The other IMs discuss the need for creating a system of payments for public goods from the forest. It is unclear what the actual transaction of a PES could entail (the good sold, and the potential demand, and how it should be carried out). It is described, that consumers of ESS should pay for them and that there should be a tax for everyone but also payments and fees. More details are needed here. Some questions to help specify as you go forward:

• With regard to the IM on multiple-ESS from the same plot of land, is it aiming at new types of FES (which?) for the area or types which are already traded in the area?

• Could you give examples - using concrete ecosystem services of value - of how a tenant could gain from having the right to utilize more ecosystem services, relative to under current law?

• Also, could there be conflict potentials if sub-letting is allowed, as you suggest: For example if the tenant have rights for both harvesting wood and hunting, but then sublets the hunting to another person. Could then the right to harvest conflict with the right to and value or hunting? How would such conflicts be resolved?

• As you focus on revising existing regulation (which we commend and think is a worthy target) could you provide your objective assessment if and how the legal obstacles for such a revision of regulation can be overcome?

• It is not entirely clear if / how forest tenants pay for their utilization rights today. If they pay, how would the price of this be affected if more rights are combined under your new suggested regulation?

Feedback KU Leuven

Focus/summary:

Current legal context: leases on a forest plot are made for one ES to one tenant. If this tenant wishes to use/commercialize another ES, s/he has to apply for another rent on the same plot. This second application will be done in 'competition' with other applicants, which might lead to a potential conflict between different tenants on the same plot, when trade-offs would exist between these two ES.

IM: Extend the lease from a single to multiple ES (with possibility of sublease), and with a longer term (in order to stimulate tenants to think long term). The price of the rent will increase (new cadaster based on evaluation of all potential ES provision). This could create problems for current tenants, but a PES or tax (or market "especially for regulation ES" see 6.1) could be implemented in order to make ES, other than wood production, profitable (unused ES or biodiversity conservation). How? A tax paid by "everyone" and/or a PES by direct users, industries…

This will require:

1) To build a strong case and scientific arguments

2) Modify the law to change lease conditions and make PES possible

3) Create a tax/PES/market

Strengths:

- Local pilot project identified, where there are already multiple ES provided and used for commercial purposes.

- Possibility to create new economic opportunities, more diversity, enhanced resilience.

- Anticipation to address potential conflicts between several tenants on one forest plot (but the same problem might arise in case of sublease).

Challenges/ suggestions/ questions:

- Unless we misread you, we see considerable ambition in this IA (perhaps too high?). You describe 4 different IM yet they are all connected and parts of the same project. Several steps are considered: 1) scientific studies, valuation of ES, including a new cadaster, 2) rent with longer term and multiple ES; 3) PES or market to make ES other than wood production profitable. We advise to check this interesting ambition with the what is possible to do within the life-span of the SINCERE project.

- In the study that you are considering, are you including social valuation processes, including the question about which ES are the most important for the different stakeholders?

- Can you evaluate the impact of the rent price change? How could you deal with that? Would it be necessary to support the tenants in the first period?

- Will you need to support the transition of the wood processing industrial actors, given the expected strong decrease in the wood production chain?

- About the tax/payment scheme, who would pay and how much? Would you make different kinds of payment for different types of stakeholders and their socio-economic characteristics? We believe this is an important issue to consider given your acknowledgement of the “strong economic inequalities are observed” in the large settlements around the IA.

- The goal of the modification of the conditions of the leases (longer + renting the forest plot (all ES together) and not only one ES like wood production) is to “enable multipurpose use”□□how to ensure that the management choices will be different and evolve towards enhanced multifunctionality? (Enabling vs. ensuring?)

- Is there the knowledge or know-how on multifunctional management? Are you considering a certain training for the tenants?

- You state that the waste disposal is the cause of the major problems in the area (soil degradation) (with biodiversity decrease). How would your IM contribute to change that?

- Regarding the monitoring of impact: You mention a recent ratification of a natural park status for part of the IA area, “which is going to result in decrease cutting volume”. How will you monitor the (potential) of this change, in general, and for the implementation of the IM, in particular, if change in tenants’ rights is expected to lead to a transition from wood production management to multipurpose forest management?

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• The implementation path for the ideas / IMs are clear (multiple ES lease, cadaster evaluation, compensations / payments, increase the plot lease term), – but it is not clear what is feasible to be done within the scope of the SINCERE project. This has to be evaluated and decided upon during the co-design event.

• As the IA is very new for Russia and (forest) legislation just focuses on timber function, it will be difficult to implement. For now, it seems that the emphasis will be on a feasibility study and ES evaluation. In this feasibility study, special attention should be paid to explain how the ‘ecological legislation’ supports it, and how it clashes with the forest’s focus on the timer producing function.

Peru

Feedback, UCPH

Focus: The IA deals with a region where the large lake in the area historically has been overexploited. This has led to problems with erosion, pollution and much more. The area is located around the Piuray Lake, which has been a main source of water for the city of Cuzco for centuries. The level of poverty is high in the area where the micro-watershed is located, and 80% of households do not have water and 60% of households are without electricity. The IA may potentially help solve the conflicts and resource problems between upstream communities and downstream urban users of water. There is a new law in Peru on payment for hydrological ESS.

IM - Institutional arrangements for improving vegetation and soil management and enhancing natural infrastructure for water security

The innovative part is described as the PES mechanism on water related ESS. The described change in land use could be reforestation, agroforestry, abandonment of agriculture at the edge of the lake, organic agriculture (reduced agrochemicals), and infiltration trenches. Urban water users are supposed to pay for the water ESS.

Strengths: The IM appears timely in relation to the new law, which has been passed. And the case of a fee applied to the water bill for urban water users seems implementable with potential large impact for the water resource and rural communities. Moreover, there is potential to solve (continue solving) a long conflict on land degradation affecting poor communities. The suppliers / demanders are clearly defined and the upstream/ downstream problem related to overexploitation of the resource is also a well-defined ESS case. The innovative aspect includes that payments are proposed to target with communities as opposed to individual landowners. Other cities in Peru are also going to implement water related PES, so the up-scale of knowledge gains from this IM may be large.

Challenges: An identified challenge is how to choose/develop the payment vehicle towards suppliers. The practicalities regarding the payment are unclear at this stage. There is a need for information on both the costs and the benefits of the PES transaction. Here are some thoughts on the case, which may be of inspiration for the design of a payment structure towards the communities

• It seems implicit that direct payment to up-stream agents need to be of collective form – this may rule out simple cash? Can other public goods be identified for up-stream communities, which they may benefit from, and which may be financed (in part?) from down-stream user fees, provided land use changes are made? Could it be construction or maintenance of infrastructure? Schools? Transport options? Waste handling?

• How can moral hazard aspects be handled among up-stream suppliers? Even with monitoring of status of landscape, is it possible to identify who is responsible for e.g. deviations from agreed changes and behaviors? In particular, if payment is in some form collective or of public good form, some monitoring/sanctions of individuals should be possible. Internal social control mechanisms upstream could be incentivized if e.g. payments for public goods, and hence the public goods stops or are reduced in quality. Thus: If someone breaks the deal, all are punished.

Feedback KU Leuven

Strengths:

- Awareness and attention paid to potential power imbalances.

- The choice of IM seems to be relevant given the context and challenges described as well as an opportunity following the enactment of the new Law.

- Potential to address a 20 years conflict, and create a space and institutions to trigger a dialogue.

Challenges / suggestions:

- To further think on how to better integrate the selected IM into a wider territorial and development vision for the area. What is the larger ambition behind the implementation of the selected mechanism? Could this mechanism be included into a broader territorial development plan or vision, as a mean to further stimulate/ motivate participation and involvement in the planned mechanism. Are there ideas on how to use the money that will be collected? Will it serve the needs of local communities or for territorial development at a larger scale? Will you have an impact on how the money will be spent?

The poor access that local communities have to water is mentioned in the text. How will this be addressed?

- The document shows your awareness regarding many challenges and risks. Are you thinking on how to address or deal with them in order that your IM delivers its sustainability ‘promises’? E.g.

How will you deal with challenges relating to local communities? You mention challenges relating to the capacity for managing funds, risks of elite capture, reliability, liability).

- What are the concrete changes/improvements that you expecting to trigger from the proposed PES? You mention the following aim: To compensate for water use and use part of the money to restore micro-watershed ecosystems to ensure provision of quality and quantity of water.

o How well do you know the cause of this ecosystems degradation? Is the ecological problem (vegetation degradation and decreasing level of the watershed) due to watershed management or increasing water demand and consumption from Cuzco and urbanization processes? if this is a mix, who is the largest responsible?

o To what extent communities or other actors need also to change their practices and behaviors in order to effectively reach the expected impact (enhance water quality and quantity)?

CIFOR is an international institution, How does CIFOR interact with the different concerned stakeholders? (power relation)

You mentioned the need for:

- Methods for analyzing ex-ante costs and benefits of different activities supported by the PES.

- Methods for systemic analysis of interactions between ecosystem services and stakeholders involved

We consider these very important for the self-assessment process

As sustainability risks and opportunities, you mentioned:

- The PES mechanism may bring changes and empower communities or, at the contrary, reinforce inequity and power misbalance in the site.

- We will analyze in a participatory way how different modalities may affect ecosystems, ecosystem services, and people.

We wonder how high are these risks? Do you have any previous knowledge or experience on how to deal with this? How to monitor this?

As crucial factors of success, you mentioned:

- Communities are recognized and benefit from the IA

- The urban water utility perceives that the IA improves water security

- Mechanisms are in place to facilitate negotiation among IA stakeholders

We believe all these elements are relevant and have high potential to integrate them in the sustainability self-assessment process.

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• The new legislation is very supportive towards solving the issue of water supply… but creates problems with stakeholder participation, conflicts and power misbalance. There is a strong need for learning from other comparable cases how these issues have been tackled….also support from SINCERE researchers.

• There are also clashes between the IM and Water and watershed management policies / interventions. This points to a need to enhance the communication / planning with stakeholders who control these other initiatives

Italy BorgoVT

Feedback, UCPH

Focus: The IA aims at improving the commercialization of wild mushroom picking permits.

The main task is to develop an app through which mushroom pickers can buy permits and use the map features in the app. The app will be a useful tool for collecting data on the frequency of pickers in some areas etc. The target area is 13,000 ha. The IA aims at creating a direct link between the payment for mushroom picking and the associated silvicultural changes, which promote mushroom productivity. The forests are chestnut and beech managed as coppice with 40 years cycles, and the trees are in symbiosis with wild mushrooms. It is stated that a minimum of 100 trees per ha should be 'released' (?) to promote mushrooms – It is unclear whether released means cut/harvested or whether only 100 trees should be present per hectare?

The CCP (Consorzio Comunalie Parmensi) forests are owned by members. They are community forests, a private entity with public functions. At a national scale, 12% of the whole population picks mushrooms but locally it is more than 50% of the population.

IM – app based commercialization too to improve the marketability of permits

The main aim is to improve marketability and improve the experience for the pickers – that is probability of finding mushrooms. The wild mushroom picking is a recreational activity, with 100,000 pickers purchasing the permits (in this region?)

Supply of mushrooms can be increased through myco-silviculture. A change from the traditional 50-60 year cycle to a parcel cut every 40 years, of minimum 100 trees per/ha. In beech stands a change from even-aged to uneven-aged structure will be favorable.

Mushroom pickers will benefit since they will pay less for better probabilities of finding mushrooms.

The suppliers are the CCP (in this area). There is a potential for up-scaling to other private/public forest owners to use the app. The higher cost of forest management will initially be paid by the forest owners. IA will pay for the coordination of stakeholders and the implementation of the app.

Economic feasibility: It is stated that the IA will be financed through internal funds of CCP (?).

The IM will be successful if – all stakeholders meet to discuss the desired features of the app. The costs of the app do not exceed 20,000 euros and if it will lead to new investments in myco-silviculture outside the IA case also.

Strengths: The PES is clearly defined and there is already a demand today. If the IM is successful, then the app (the tool developed) could be used by other (small/large) private forest owners and provide them with a tool with low transaction costs which they probably not would develop individually, since it would be too costly.Innovative aspects include the app based tool itself and the reduction of transaction costs. It aims at reinvesting the revenue in myco-silviculture.

Challenges: The FES of selling mushroom picking permits is already traded today. However, the IM aims a reducing the transaction costs of selling permits and improving the experience for the pickers. It could be argued, that the ESS here is not a public good, and hence not typical focus of PES instruments. A few questions to consider:

• Once developed, will the app be available for other forest owners free of charge?

• If the enhanced demand for permits and mushrooms results in more myco-silviculture, then could there be other winners or other losers?

1. Are there positive externalities from myco silviculture relative to the alternative?

2. Or are there negative externalities from myco silviculture relative to the alternative?

Feedback KU Leuven

Recreation ES - Wild mushroom provision as a recreational activity.

The IA consists of an application for mushroom picking permits (sales, maps, emergency help, orientation etc.). Today 100 000 pickers are already paying for this ES in the Taro Valley (area of the IA, comprising the forest under the PGI scheme “Borgotaro mushroom”). The IA, through the development of this application, aims at

- enhancing the commercialization of mushrooms permits,

- reducing the transaction costs within the market giving access to the wild mushrooms. This reduction will benefit both the mushroom pickers (reduction of the permits price) and the forest as the more of the benefits of the commercialization of the permits can be reinvested in myco-sylvicultural measures)

- monitoring and regulating the flow of visitors: maps included in the application will guide mushroom pickers to areas with less visits and thus more mushrooms.

Strengths

The IA will be implemented in the context of an already functioning permit scheme.

Challenges/suggestions

- Your screening tool mentions an existing similar tool or application for commercialization of wild products. It also mentions that the difference between the existing tool and the foreseen IA is the reinvestment of the gathered revenue in myco-silviculture. Could you please help us with the following clarification: at this stage, before the design and implementation of this app, are the revenues from picking permits already invested in myco-silviculture practices? Or is this a new initiative to be implemented (or enhance) concurrently with the development of the app?

- You mention the controversy related to fauna disturbance and the negative impact on biodiversity (ground nesting birds…) caused by the number of visitors. Have you considered the various impacts that the app could trigger in this context? On the one hand, the app can help monitoring and redirecting picking to less visited areas of the park, which could increase the disturbance in today more quiet areas suitable for sensitive animals; on the other hand, the app could enhance the commercialization of permits, leading to an overall increase in numbers of visitors.

- One of your important goals is “to enhance the economic output of the forest” related to mushroom production. Have you considered and examined the potential trade-offs between the optimization of mushroom production and other ES? Is there existing in-depth research on this either in your IA territory or elsewhere in Italy/EU?

- Those buying permits can be locals or tourists. Is there any difference made between these two actors, regarding price, access or other?

- In CCP assembly, you mentioned that the board members collect input from stakeholders. You also mentioned in the screening tool “the lower level of representativeness that the pickers have”. What do you mean exactly with this? Who are the stakeholders involved in CCP meetings and/or in other consultations?

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• As the payments already exist and similar tools have been implemented for other wild products, adequate preparations for the development if IM (app) are here and seem to be consistent with the policy framework– but still, development of an app takes time and resources knowledge. The IA lead is advised to act quickly in order to have a developed product early enough in the project. Still need to think on how to handle the ‘free riders’ pickers

Italy ETIFOR

Feedback, UCPH

Focus: The IA is called ECOPAY Connect – Forest-habitat biodiversity payment scheme. It aims at creating a scale-up of an existing PES scheme to cover four national parks. The existing scheme deals with sustainable poplar plantations and biodiversity in one of the four national parks in the region. The areas will be/are certified under the FSC scheme.

The economic exchange is described as an exchange of biodiversity habitat units, sold by the Park to certified poplar farmers. The habitat units are measured in surface units. The ecosystems involved are fluvial forests, such as willows, rushes or mixed lowland forest. As we understand the case, the forest owners buy protected biodiversity forest in an area separate from their own plantation, corresponding to 10 % of their plantation area.

The buyers of the ESS are owners of poplar plantations, which would like to fulfill the requirements of entering an FSC certification scheme. The suppliers and recipients of the payments made, are private forest owners or the Park.

Payments are described as partially, monetary payments (as sponsorships to the Park), and partially by management practices of certain areas.

Strengths: The developers of the IM know that this already works well in one area, however, the up-scaling may provide useful knowledge for other similar cases. It provides growers of poplar plantations with an option to become FSC certified which they otherwise were likely not to have.

Challenge: This is already a developed and working PES scheme, however, the up-scaling may still develop interesting results, which can be used in other contexts. By and large, the description is clear and numerous tricky issues appear to be handled. We have a few questions that you may want to consider as you progress further in this work:

• A common challenge in this form of ESS provision schemes is how to show that there is additionality? Does the payment and contracts with the poplar growers result in a change in land use, which would not have happened in the absence of this PES? Or are the willow lands already protected, or simply just not likely to change in area even in the absence of this scheme? If yes, then the scheme can be said to pay for nothing and no additional ESS provision takes place.

• Permanence is another aspect to consider in cases like this. Assuming that the area protected and managed for habitat quality under the payment scheme is additional (c.f. our point above), then what will happen once a 5-year contract runs out (see you answer to q 14 in the screening

tool)? Biodiversity and many other ESS benefits usually rely on areas being protected over long periods of time. If areas are likely to be lost or face reduced habitat quality after a contract period, then what is the value added in the long term?

Feedback KU Leuven

Focus/goals

Habitat (unit) for biodiversity (see FSC requirements)

Context or local challenge: local Parks “are facing major problems, related with constraints in public spending (Parks have seen their funding decrease constantly in recent years) and with a changing governance: the regional authority has in fact recently carried out an important reform (LR 28/2016) affecting all the protected areas in Lombardy, basically stating that the regional Parks would become management bodies not only for their own areas, but also for other types of protected areas (Natura 2000 network, natural reserves…) that are included in their area of interest (called Ambito). This fact has resulted in several difficulties, which we think could be better managed through adequate Innovation Mechanisms.”

The selected IA consists of the implementation/upscaling, in several regional parks, of a private-public partnership to finance biodiversity conservation, that have already been implemented in the IA region between a regional park and FSC certified poplar plantations. The FSC certification requires 10% of the plantation area to be "representative area", which would affect the production of the poplar farm. A five year agreement between the poplar tree farm and the Park Authorities have been set up, through which the farm commits to carrying out specific interventions for habitat restoration in natural areas owned by the regional park. This represent a win-win: fulfillment of the FSC requirements for the farm, and funding of maintenance and restoration for the Park.

This IA involves encouraging more poplar farms to apply for FSC certification and the implementation of the 5 years agreements between poplar farms and four regional Parks. The IA will consist of two actions:

- in Oglio Sud park: implementation of the IM.

- the other Parks: feasibility study for future implementation of this type of IM adapted to the context.

Strengths

- This IA is already a well-developed case, as you are considering upscaling an already existing and full-working PES-like scheme in the area.

- The focus on leaning on existing initiatives together with the ambition of developing new networks and places for dialogues between actors. E.g. “Creation of a network of Parks for exchange of good practices”.

- The focus on the innovation in the process of designing and implementing the IA is also interesting. We look forward to know more about the participatory methodology and techniques that you are considering.

- From your screening tool, we learnt that an ES valuation has been already done for Oglio Sud Park. In which time-frame could this be done for the other parks?

Challenges/suggestions

The presentation of the IA is clear and thoughtful, you made considerable efforts in anticipating ways to address potential challenges:

- It seems a pressing need to find alternatives to cope with growing budgetary cuts of the Parks. However, as the changes are not made on the poplar farm area itself, is it sure that FSC will always accept the 10% norm as met, even if the set-aside land is not owned by the same party, or the areas of land are not spatially connected to the poplar plantation?

- You mentioned 5 years time-frame agreements. Is this period enough to ensure restoration of those habitat units in the longer term?

- If we understood correctly, part of the IA consists also of convincing new poplar plantations to get FSC certifications and stimulate the adaptation of their practices (to get FSC certified they might have to do more than only managing a 10% land area in an adjacent park; they also might have to adapt their poplar management). How do you envisage this process?

Main environmental issues today: “All the selected areas are experiencing loss of biodiversity, especially related to aquatic habitats (fishes and invertebrates): the natural function of waterways of ecological corridors is threatened by artificial barriers and farmlands and poplar cultivation next to the riverbed.” It looks doubtful if the proposed IM can contribute to this problem, as it will not reduce the area under poplar; it might even give an incentive to increase it. How to cope with this issue on private land?

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• IA is an upscaling of an existing scheme, and development of a feasibility study for three other areas. As such, policies do not represent an important new obstacle to the implementation of IA… the critical point is getting other farmers to join in to the payment scheme that has proven to work under the given policy setting. This is an issue that should be discussed at the co-design event.

• It would be interesting to discuss in how far the policy framework could support transferring the IA model

Finland

Feedback, UCPH

Focus: Ruka-Kuusamo, the case of a nature-based tourism resort in Finland. The area has 1 million visitors annually and 2/3 of the local population works in the tourism and service sector. A total of 82% of the forest in the area is privately owned and gets income from sale of timber. There is a lack of dialogue between forest owners and those interested in buying ESS. Nature-based tourism is growing but needs more tailor-made solutions to help the sector develop.

An issue is that mandatory financing systems worries stakeholders compared to voluntary ones. This gives scope for new innovative mechanisms developed through engaging with stakeholders.

IM 1: PES, Landscape and recreation value trade in Kuusamo.

The main aim of the IM is to secure landscape and environmental values for tourism and recreation when the demand for timber (from the industry) also is increasing. Therefore, the target is to create a market for FES and landscape services so owners have an alternative income when they produce amenity values and ESS. And the IM proposes to test ways to raise funding for these aims and use the case of Ruka-Kuusamo as an example of how to create these markets for FES.

The greatest innovative aspect is considered to be the new payment procedure (to be developed) and the business model with landscape values as a marketed service.

The IM will be successful if stakeholders, who benefit from FES, are motivated to pay, and if a simple setup regarding values and prices are created and, moreover, if the local community is willing to cooperate.

Challenges: An identified challenge is that public funds to secure ESS are limited; tourism and CSR need to identify their role in securing environmental values of forests. However, the IA clearly identifies the need to be innovative in defining one or more mechanisms for channeling demand into actual payments and aggregating these in some form. Thus, how to collect funding, and from whom? Payments could be made from customers, visitors, tourists, and as pointed out residents pay taxes for the municipality. More specifics on potential options for payment vehicle(s) should be developed here. Some ideas to consider:

• Voluntary donations may be implemented in different forms, e.g. linked to different product variations at hotels, where a value-added product is marketed with a mark-up donation being made towards maintaining landscapes in the area

• Donation options in recycling systems: In Denmark there is a recycling tax on bottles etc., that is refunded when the bottle is returned through collector machines in the stores. A donation system has been implemented where instead of collecting the refund yourself, you can press a button to donate to e.g. WWF, Red Cross etc.

• Donations in field may be encouraged, e.g. through mobile phone based systems, through encouraging donations for specific actions, using motivational construct like provision point mechanisms, warm-glow enhancing visualizations etc.

Feedback KU Leuven

Landscape and Recreation Value Trade (LRVT)

The IM focuses on landscape for tourism and recreation, and also as a mean to enhance other ES. It is described as the PES Landscape and Recreation Value Trade (LRVT) in Kuusama, which is a municipality located in north-eastern Finland. Ruka-Kuusama is one of the major nature-based tourism resorts in Finland, receiving one million visitors per year. 82% of the considered area are private lands. The main income of private forest owners comes from timber sales yet with the modernization of the forestry sector (and agricultural one) employment has decreased.

There is a need to diversify the use of forests in order to improve livelihoods in the area, create more (green) jobs, and maintain or restore landscapes that are attractive for tourism and recreation. The motivation for the IM is simultaneously socio-economic as ecologically driven.

The payment in the foreseen PES: payments from tourist actors (tourism association, visitors, hotels, ...) to forest owners in order to generate funding for the management of the landscape that is used for tourism recreation.

Strengths

- Relevant in-depth analysis of the context in which the PES will happen, comprising the identification of socio-economic and ecological issues at stake.

- Considerable effort in identifying many of the relevant actors for the IA/IM. Remarkable willingness to ensure broad participation, active listening of needs and expectations and open dialogue including all perspectives. You mentioned in the screening tool that some stakeholders cannot attend full days meeting. Who are these actors? Could you discuss with them possible adaptations in the participatory process in order to facilitate their contribution and participation? This could be important for the organization of the coming MAG meeting.

Challenges/suggestions

- Is there an available in-depth study on the landscape preferences of tourists and local people, and also covering the relationship between those types of landscapes and diverse bundles of

ecosystem services? If not, a social valuation process to assess landscapes preferences (or similar studies in similar contexts, at least) could be useful, because this is often culture specific; this could also be the case for scientific evidence between landscapes types and the ES that they provide.

- You mention new gold mining plans: how far in their development process are those plans? How would that impact the landscape services in the foreseen IM and IA?

- Although you have identified the need to stimulate private forest owners to change their practices through a diversification of their sources of income, some further clarification might be needed on the type of mechanism that can contribute to this goal. Your screening tool analysis refers sometimes to a (i) “market”; (ii)compensation, which could also be done through some kind of subsidy system; (iii) a voluntary payment between private actors; (iv) mandatory payments which might require the creation of a legal framework, a new tax, or restriction of access to forest etc. We see that there are several options, which might need further consideration and brainstorming. This might be an interesting subject to discuss together with your academic partner, stakeholders and SINCERE consortium during the co-design event at the end of January and in the coming MAG meeting.

- You mention that “private owners have made some land use agreements with nature tourism enterprises near hiking routes and to safeguard landscapes nearby leisure homes” What kind of agreements are these? Are they an economic transaction or another type of arrangement? Could they serve as an inspiration for the IM if done at a larger scale?

- The actors involved in your IM: Which will be the core actors concerned by your IM? You mentioned visitors/tourists, tourism associations, hotels,.. (question 9.3). You also mentioned that “nature is the most important asset and free to use. When business is growing, this asset must be guaranteed also by investing in it” and then you highlighted the importance of the “profitability of the investment”. Bearing these statements in mind and considering that the fact that nature is free in Finland is of high relevance, could it make sense to start with those actors willing to make a financial investment, as they can possibly profit directly from the touristic use of landscapes? Would it make sense to draw special attention to actors from the tourism sector? To which ones specifically?

- One of the main topics under discussion among the different stakeholders seems to be the mandatory or voluntary nature of the foreseen IM. It could be interesting to explore different possible mechanism options, either voluntary or based on a moral formal commitment, which could be co-designed for and with different actors.

- From your explanations in the screening tool, we understand that many stakeholders identify the need for an enhanced dialogue between local actors. Could the foreseen IM address this need and, for example, integrate it through the creation of a certain type of platform to stimulate and facilitate this dialogue?

- The Kemera program provides financial support to forest owners for specific silvicultural measures. Have you evaluated a potential risk of interference and “double subsidies” in this case? If so, how can this be addressed?

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• The activities in this IA represent a continuation of similar activities from previous projects – so the IA is on a well-established path, with clear ideas on what to do. There are already ideas on what to do after the project ends.

• The IA lead plans to pilot-test the IM (volunteer payment only, more complicated IM in the next project) within the project… but is unsure will they do some marketing of the mechanism during the project. This should be discussed and decided during the co-design event.

• IA lead clearly states that different policies (forest, sustainability, biodiversity and climate) are supportive of the IM. … but that stakeholder relations are crucial / critical point for the implementation of IM. As more communication is needed, a recommendation is that IA lead also engages in the promotion / marketing of IM as one of the ways to enhance the probability of the IM’s success. The IA lead could discuss this with relevant experts during the co-design event, and ask for advice on how to proceed with this.

Denmark

Feedback, UCPH

Focus: Reversed pilot-auctions for promoting biodiversity. The main IA deals with establishing a pilot project of using reversed auctions to get forest owners to place bids on setting aside forest areas as untouched for the protection of biodiversity. The forest owners thereby themselves define both the area (part of their property) and the price. Three IM's are described which all revolves around this case of getting forest owners to promote biodiversity (e.g. untouched forest) through participation in voluntary auction mechanisms where they themselves define the action and their individual bids.

IM 1: Reverse auctions for harvesting rights in order to protect biodiversity

This is described as the main IM of the case study and the following two are IM variations connected to the same theme. The Danish government has set aside more than 10 million € for the next 8 years to secure biodiversity in forests allowing for the implementation of a reverse auction system.

IM 2: Forest owner guilds

A similar IM as above, only this aims at having forest owner combine into guilds to make joint bids, and to suggest themselves different types of land use changes to enhance biodiversity. The idea is that it may provide larger coherent areas for biodiversity, promote instrument innovation and cost efficiency. Moreover, the guilds may lead to social control regarding shirking and other moral hazard issues within the guilds, because the forest owners collectively are responsible for fulfilling the agreement. This aspect is an innovative part of the IM, which could be useful to explore and it has potential for a large impact on reducing the costs of control/monitoring if up-scaled.

IM 3: CSR-model (Corporate Social Responsibility)

This IM solely focuses on a different financing of ESS provision. It aims at having large firms interested in covering the demand-side through their focus on CSR interests. The interest of the firms may be carbon capture, increased biodiversity or recreational access. It stresses, that such CSR gains may be particular attractive for firms able to enhance ESS in the proximity of their own surroundings, e.g. around cities where they have major offices or other facilities. This may imply a 'good neighbour' gain that can enhance their standing and reduce other sources of friction and cost for them locally.

Strengths: It is an innovative aspect of the IM that it aims at setting up a biodiversity provision mechanism, which also targets cost-efficiency through the auction mechanism. The potential for upscaling to e.g. other types of environmental schemes appears large /promising. Furthermore, the IM aims at developing a more flexible mechanism with regards to targeting biodiversity quality compared with existing flat-rate schemes.

Challenges: A potential challenge may be to mobilize a sufficient amount of bids from forest owners. There may be legal aspects to consider when setting up the mechanism and selecting forest owners for participation (comparing biodiversity aspects across areas). Forest owners may gain knowledge and learning through the bidding process, which may lead to strategic bidding in the future and thus reduce efficiency over time. In Denmark, organized forest owner consultants typically provide the owners with advice on subsidy schemes etc. and write the applications on behalf of the owners, so coordination among bidders should also be a risk to consider.

For the guild-based variant, it is a challenge for upscaling that binding contracts with the government can only be held by one legal entity. This means that either the forest owners may need to form such an entity for the purpose of contracting, or that one owner takes on the contracting with the government and then subcontracts other owners. The implication of the latter is to place a substantial risk and enforcement cost on that one owner.

For the CSR option, a challenge may be how to gain the interest of firms and establish the 'link' to their company profile, in order to gain funds/demand. In the CSR case, further work is needed to specify how the forest owners' bids regarding supply and firm's CSR demand of ESS are to be matched?

Feedback KU Leuven

Reverse auctions for zero forest management

Focus: Modification of the existing system for biodiversity protection through large-scale IM regarding biodiversity in old large areas of native species forests in a close-to-natural state. Including a case action with more narrow geographical focus, most likely in Eastern Denmark.

Reverse auction: use competitiveness to stimulate landowners, increase quality of subsidized land and cost-effectiveness (at lowest socio-economic costs). Transaction from the Danish state to private owners. Up-front payments compensating the private forest owners for foregone income in exchange of halting forestry operations, at the price bid by the forest owners themselves (private person, company, organisation)

"The project will engage with only private forest owners, be based on voluntary contracts and seek to improve cost-effectiveness"

Strengths

This is a well documented 'screening tool'. We appreciate the effort that you have put into providing clear explanation, rich data and details.

The IA seems to count on strong practice-research partnership.

There is strong scientific basis, relying on (i) mapping of forest areas of high interest for biodiversity preservation and for potential conversion to 'untouched' forests; (ii) literature review on different auction formats and how these influence information rents and thus cost efficiency; (iii) analyses of the effects of using data envelopment analysis and yard stick pricing techniques. There is also considerable awareness of further research needs for the IA.

Challenges/suggestions/questions

- You seem to have a strong knowledge of the different profiles of forest owners and their interests: how can this knowledge be used to tailor calls with the reverse auction mechanism?

- "Synergies with existing public funding mechanisms for biodiversity forests will also be explored". Have you also considered the interaction and potential interferences with existing 'flat-rate' or other subsidy schemes?

- You mentioned the potential of the reverse auction to remove mistrust between groups of actors (forest owners, public authorities…): Have you already perceived a higher willingness to participate with the support of these mechanisms compared to other types, despite the mistrust or tensions? If not, how to convince them to participate or at least to start a dialogue that could lead to enhanced trust?

- The payments made up-front by the state to compensate forest owners for foregone income. For how long do the forest owners give up their harvesting rights? Your screening tool mentions: "The legal basis for the up-front payments is an amendment to the deed of the forest property specifying the restrictions on the forest area in focus. This is legally binding for current and future owners". Does this mean that in theory, it would be a permanent decision?

- As for forest owners the possibility of opt-in and opt-out options is very important, we can imagine that the concrete modalities are also important, considered satisfactory enough or not to ensure trust. If so, those modalities should be studied carefully from both sides: are you planning to discuss in more detail with the forest owners which time-frame would be acceptable?

- Regarding the state's point of view and considering the amount of public money invested: 1) could the forest owners opt-out in the first years, and under which conditions and which reimbursement? 2) would there be a moment, and after how long, when it could be considered that this investment has reached the minimum acceptable level of 'return' and that forest owners can opt-out without having to reimburse?

- Equity aspects: you mention that "it has been debated whether the wood consuming industry (sawmills, furniture) will be losing out. However, as most Danish roundwood is exported as

roundwood and as Danish wood consuming industries strongly rely on imports and as the scale of this conservation effort is so far well below 5 % of the forest area, there is hardly any effects on this sector either." If the sector on a national scale will not be affected significantly, it might be relevant though to analyze the impact at different scales, e.g. the potential impact on specific industrial actors located close to a large forest area that would be selected for the reverse auction: how dependent the activities of local industrial actors are on local supply of wood and on abrupt stop of harvesting in nearby large forest areas.

IM variant one on forest owner guilds: "The IM considered here, is based on the formation of forest owner guilds, who jointly provide ESS – in this case place a joint bid for biodiversity conservation. The provision of ESS will then be a shared responsibility among a defined group of owners with coherent land or land areas within a relatively close distance".

- Expectations: larger coherent areas for nature conservation, economies of scale for the owners, knowledge sharing with regard to environmental management among owners, social control within the guilds are expected to enforce compliance; create stronger local 'environmental identities' for the providing landowners; generate improved PR for the owners in relation to the local community and society at large; greater recognition.

- Challenges reside mainly in the legal forms that could take such a consortium to fit legal conditions. But this variant could be very interesting in terms of additional social impacts, increasing cooperation and social cohesion. It might be worth exploring this further. Which suitable legal options do you have to form cooperatives of flexible associations?

IM variant 2 CSR-model (corporate social responsibility commitments from big companies, through their self-imposed CSR obligation)

You mention that it would be interesting to "involve larger companies to find out if they also see it as a viable model and get their input to the design". Indeed it could be done in an explorative stage to assess the potential of this idea. Also, which companies would be more likely to participate? Are large/big companies embedded enough in the localities where their headquarters or offices are, if their customer base is at a larger scale? Would mid-size or national firms be more embedded in the local communities, and would they have enough CSR budget to incite the creation of this kind of IM?

Risks for all IM identified by the IA partner:

- Where the setting aside of old trees for natural decay is supported through the reverse auctioning scheme there could potentially be a long term risk to the micro-climate and regeneration potential of the forest-patch were the trees are situated. If the trees only produces few seeds and have few mast years and the browsing level on seedling on the forest floor is high costly human intervention through e.g. fencing may be needed in order to ensure the patch

remains forest in the long-term. This risk is probably only an issue in contexts with very high game populations. How is game management integrated in this IM? Is there any hunting or game management rules included in the biodiversity deals?

- Termination of drainage channels in forests create more variation and habitats for forest flora and fauna. It will however often also have unforeseen consequences in each individual forest patch and in the neighbouring areas. There is a risk that standing trees will parish due to the increase in soil-water level that is associated with the removal of drainage channels. A proportion of the roots of existing trees will often suffocation due to lack of access to oxygen. Likewise, there is a risk that the standing trees will be more susceptible to fall over (wind throw) during heavy storms due to the decrease in the depth and anchorage of their roots caused by higher soil water levels. Such effects are very likely, but what why is this considered a problem by the stakeholders. Is it because of security issues, tree species shifts, lower tree density?

- In addition, there can be uncertain impacts on generation of methane and laughing gas from wet soils and the stimulation of unwanted parasite population endangering bio-security in other neighbouring areas. For the potential increased emission of greenhouse gases it is probably worthwhile to involve scientists that could monitor the long-term effect of these measures on the greenhouse gas balance. There is also increased carbon sequestration which could partly compensate for this. Concerning the parasites, could you please be more explicit which dangers are anticipated?

- The new biodiversity hot spots generated and supported through this IM will likely stimulate the public interest in forest flora and fauna and in visiting the forest. This in turn will increase the mental health and physical of the population, which will increase production, and lower public health costs. There will however, also be a risk associated with the public interest. Biodiversity may in certain contexts suffer from too much forest disturbance from forest visitors. How will the IM affect public accessibility of forests? Are these private forests open for public visit today, and will that change in the future with the biodiversity measure? In other words does the financial deal also include accessibility rules? Since the option is zero management, the amount of standing dead wood in forests will increase, and this may become a security issue. How will the government support owners to deal with increased risk of injury through falling trees? How to deal with security issues in the new wilderness, and who is responsible? The owner or the sponsoring government?

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• The ‘smaller case-study areas’ seem to be still quite far away from actual implementation –good preparation for the second MAG meeting seems advisable - especially when engaging forest owners. Support from SINCERE research partner is needed here. The more general case is more developed. When it comes to designing the scheme, it seems that there may be some clash with the Danish Forest Act… i.e. some measures that might enhance biodiversity and other ES are forbidden – so it has to be assured that the design of the mechanism incorporates actions that are in compliance to the Act (e.g. the act inhibit forest clearance for nature purposes)

• There is a danger in this case when it comes to compliance with the state aid rules. IA leads need to carefully ensure if the IA design will comply with the state legislation. This may take some time, and may create pressure as the IA lead plans to finish this process in May 2019. Science partner should closely monitor the developments in the upcoming months, and assist where appropriate.

Croatia

Feedback UCPH

The IA is concerned with a large nature park outside Zagreb where there is increased pressure on the park as a resource for both nature and recreational experiences for the general public and specialized user groups (sports). Four different combinations of services and payment vehicles are discussed.

IM 1: Mobile phone application model

Focus: The case deals with establishing a system with voluntary donations using mobile phone technology towards the provision of recreational ecosystem services, where users/visitors make a voluntary payment which goes to specific recreational ESS purposes (maintenance of tourist trails, specific initiatives to enhance biodiversity etc.). The aim of the IM is to improve the sustainability of the specific nature area and create more public awareness of the total ESS benefits, which the area provides. In the future, the aim is also to mobilize a larger share of the public to support the area in various ways (volunteering, monitoring, lobbying, affect decision making and future development of the area).

The case area is an important recreational nature area for a large share of the public and there is increased tourism too, therefore support is needed to maintain/protect biodiversity and at the same time make sure that the area can handle increased recreational use. The partners expect to reach the younger part of the population the most.

Strengths: The innovative aspect is described to be the mobile phone based payment as a new payment vehicle for ESS donations, which may especially engage the younger part of the population. This may also create increased awareness in the population on ESS and nature areas as a resource under pressure. It should be noted that donations to “a good cause” is not in itself an innovation, and that mobile phone apps for secure payment transfers already exist. Thus, the IM only needs to combine these features.

Challenges and suggestions: Some of the core elements of the IM, e.g. land use change and supply (who will use the funds for what) and demand (who are the visitors and what is an estimated willingness to donate per visitor and in total)) could be described in more detail, but all the necessary information is included in the screening tool. Some comment s to reflect over for implementation

• No change in land use or infrastructure is described, but please note that to induce a willingness to voluntarily donate funds, it may be necessary to be specific about what funds are used for.

• Who benefits is described as the whole population, yet the population likely and willing to donate must be much smaller? Can this be better assessed?

• An initial survey of willingness to pay/donate is also mentioned, but it is not clear what benefit this should give? An idea about the potentials for voluntary donations?

• Are there legal obstacles with this set up – e.g. are there rules regulating public use of donated funds in this way, like e.g. having to report annual accounts and spending? To discourage simple corruption?

• What type of organization/fund should be in place to manage this setup? (a half/full-time employee is mentioned). What is the upscaling potential for the IM for instance to be applied in a private nature area? The literature on provision point mechanisms (e.g. stating that a certain amount/threshold is needed in order to provide the desired change in ESS provision, e.g. build a path, put up benches or similar) could be studied to further develop this IM idea in ways that encourage voluntary contributions. Further input here from the literature on warm glow (the emotional reward of giving) and donation behavior could be valuable for you to study in order to, encourage people to make voluntary donations.

IM 2: Donation boxes

Focus: This IM is in its transaction and ESS characteristics closely related to the previous IM 1 on mobile based payment for donation towards ESS provision actions. The IM proposes to develop an initial survey on the general public on their willingness to pay for forest and nature area use, which relates the monetary payment to one hour spent in the gym.

The IM mentions outdoor recreational facilities (parks, fitness tracks, ski (trails)) and education among the benefits of exercise and nature stays.

With regards to supply and demand issues: users/visitors are expected to pay into donation boxes on site. Who benefits is described as the nature area and the users of the area (better health, education through nature stays). PINPM (the nature area) will be the administrator. The innovative aspect is the payment vehicle. The IM is successful if there is a good initial analysis of WTP, the public is educated about the importance of the mechanism, and they get feedback about what the money collected has been used for.

Challenges: The IM is relatively briefly described, but most of the challenges and suggestions from the above IM on mobile phone based payments apply here too, so please revisit them.

IM 3: Spatial plan for infrastructure and offer (*supply)

Focus: The current supply of recreational park space is not sufficient for the demand/pressure on the resource and nature area. The current infra structure does not support group activities. The IM proposes an initial survey to describe demand and afterwards adapt infrastructure accordingly. There is a need for surveys, which analyses the current demand on the nature area. Later on, the aim is described as developing and adapting the infrastructure to meet users' needs and desires.

Strengths: Conducting an initial study on the demand-side by using a willingness to pay survey can assist the IM development in providing knowledge of preferences and an overview of what the users actually demand from the area and it may also disclose future needs and desires of the users groups, which are not met today. In short, it may provide a good foundation for the IM development.

Challenges and suggestions: The main aim of the IM is described a bit vague (avoid peak hour congestion, new content and quality, a greater number of users). The main reason for selecting this IM is, among other things, to enhance "customer awareness of physical activity and psycho-physical health of users".

• Stakeholder comments focus on increased number of users. The IM also describes a web portal, where users register their activities. - Are users expected to use this to coordinate behaviour in order to avoid or reduce congestion? Or to get more users/advertise?

• Education and information on how to use nature areas in a sustainable way is also mentioned as an output although it is not a part of the ESS transaction as such. This illustrates that the setup and transaction need to be more clearly described with regards to key aspects. For example:

1. The IM mentions that sponsors should pay for improved infrastructure. What type of sponsors is considered here?

2. And what is the ESS/transaction from their point of view – what is the gain for the sponsors? (Is it advertising, and if so how could this potentially work out in practice).

• The innovative aspect of the IM is described, to include sponsors into financing the nature park. Were any sponsors present at the first MAG meeting in order to get knowledge on their preferences/interests in the ESS and further development of the nature park? An idea could be to perhaps create an organization which gathers representatives of sports clubs, and various types of users groups which then acts as the main consulting body who engages in dialogue with the park administration on the future development, and perhaps collect donations among their members and/or networks?

Feedback KU Leuven

Strengths:

- Creative ideas, diversity of possibilities potentially implemented concurrently. All IM are based on a users' survey and represent ways to collect funds.

Challenges/ suggestions:

- More clarification and details are still needed.

- Awareness raising seems to be both a pre-requisite and expected outcome of the IM considered.

One-time concession permits (to organize social events, paid by organizations): the payments will contribute to a health fund, which will be used to improve infrastructure.

- Could there be any forest management practices that could be implemented to enhance the health related ES of the forest, rather than or complementary to infrastructures? Later on in the document, you mention awareness raising, education etc. but how?

- "paying for health": Said this way, it can shock or be hard to understand.

- It needs a bit more reflection on all potential implications of the IM besides its intended goal. E.g. What kind of events will be concerned and which organizations (under which criteria will an event be considered as requiring a permit: commercial purpose, minimum number of people, space used…?) How will this impact small organizations, or non-profit ones? Risk of restraining access?

Spatial plan for infrastructure:

- Sponsors would invest in new infrastructure for sport in the park. Would those infrastructures be decided beforehand through a spatial plan based on results from surveys?

- If the survey is based on the "willingness to pay" method, it would be interesting to look at the controversies around this method.

- Which category of actors are the expected sponsors?

- Regarding potential financial risks, you mention “The park has no financial risks, only the sponsors if they don’t get back what they invest.” How is it planned that they “get back what they invest”? Will visitors pay to use those infrastructure as well?

- Conclusion (quote): “This IM we probably want implement! but there is not enough time for conducting questionnaires of visitors/ citizens,/sports service providers and market research at the end - announcement of call for advertising space - expression of interest. We currently do not have enough employees to carry out such activities”

If we understood correctly, all four IM are somehow connected. They all require as starting point a survey on uses of infrastructure in the park. How do you consider that it could be done in a pragmatic way, within your time and human resources?

Donation boxes and application:

Strengths: voluntary payments, without any commitment for users. If a survey has already shown a willingness to pay from visitors, this could be an innovative, modern way to collect their contribution instead of a park entrance fee.

Challenge: Could you be sure that the costs of developing the app still makes this IM financially beneficial on a mid-term?

Sustainability issues (quote from IA):

- “Relations with stakeholders are problematic, more problematic than legislation. For example, Croatian Mountaineering association is very active within the area of the Park, but they did not come at the first MAG meeting, i.e. they are active when they have to voice their concerns, but are not active when they have to proactively engage / work on something. Difficult to attract stakeholders to actively engage, as they are volunteers and don’t have much time to deal with topics like this.” what kind of adaptations in the participatory process could be made to make the meeting more accessible or attractive? (different schedule, several shorter meetings, …)

- (Skype interview) In general, threats to sustainability : mainly an increase in the number of visitors in some areas that would damage the ecosystem. “A study is now in development about the flow of visitors/ where do they go.. so that they don’t exceed carrying capacity (only for the peak zones).

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• In general, IA leads have a clearly envisaged a path on how to proceed with the IM

• There is a need to check if there is a clash between the envisaged IM and the protected area status of the forest – relevant legislation needs to be checked, IM has to be modified accordingly.

Also, there is still need to check if there is a clash between what the IM envisages to do and the habitat restoration and nature management fund.

• There is also a need to check if the auctions comply with rules on the statue / EU level support & subsidies.

• When looking into the relations with stakeholders; there seems to be a need to enhance cooperation between farmers and hunters on the topic, and at the same time there is a need to communicate the concept openly with environmental organizations.

• Given the legal nature of some of the “policy obstacles”, the IA will probably need a legal expert/legal advice to support them (which may be covered from their budget)

Catalonia Spain

Feedback UCPH

Focus: In this case, four different types of IMs are assessed, which all revolves around the issues of how forest management may be used to have a positive impact on water resources in the Rialb water reservoir. Today there is a lack of forest management, and low/zero profit associated with it, in part due to inaccessible forestland in some areas. Main activities in the forests are mushroom picking, nature hiking and tourism in the rural region.

IM 1: Integration of forestry in the Urbanistic Masterplan (PDU) of the Rialb water reservoir.

Challenges: No economic transaction appears to be involved, and we note that all questions in section 9 related to the economic exchange enabled by the IA in the screening tool are not applicable. However, if we understand correctly, some will have to bear the costs of actions undertaken regarding forest management – and some will receive the benefits. The key message of success is described as "if the forest sector can effectively pass the message that forestry is important for the provision of water". It sounds as if it relies on public investments into forestry in water reservoirs. For the IM to be an actual PES, some quantifiable change in ecosystem service provision must be identified, and linked to a measurable and identifiable change in land use management, here specifically forestry management.

Suggestions: Here are a few suggestions to improve the case and inspire your further work

• First: To make the message clear, it would be beneficial to evaluate/assess why active forest management should be a part of the water reservoir plan. What are the potential impacts from various forestry measures on the water resources etc. (quantity of water in different forms, value of these quantities and so on). This is needed to answer the question about what is the value of active forest management (for water, risks, rural economy)?

• Second: Who are the beneficiaries from these values and can their benefits be expressed or represented by an actual purchasing actor?

• Third: What are the likely costs of forestry actions, and who will carry those costs? If that can be assessed, it may provide a strong argument for why active forest management should be an integral part of water reservoir plans.

IM 2: Elaboration of a strategic plan

Challenges: Also here, no economic transaction is described (and few questions answered in the tool). The innovative mechanism is the process, and the target is to establish a permanent multi-

actor council for forests and water in order to develop a strategic plan for forest management. An expressed concern is where the budget for this should come from. A tax is suggested and reference made to IM 4 below. It is not clear if this IM actually represents an independent instrument or should be seen as an add-on to or integrated into another IM.

IM 3: Creation of a private forest FUND

Focus and strengths: The proposed IM involves all aspects of an ecosystem service provision, and may have potential to provide new knowledge on future ESS provision. Suppliers are forest owners in the region (through changes in forest management there will be an impact on water quality and quantity and better quality forest products etc.) and demand is based on that beneficiaries (and other contributors such as private CSR related funds from firms) become donators to the water ESS that are created. Other benefits are reduced risk of forest fire, positive landscape impacts and biodiversity and rural tourism.

Challenges: The IM described here involves many (new) aspects from how to gather funding and co-creation with all stakeholders to communication/PR aspects. It may be a challenge to carry out so many new steps within one IM process. A main challenge mentioned is also how to get sufficient funding. Time frame and future of water ESS – risks, reliability for investors. Please see our comments to IM 1 which are also valid here.

The IM specifically mentions the use of block chain technology for the implementation. It is not quite clear why this would be needed? The block chain technology is useful when a singular link between a payment and a good needs to be established electronically, and there is a need to avoid double-spending (money spend more than once) or double-owning (a good owned by more than one identity at a given timestamp). It is not quite clear why this would be the case here. For example, is there an identifiable and quotable quantity of water where to access can be restricted, and hence a single owner identified?

IM 4: Design of new tax and fiscal benefits

Focus: This IM-variation consists of a tax, which water users should pay. The administrator of the tax could be the water reservoir owner or a consortium of local stakeholders. The tax should reflect the price (cost) of the water as an ESS from changes in forest management. Main tasks would be to quantify the additional water produced and to assess the costs of the forest management required to provide the specified change in water ESS. In this way the tax is directly used to invest in improved forest management.

Suppliers of the ESS will be the forest owners who change their management and increase the amount of water to the reservoir. An actual payment will be made to forest owners based on

individual agreements. The demand will be covered by the water users who will pay a (mandatory) tax for water consumption. It is suggested that the tax consists of a fixed and a variable component. The underlying issue is water as a decreasing ecosystem service from forest and nature areas also due to climate change, etc.

Strengths: The IM and the main transaction of the water ESS are relatively well-defined in terms of supply and demand. The framing outlines a credible implementation plan, provided the legal basis for implementing a user tax/fee is in place. Moreover, the transaction is related to a contemporary issue in the region.

Challenges and suggestions:

• As the partners point out, assessment of forest management changes and the related impact on water production in the reservoir needs to be undertaken.

• The IM aims at setting a price for water ESS based on an assessment of the cost of forest operations which both are new aspects – have analyses of some of these issues been made elsewhere, which potentially could be used in this IM?

• Innovative aspects are introducing a price/tax/user fee on the water ESS that is transferred to the provider and provide clear traceability. However, it remains a bit unclear if there are any legal/practical issues to further consider with regards to establishing a tax system. It would be beneficial to consider and describe such issues?

• A reference is made to the need for and intermediary collecting fees and distributing payments through individual contracts, and then this intermediary should make an agreement with River Basin Authority (The CHE), a subsidiary of the Ministry of Agriculture and Environment? Does the CHE have the discretionary power to implement or grant the right to install and sanction a user fee/water tax?

Feedback KU Leuven

Focus/goals:

Increase the amount of forest area being managed in the case study area, which today represents around 1% per year.

Expected impact of a forest management extension:

- increased water quantity (by reducing water consumption by trees)

- Increased water quality (by reducing the risk of losing forest cover)

- Improved forest ecosystem services (landscape, biodiversity, timber, firewood,…),

- including tourism (many forest owners have old rural houses that are used for tourism: managed forests are more attractive, improve access, better views).

"With this innovative proposal we expect to, on the one hand, overcome traditional schemes and structures though a real co-created process from the very beginning; on the other, we expect to bring transparency, clarity and information to all stakeholders. The inclusion of all potential water related services, allows for an approach at different territorial scales, adapting the mechanisms for certification and transaction to these different levels"

Strengths:

- Interesting and promising holistic perspective:

o forest management for a bundle of ES: water quantity and quality, wood products, tourism…

o focus on cooperation, governance, cross-sectoral approach.

o Territorial development perspective

- Lean on and connection to an existing initiative: the Urbanistic Plan (PDU), which might enhance their success potential and sustainability over time if properly integrated.

- Serious efforts to take on board stakeholders' inputs and preferences (expectations, fears) regarding all the IM discussed at MAG1, and to include them in the two IM selected (democratic and participatory)

- Responsible work and search for the necessary professional support when needed (for example, professional facilitators for the MAG and professional funds expert to support the design of the fund)

- Ambitious

- Combination of biophysical assessment, economic valuation based on management costs (Suggestion: if communicated to all actors, those estimation could be used to inform and influence the voluntary contributions to the funds)

Challenges:

- To design a fund that can be implemented under the current legislation (risk of legal uncertainty). You could examine other 'funds' experiences in Spain to learn what might have worked (or not) and better anticipate challenges.

- Could you have any influence on the participatory process of the Plan (PDU) if you are not in charge of it? How to make sure all relevant stakeholders are involved?

- Importance of being innovative and creative on how to gather and present all the necessary information to stimulate public interest, awareness and support to the scheme.

- If the PDU is perceived as a compensation, does the participatory process include the active involvement of the people directly impacted by the creation of the water reservoir? This interest could be used as a starting point, and leverage to raise awareness among local stakeholders.

- Ecological diagnostic needed: need to consider time-constraints start at local scale // challenge of convincing the stakeholders.

T3.3. Tentative feedback to IA leads based on documents from screening and partially interviews

• It seems that the legislation is quite neutral for the implementation of the IM… and although different policies stipulate the importance of these developments, this is not translated into political willingness. Also, when it comes to legislation, what is missing is a clear link in legislation between water and forests. The biggest problem with the implementation of IM seems to be the threat that the key actors (e.g. agro tourism) refuse to participate / contribute to the fund. These is a lack of societal awareness of the forest/water nexus - and this translates to low political support.

• It seems that the design of IM requires a lot of external support – legal / financial experts on PES, water experts, university. The IA lead could start with all of these quite early to have enough support within the life-span of SINCERE. As societal awareness is also a problem, IA lead could work closely with universities to clarify scientific evidence that could be translated into clear messages for the stakeholders / public.

At least in the design phase, there are no stakeholder conflicts expected. However, there might be some problems with forest owners in the implementation phase. IA lead is advised to incorporate this as well into the planning / feasibility study.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