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List of acronyms

AES: Agri-environment schemes

CSR: Case study regions

PGBs: Public goods and bads

SWOT: Strengths, weaknesses, opportunities and threats

WP: Work package

1 Introduction

This document reports on the outcomes of several rounds of stakeholder workshops carried out within the context of the EU Horizon 2020 project PROVIDE (PROViding smart DELivery of public goods by EU agriculture and forestry). The aim of these workshops was to gather the views of regional and EU key stakeholders regarding: i) selection of hotspots and public goods and bads (PGBs) to be analysed; ii) valuation of public goods; and iii) the identification and evaluation of governance mechanisms that can be used to improve the delivery of public goods from agriculture and forestry and reduce public bads. These two topics have been the focus of work carried out in Work Packages 3, 4 and 5 respectively.

In the PROVIDE project stakeholders have a key role both in designing the research process and questions and in providing input to answer these questions. Thus, the information gathered in the stakeholder workshops fed into the work conducted in these other work packages, and results were subsequently presented back to stakeholders and discussed with them. This has also meant that focus on governance issues and public goods evolved as the project developed to incorporate the input provided by stakeholders.

The report is organised as follows: in section 2, case studies and participant recruitment methods are described. Section 3 presents the workshop plan in detail while section 4 contains the results. Section 5 summarizes the key messages that emerged from the workshop.

2 Case studies and participant recruitment

2.1 CASE STUDY REGIONS

A total of 41 workshops were conducted in the following case study regions (CSRs) included in PROVIDE: Austria, Bulgaria, Czech Republic, Estonia, Finland, Germany, Italy, the Netherlands, Poland, Romania, Scotland (UK) and Spain. These were split into three rounds of workshops (2, 3 and 4 in the PROVIDE project, workshop 1 is reported in Novo et al. (2016)). Workshop 2 intended to validate the case studies, support design of valuation exercises, identify policy mechanisms which may improve public goods provision, and discuss the tools which may increase understanding of public goods provision. Workshop 3 intended to discuss new and existing governance mechanisms to ensure the delivery of public goods, as well as the results from the valuation exercises. Workshop 4 intended to analyse the suitability and transferability of governance mechanisms for the delivery of public goods. Alongside, and supported by, the workshops project partners involved stakeholders in valuation studies for their CSRs as part of work package 4 (and reported in Villanueva et al. 2017a and 2017b), as well as modelling work on the selected public goods/bads (PGBs) and governance mechanisms (see Schaller et al. 2017 and 2018). Throughout the PROVIDE project co-design and participatory modelling has been central to project development, and these workshops and modelling exercises have been designed to facilitate maximum involvement in identifying, designing and evaluation governance mechanisms for improving PGB provision (Figure 1).

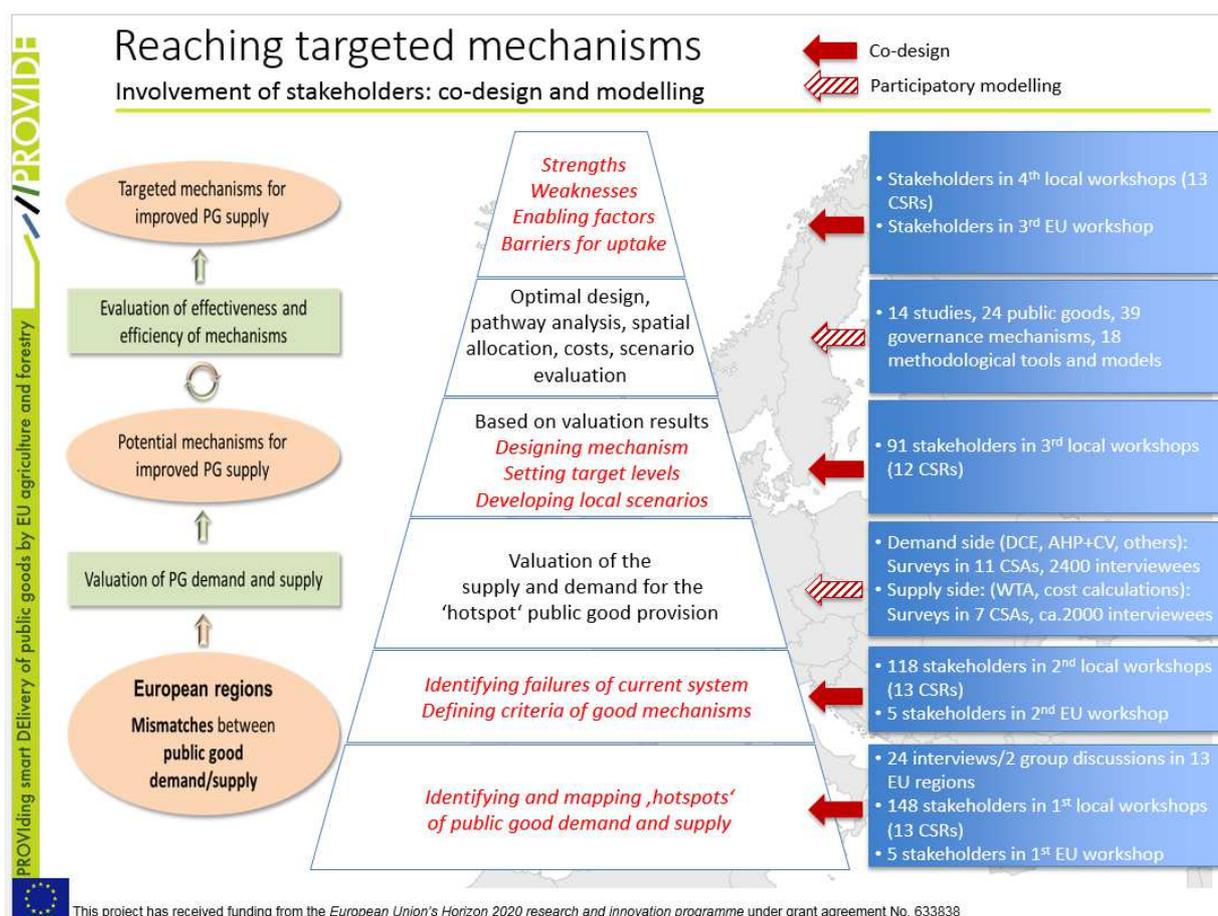


Figure 1 Involvement of stakeholders in identifying, designing and evaluation governance mechanisms for public goods

In general, three regional workshops were implemented by each country team within the hotspots previously identified for specific study of PGBs (some teams had more than one hotspot, and therefore multiple workshops, while others did not complete all workshops). Table 1 provides a summary of the regions included in these workshops (see map in Figure 2), the hotspots and public goods considered. It is worth noting that although in

most cases regions can be identified at the NUTS 3 level (i.e. counties, medium-sized regions), this is not always the case. In addition, size and spatial perspective (local, regional or national, Figure 2) also differs across CSRs and hotspots, as does variety of land uses considered.

Table 1 – Case study regions where the workshops took place and number of participants

Country	Case Study Regions	Hotspot	Approach	No. participants workshop 2	No. participants workshop 3	No. participants workshop 4
Austria	Marchfeld	Intensive arable land	Workshop and interviews	8 (plus 4 additional interviews)	14	4
Bulgaria	South Central		Workshop	12	16	15
Czech Republic	Decin	Sluknov - extensive pastoral farming	Workshops and interviews	7	11	8
Czech Republic	Ceska Lipa	Ralsko – recreational function of forests	Workshops and interviews	4	8	NA
Estonia	Harju	Abandoned agriculture and forest systems	Workshop	9	5	6
Finland	North Ostrobothnia	Ruka-Kuusamo tourist area and south west river valleys and coast	Workshop	7	10	8
France	Finistere	Agricultural wetlands	Workshop	13	15	23
Germany	Märkische Schweiz	Rotes Luch	Workshop and interviews	6	4	4
Germany	Rhinluch		Workshop	NA	30	
Italy	Emilia-Romagna		Workshop	10	6 (two workshops, with 2 and 4 participants)	7
the Netherlands	Kromme Rijn		Interviews, workshops and survey	10	Combined with workshop 1	10
Poland	Podlasie	Biebrza National Park	Workshops, interviews, and surveys	13 (surveys)	14	7 (surveys)
Romania	North-East	Iași County (workshop 2 only) and Suceava County	Workshop	13	17	7
Scotland (UK)	Aberdeenshire	River Ugie and River Dee catchments	Workshop	7	6	12
Spain	Andalucía	Mountain Olive groves, Guadalquivir river basin	Workshop	8	7	7

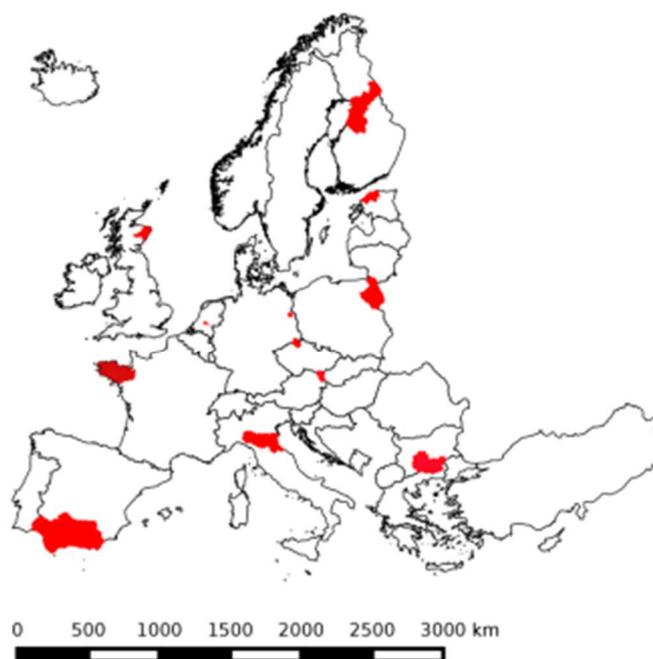


Figure 2 Map with all Case Study Regions included in PROVIDE

The target audience for the regional workshops was key stakeholders linked to the agriculture and forestry sector. This included representatives from public sector agencies, national parks, NGOs and interest organisations, businesses, academics and consultants. Where possible these stakeholders included representatives from the local, regional and national level, to help understanding of how governance may change at all spatial scales. A list of relevant stakeholders had been collected within each CSR at the beginning of the PROVIDE project and most of the participants participated in multiple workshop rounds. Participants were generally recruited through personal contact, email and phone calls.

The total number of participants was 386, with the number of participants per workshop ranging between 4 and 17 and an average of 9 participants attending each workshop. In some cases a lunch or supper was included as part of the workshop.

2.2 EU LEVEL

Participants at the two EU level workshops were drawn from the EU stakeholder platform established within the PROVIDE project to engage with stakeholders at this level. This platform includes representatives from the European Commission, the European Innovation Partnership ‘Agricultural Productivity and Sustainability’, farmers’ and land owners’ organisations, NGOs and academics, among others. See Table 2 for dates and numbers of participants. The final planned workshop did not attract many stakeholders, and therefore analysis for these sections have been taken from regional reports and literature.

Table 2 Dates and number of participants in EU workshop

Workshop	Date	Number of stakeholders
2	08/07/2016	5
3	08/06/2017	18
4	23/03/2018	1

3 Workshop plan

3.1 CASE STUDY REGIONS

Regional workshops took place in June 2016 (Workshop 2, Dutch workshop and interviews in March and April), between January and September 2017 (Workshop 3) and between January and June 2018 (Workshop 4). Workshops lasted between 3 and 4 hours and were organised as a series of different activities, including individual, break-out groups and plenary group activities. In this section we present the core activities developed across all regional workshops (workshop guidelines available in Appendix A).

3.1.1 Workshop 2

The objectives of Workshop 2 were to present and discuss the hotspots and descriptions identified by the researchers based on information provided by the stakeholders in the first round of workshops. Stakeholders identified governance mechanisms to improve public goods within these hotspots, and discussed the information needs for designing effective governance mechanisms. In the Polish CSR a workshop was not possible, and therefore questions were answered through a survey. The Netherlands CSR combined this workshop with Workshop 1, as well as supplemental interviews.

Workshops began by introducing the project and feeding back results from Workshop 1. Participants were then introduced to the hotspots identified for further study in their CSR. These descriptions included mind maps (visual illustration), indicating the links between the agriculture and forestry systems, PGBs, stakeholders and other issues related to the PGBs (Figure 3), and an associated storyline. Discussions were held around the storyline that had been constructed, and participants were encouraged to modify as needed. These discussions also included identification of the final PGBs to be considered for each hotspot.

Once PGBs to be considered had been identified, discussions taking different forms in each workshop and including the whole or smaller groups were carried out to identify the governance mechanisms which could be used to improve (or reduce) PGB provision. The results have been sketched in individual “mind maps” for each hotspot story, depicting the relevant public goods, the mechanisms able to foster their provision as well as the relations between them. Final discussions centred on identification of information needs to implement the identified governance mechanisms.

3.1.1 Workshop 3

Workshop 3 objectives included feeding back the previous valuation work carried out within the CSRs, developing further understanding of the most promising governance mechanisms for public goods in each CSR, and exploring future scenarios. Due to the small size of the Netherlands CSR a workshop was not held, but rather a stakeholder laboratory approach used, including a newsletter and online survey.

The workshop began with feedback of previous PROVIDE work, in particular the valuation work carried out within each CSR. Participants were invited to discuss the valuation results, particularly to identify perceived strengths and weaknesses. Further activities were held to identify the target levels of public good provision in each CSR, including whole group, small group, and individual consideration.

Following identification of governance mechanisms, and target levels, participants were asked to discuss how the governance mechanisms may look to meet provided criteria of good governance, and how they may meet the targets identified in the previous activity. This was carried out either as a whole group, or through smaller round tables, with groups rotating around governance mechanisms. Optionally groups may have also carried out a carousel exercise (participants move between stations to complete tasks) to identify how future scenarios (business as usual, neglected public goods, promoted public goods) may impact the hotspot being considered.

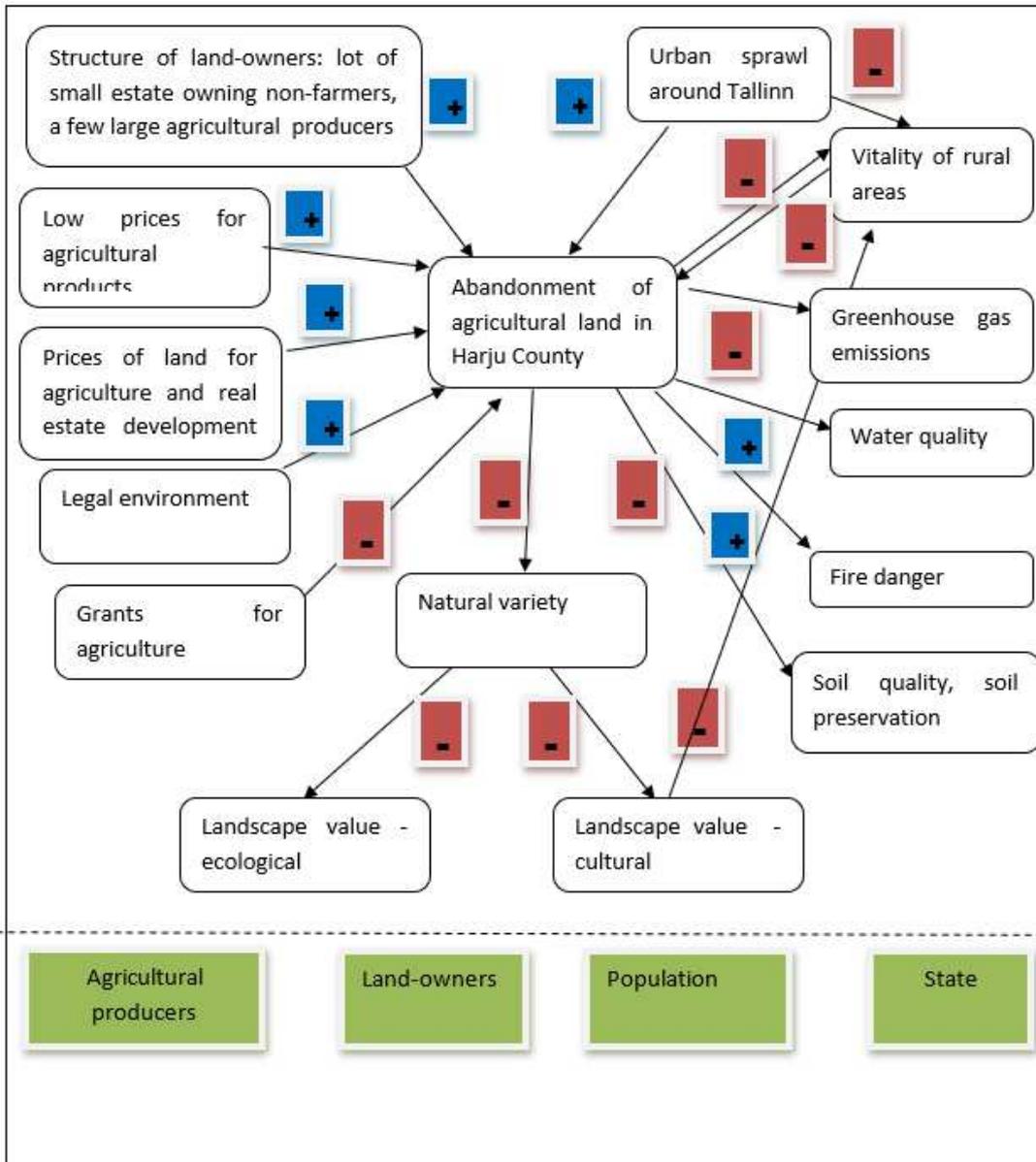


Figure 3 Example of mind map of the links between agriculture, forestry and public goods from Estonia CSR

3.1.2 Workshop 4

The objectives of Workshop 4 were to analyse the practicability and transferability of governance mechanisms for public goods, and to assess the enabling factors and barriers to the uptake of governance mechanisms. Finally the workshop aimed to carry out comparative analysis of mechanisms for public goods. For technical and organisational reasons this was carried out as a survey in the Polish CSR.

As with previous workshops Workshop 4 began with discussion of previous work, focused on modelling exercises, and provided participants with the opportunity to discuss these outputs. The package of governance mechanisms identified as important in previous workshops were also explained, and time was given for participants to discuss these mechanisms.

Following the introduction a SWOT analysis was conducted in the majority of CSRs (in some cases this was not possible due to low stakeholder engagement or willingness to engage in the task). Either individually or in groups participants were asked to write down the three most important strengths, weaknesses, opportunities and threats associated with the presented package of governance mechanisms for the case study hotspot. Once these had been collated the three most important factors in each category overall were selected, through deliberation or voting. In Poland a workshop was not possible, and a survey was used. Potential SWOT factors

were selected based on a discussion during the third local workshop and based on factors identified as important in other countries. The most important factors were identified based on their position in the ranking.

The final activity in this workshop was a multi-criteria analysis. Either individually or in groups participants identified the importance of each of the three most important strengths, weakness, opportunities and threats to success of governance mechanisms in general. Following this participants identified how well the package of governance mechanisms fit each of the important criteria. The workshop finished with discussion of the outcomes of this exercise.

3.2 EU LEVEL

In all cases EU level workshops followed the regional workshops, and were designed to incorporate regional level results at the EU scale.

3.2.1 Workshop 2

The participation of EU stakeholders has been carried out during the 3rd PROVIDE project meeting in Brussels, 08 July 2016. Participating Stakeholders were from European Commission, DG Agriculture, European Evaluation Helpdesk for Rural Development, Organic farmers' association. After an introduction to the project and intended outcomes, EU workshop participants were introduced to selected hotspots from the case study regions. A full group discussion was held around the relevance of these hotspots to the EU context, with hotspots placed on a 'barometer' of importance.

Governance mechanisms were presented, and 'good' governance mechanisms considered. This began with individual consideration of the criteria of 'good' or 'smart' governance mechanisms, which were compared and grouped for all participants. This section concluded with group discussion of the relevance or interest of governance mechanisms for the EU context.

The workshop went on to consider the demand for information on provision of public goods. After presenting the needs for valuation information from the regional workshops, a group discussion was held with regards to where in the policy cycle valuation information is useful, and the relative importance of costs and benefits values. EU stakeholders were requested to think about which information (pure data information, scientific information, specific information) in which format (gathering and exchange, bottom up communication or top down dissemination) they already use or would like to use at different stages of the policy process (agenda setting, policy implementation, policy evaluation) (Figure 4). The workshop concluded with general feedback and discussion.

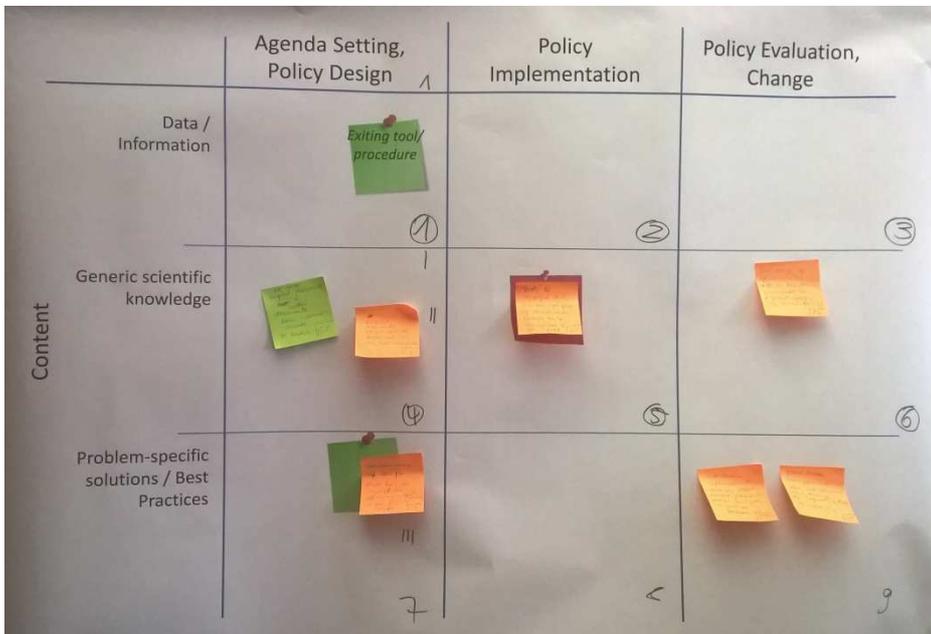


Figure 4 Example of activity with the EU-stakeholders to identify the already used information (green) and gaps/future demands for information at specific stages within the policy cycle for the PROVIDE tool development.

3.2.2 Workshop 3

Following a project introduction, participants in the third EU workshop were presented the results of economic valuations across the CSRs. This led to group discussion of the relevance of the valuations in the EU context, and implications for intervention. In the second part of the workshop a presentation was given regarding the outcomes of the CSR level workshops for potential governance strategies. This was followed by a discussion around new governance mechanisms accounting for the economic valuation data, targeting of public goods, and integration of different policy mechanisms. The workshop concluded with a discussion of preferences for information/support tools.

3.2.3 Workshop 4

Due to a lack of stakeholders Workshop 4 followed a different pattern to previous EU workshops. Results from regional workshops were presented to the attending PROVIDE partners and the officers from the Commission, as well as one stakeholder. Planned discussion on transferability of governance mechanisms was not possible, therefore discussion rather focused on the applicability of the PROVIDE project as a whole to governance within the EU, and potential avenues for influence. The workshop concluded with discussion of future needs with regards to public good provision from agriculture and forestry within the EU.

4 Results

As the results from the regional and EU level stakeholder workshops fed into the work in Work Packages 4 and 5, many of the results from the workshops have been reported in deliverables for these two work packages. Therefore, we concentrate on drawing out any additional aspects not covered in these other deliverables and refer the reader to other PROVIDE reports where applicable.

4.1 METHODS OF PUBLIC GOOD VALUATION

In depth discussion of methods of public good valuation arising from the PROVIDE workshops can be found in Villanueva et al. (2018). Here we present a broad overview of the methods of public good valuation across the CSRs and EU workshops.

4.1.1 Case study regions

Case study regions carried out valuation assessments for supply and demand regarding their identified public goods, using a variety of methods. For both supply and demand-side valuation stated preference models (including choice experiments, contingent valuation and contingent behaviour) were the most frequent valuation method. Other methods used include benefit transfer (Demand side: France and Czech Republic. Supply side: the Netherlands), accounting (Demand side: France. Supply side: Austria, Estonia, Czech Republic), and workshops and interviews (Supply side: Bulgaria, Scotland). Value estimates were fed back to stakeholders in Workshop 3 for discussion of reliability and usefulness (

Method	CSR	Reliability Score /5	Usefulness	Comments
Stated preference	Finland	3.6	High for policy makers and public goods producers.	All companies see the importance of local environment (including beautiful landscape) for their business. Especially, the business of companies selling services mostly to visitors would benefit from increased landscape beauty more than the rest of the companies. Concerns over small sample size. It was difficult to get nature based companies to participate to project activities. Concerns over small sample size.
	Italy	4	Preliminary so of little direct use, but will be a basis for future work.	Soil erosion and air pollution valued higher than expected, potentially due to media exposure.
	Spain	3	Can concentrate policy maker efforts, and enables producers to recognise value.	Goods generally considered valued slightly high. One third citizens have no willingness to pay.
	Austria	4	Some use for policy makers as long as hypothetical nature understood. Useful for regional marketing.	Concern over hypothetical nature of payments. High willingness to pay due to well known poor state of the services.
	Bulgaria	5	Useful for policy creation, and enabling farmers to recognise benefits of PGBs. Transferable.	Willingness to pay thought to be underestimated.
	The Netherlands	4	Can be used to direct focus by policy makers and PGB providers.	Generally high willingness to pay, with little heterogeneity.
	Romania	4	Highly useful for policy, education and teaching. Can guide sale and maintenance of PGBs.	Limited understanding of instrument, and issue is novel to understand.
	Scotland	4	Supports policy decisions and highly useful for local and regional government. Producers can use to support work with policy.	High regard for valuation and the sample. Some concern over transferability and how applicable to the general public. Higher willingness to pay for local residents may limit transferability.
Benefit transfer	France	3	High for policy makers and PGB providers.	Biodiversity stakeholders oppose valuation in general. Values for salmon and trout fishing were seen as unreliable and hunting values were thought to be missing.
	Czech Republic - Rasko	3	Mayor of area does not want to increase tourists. Ministry of Agriculture find useful in providing costs of action.	More acceptable to academic than non-academics.

Accounting	France	3	High for policy makers and PGB providers.	Biodiversity stakeholders oppose valuation in general. Spatial scale was not targeted enough and agricultural value thought to be to low.
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and Table 4).

Stated preference models were perceived as being moderately reliable in most cases. In Finland and Spain stakeholders raised concerns over reliability of demand-side exercises, with only some results perceived as reliable. This was attributed to small sample sizes in Finland when considering demand side valuation, with concerns in supply side valuation about the limited availability of background information. Spanish stakeholders felt that high values were likely a result of some respondents overstating willingness to pay to push up the final average. Additional concerns regarding stated preference methods included the hypothetical nature of surveys (Austria, Scotland), the novelty and complexity of the instrument (Romania), and not accounting for market demand (Poland).

Stated preference results were seen as widely useful for policy makers, though stakeholders noted that the hypothetical nature of results need to be well communicated (Austria), and stressed the importance of recognising the preliminary nature of results (Italy). In Poland stakeholders noted that while the results were interesting and informative, they need to be better connected to context. In the Romanian CSR choice experiment results were seen as particularly useful for further research and education.

Benefits transfer was used for demand side valuation in France for values for salmon and trout fishing and throughout the Czech Republic Rasko CSR, and in the Netherlands for supply side valuation. In all cases this method of valuation was expected to be reliable in only some cases. The French stakeholders in particular raised concerns over the scale over which values are estimated and the exclusion of some values, such as those from hunters. In the Czech Republic academics were more accepting of results than non-academics, while the Dutch stakeholders recognised reliance on landscape type as a limitation. Benefits transfer was seen as useful for policy makers, however in the Czech Republic not all stakeholders agreed with the need for improvements to the public good (recreation) within the area. In all CSRs context was important.

Accounting was used only for some goods in the French CSR in the demand side valuation, and was used in the Austrian, Estonian and Czech (Sluknov) CSRs for supply side valuation. As with benefits transfer it was seen as reliable in some cases, though there was some variation, with high reliability in the Czech Republic, and low reliability in Estonia. Policy usefulness was recognised, as long as the potentially highly spatially specific nature of values was taken into consideration. In France concerns were also raised over the spatial scale of estimates.

Interviews and workshops were used only in supply side estimation, by Bulgarian and Scottish CSRs. In both regions stakeholders perceived high reliability, particularly due to directly working with PGB providers. Results were thought to be useful for policy makers, though in the Bulgarian CSR transferability was expected to be limited.

Overall involvement of stakeholders in estimating values, through surveys, stated preferences or workshops, was well received and provided useful data to the CSRs for further development of governance mechanisms to improve PGBs. Further to involvement in estimating values input from stakeholders in assessing estimated values enabled CSRs to understand how values may be applied. Most notably this highlighted the importance of context in valuation assessments, which may be missing where stakeholders are not included in the evaluation process.

Table 3 Valuation methods for demand side accounting in the CSRs

Method	CSR	Reliability Score /5	Usefulness	Comments
Stated preference	Finland	3.6	High for policy makers and public goods producers.	All companies see the importance of local environment (including beautiful landscape) for their business. Especially, the business of companies selling services mostly to visitors would benefit from increased landscape beauty more than the rest of the companies. Concerns over small sample size. It was difficult to get nature based companies to participate to project activities. Concerns over small sample size.
	Italy	4	Preliminary so of little direct use, but will be a basis for future work.	Soil erosion and air pollution valued higher than expected, potentially due to media exposure.
	Spain	3	Can concentrate policy maker efforts, and enables producers to recognise value.	Goods generally considered valued slightly high. One third citizens have no willingness to pay.
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	The Netherlands	4	Can be used to direct focus by policy makers and PGB providers.	Generally high willingness to pay, with little heterogeneity.
	Romania	4	Highly useful for policy, education and teaching. Can guide sale and maintenance of PGBs.	Limited understanding of instrument, and issue is novel to understand.
	Scotland	4	Supports policy decisions and highly useful for local and regional government. Producers can use to support work with policy.	High regard for valuation and the sample. Some concern over transferability and how applicable to the general public. Higher willingness to pay for local residents may limit transferability.
Benefit transfer	France	3	High for policy makers and PGB providers.	Biodiversity stakeholders oppose valuation in general. Values for salmon and trout fishing were seen as unreliable and hunting values were thought to be missing.
	Czech Republic - Rasko	3	Mayor of area does not want to increase tourists. Ministry of Agriculture find useful in providing costs of action.	More acceptable to academic than non-academics.

Accounting	France	3	High for policy makers and PGB providers.	Biodiversity stakeholders oppose valuation in general. Spatial scale was not targeted enough and agricultural value thought to be too low.
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Table 4 Valuation methods used for supply side valuation in the CSRs.

Method	CSR	Reliability Score	Usefulness	Comments
Stated preference	Germany	4	Essential for approaching ministries. Useful for increasing support for extensive land use with the general public	Peatland restoration has high opportunity and transaction costs, therefore compensation needs are also high. Preference for coordinated action, cooperative framework and new value chain opportunities.
	Finland	3.8	Useful for policy makers to design PES.	Reliability thought to be constrained by limited background information. Forest owners' interest is encouraging. Compensation claims were higher than expected, and the claims were increased with increased restrictions. A segment of owners were identified who were willing to make a contract with reasonable compensation.
	France	4	Useful for farmers to understand value.	Dairy cattle reduced wetland abandonment due to gaining benefits from ecosystem.
	Spain	4	Highly useful for policy makers to design smarter governance mechanisms. Useful for illustrating value of farmland.	Only moderate compensation needed, likely due to low opportunity costs, but high heterogeneity.
	Estonia	3		Low representativeness and little understanding of instrument.
	Poland	NA	Useful for policy makers to design AES, but in need of market context.	AES are perceived by most farmers in terms of business, and the valuation might not account for dynamic aspects of market demand. Values perceived as supporting practitioners' observations.
	Romania	4	Useful for government and farmers in designing schemes. Can provide data for further consultancies, research or education.	Novelty and complexity is a potential problem. Value of water quality is seen as low, and education costs thought to be too high, as not guaranteed results.
Cost accounting	Austria	4	Key for policy makers, but very specific.	Acceptance decreased by yield, and varied by farm characteristics.
	Estonia	3		Compensation periods seen as too short.
	Czech Republic - Sluknov	5	Important to understand the distribution of willingness to participate in collective action.	Values taken from stakeholders, therefore seen as credible.

Interviews and workshops	Bulgaria	5	Useful to understand current state of affairs and improve provision. Limited transferability.	Farmers high willingness to maintain the brand of the region. Small farm size means collective action needed.
	Scotland	4	Could better inform AES and collective action.	Highly useful for understanding farmers perceptions. High preference for easy application. Varied by farmers values and farm characteristics.
Benefit transfer	The Netherlands	5	High usefulness for policy makers and land use planners. Needs to account for context.	Estimates rely heavily on landscape users, which also show heterogeneity.

4.1.2 EU level

The EU workshop raised the importance of considering ‘citizen’ values over ‘individual’ values. The latter are the more often quantified, however the former, which consider values from societies perspective, is likely more applicable to public good valuation. EU stakeholders also identified concerns that valuation of public goods is a step towards commodification.

It was agreed that theoretically policy formation should be goal led, rather than budget led, but that this is unlikely in reality. The differing time scales of valuation studies, which are time consuming, and policy creation, which must react to shorter term events, was also highlighted as a barrier to the incorporation of public good valuation into policy creation. It was agreed that it made little difference whether costs or benefits were first measured. Though valuation is not common place, where it has been mandated, such as within the Water Framework Directive, results have proven useful. This was highlighted in the Italian case study, where costs of implementing water regulation were excessively high for the benefits expected.

Identification of important costs on a local basis was highlighted as a necessary consideration in valuation studies, and the importance of incorporating transaction costs was considered to be high in all locations. Varied scales for the public good and study region was recognised as useful, with particular attention paid to the need to be able to aggregate this information at the EU scale. Very local scale valuations were recognised as having the additional benefit of building trust in the valuation system.

When considering valuation results in workshop three stakeholders were surprised by the high willingness of individuals across CSRs to pay for what they would consider negative externalities of agriculture. This is in opposition of the typical ‘polluter pays principle’ and is at odds with what is accepted from non-agricultural industries. This surprise was also mirrored in many of the case study regions. Participants suggested that this may be due to an increasingly positive image of farming across Europe, where farmers are seen as providing food for all, so therefore the costs of damages should also fall to all. There is also recognition that much of the valuation relates to media portrayal of environmental goods and is therefore changeable over time. With regards to transferability it was suggested that many of the values are broadly transferable.

The most important steps forward for valuation from a policy perspective were identified as being collection of further targeted valuation data, though cost constraints may mean that only rough values could be collected.

4.2 POLICY INSTRUMENTS FOR PUBLIC GOODS

In-depth discussion of policy instruments for public goods arising from the PROVIDE workshops, including characteristics of ‘good’ governance mechanisms can be found in Schaller et al. (2017 and 2018). Here we present a broad overview of the policy instruments discussed across the CSRs and EU workshops.

4.2.1 Case study regions

After having identified the main public good issues in each PROVIDE CSRs, in the local workshops the stakeholder groups discussed failures and mismatches of the current policy mechanisms for public good provision as well as the criteria for good mechanisms to solve PG issues. Moreover, potential solutions for better provision have been discussed including a wide range of instruments such as classical policy instruments, innovative financial incentives market instruments, information, and education, among others.

It became obvious that across regions often budget limitations, insufficient targeting and inefficiencies in coordination were recognised as barriers to effective policy. Public goods were often identified as being of low priority, with other activities, such as logging or food production (Bulgaria), having more influence. Trends in media or politics were also identified as being more effective drivers of policy than public good needs, and France in particular noted the low impact of farmer voices. A lack of collaboration, or dominance of measures targeting individuals, was noted as a challenge given the collective nature of public goods. The drive to meet EU targets may mean that locally important actions are missed.

Stakeholders within CSRs considered potential policy measures which may be suited to their specific hotspot. This discussion was carried out at the broad level, to be refined for each CSR. Though large variation is seen with each hotspot, there is some overlap in policy measures considered, and the advantages and disadvantages of each (Table 5). Of the 35 policy measures identified in this broad discussion (grouped from 101 measures detailed in the original reports) 19 were mentioned in more than one case study region. The most frequent policy measures recognised were knowledge exchange, tax relief and subsidies, and market instruments such as labelling and certification. Once these lists had been refined by each CSR the most common considered mechanisms were knowledge exchange (including education, information and awareness building), financial incentives and market instruments (including labelling and certification). These policy measures were considered for a wide range of public goods, including biodiversity, landscape, flood management, and tourism. The variation in the types of mechanism which were identified most often, from the top-down controlled financial incentives, to stakeholder driven knowledge exchange, illustrates the need for multiple and diverse approaches to improving public good provision.

In addition to identifying potential policy mechanisms for public good provision stakeholders also considered the advantages and disadvantages of the mechanisms. Full exploration of these results can be found in Schaller et al. (2017). Between regions and across policy mechanisms advantages were more varied than disadvantages. Common trends in advantages of policy measures were long term impacts and low cost. The importance of low cost was reflected in the disadvantages, with high cost being the most frequently mentioned disadvantage. Additional advantages centred on collaboration, involvement of local stakeholders, and multi-actor mechanisms. Disadvantages were focused on high financial, labour or time requirements. Long time periods for impacts to be seen, or challenges in measuring impacts were also frequently mentioned, highlighting the importance of being able to identify that mechanisms are having the desired effect. Further disadvantages included the potential for excluding some actors, or for mechanism to have unintended negative consequences (Table 5).

Table 5 Grouped overview of governance mechanisms for public goods.

Mechanism	PGB	Advantages	Disadvantages	CSR
Knowledge exchange	Biodiversity, natural parks, rural vitality, landscape, recreation, tourism, forest management, flood management.	Acts over the long-term and multiple scales, incorporating local actors and reducing conflict through supporting collaboration. Potential to	Impacts are hard to measure, and results are not immediate. Can be limited to specific locations.	Scotland, Romania, Austria, Estonia, France, Poland.

		improve production and enhance rural vitality.		
Tax relief and subsidies	Landscape quality, biodiversity, rural identity, water quality, air quality, animal welfare, soil quality, recreation, tourism, land abandonment, agriculture, natural parks.	Provides incentives to landowners and is generally well received. Targeted and supported by market trends. Has a large impact, and can be based on existing structures. Typically long term. Large variety of measures which can be included.	High cost and hard to monitor. May require restructuring of economy. Can exclude some organisations. Can rely on collective actions depending on scheme. May have long delay for results.	Netherlands, Romania, Austria, Estonia, Finland.
Labelling/ Certification	Animal welfare, soil fertility, biodiversity, forestry, land degradation, water quality, biodiversity	Supported by market trends, with reduced need for command and control. Low cost and efficient use of market resources.	Can be corrupted, and non-specific. Higher transaction costs and hard to monitor. Uncertain compliance.	Romania, Germany, Italy, Scotland.
User tax	Tourism, forest management, recreation	Provides financing to other actions.	Potential to reduce tourist numbers and complex to administer. May require change to handling of tax money to focus on environmental issues.	Scotland, Estonia, Netherlands.
Moral suasion	Agriculture, water quality, land degradation.	Targets underlying behaviour and has a wide impact.	Poor spatial differentiation. Long time delay in impacts, and may require economic changes.	Netherlands, Romania, Italy.
Contractual nature protection.	Biodiversity, soil function, cultural landscape, land degradation landscape, recreation and nature tourism.	Spatial and specific targets, based on existing regulations. Low cost and flexible.	High transaction costs and can be hard to establish. Voluntary mechanisms need also other active actors than public sector.	Germany, Italy, Finland, France, Poland.
Monitoring	Biodiversity, soil fertility, water quality.	Reveals problems and increases compliance.	Requires high capacity. Reactive rather than proactive.	Austria, France, Poland.
Organic farming	Biodiversity, soil function, carbon sequestration.	Encourages extensive production.	May increase area under production. Not spatially targeted.	Scotland, Germany, Poland.
Compensation	Flooding and forest management.	Provides farmer/forester support. Aims to improve equitability.	High transaction costs and time requirements. Case specific, and potential for conflict.	Scotland, Estonia, Poland.
Restriction of access rights	Tourism, agriculture, biodiversity, water management.	Control over number of users. Includes multiple actors and flexible planning.	Potential to exclude those that cannot afford access. Often voluntary and requires stakeholder engagement.	Scotland, Netherlands.
Directives/ Regulation/	Biodiversity, rural vitality, soil erosion, water quantity and	Low cost, widely implemented and long term. Strict requirements.	Can feel like loss of control to farmers, hard to monitor. Often inflexible,	Spain, Netherlands.

Cross compliance	quality, agriculture, natural parks, trees and logging, food production, land degradation.	Can target promotion of local produce and be collective or independent. Reduces conflict through clear requirements.	and targets limited locations. High cost and administrative burden.	
Local led protection	Recreation, rural identity, forest management.	Long term targeted initiatives, which can be based on existing structures. Increases stakeholder participation and stimulates innovation.	Relies on external funding, which is often time limited. Time consuming to achieve, and high potential for conflict.	Netherlands, Estonia.
Food supply chain change	Recreation, rural identity, general.	Encourages active citizen participation and had wider impacts on wellbeing.		Netherlands, Germany.
Public-private partnership	Biodiversity, recreation, forest management.	Bottom up financing with long term impact. Preferred over regulation.	Often poorly funded and case specific. Time consuming.	Netherlands, Estonia, Czech Republic.
PES/AES	Biodiversity, water quality, landscape, land degradation, nitrate pollution, flood regulation, landscape, recreation and nature tourism.	Provides financing for actions, with a wide, targeted and cost-effective impact. Links beneficiaries to goods, and may incorporate collective action.	Can be challenging to establish, and have a long time delay to results. May rely on economic restructuring. Transaction costs can be high. Solutions need to be targeted specifically for the region.	Netherlands, Romania, Finland, Spain, Poland.
Advisory services	Water quality, landscape.	Wide impacts and fosters motivation.	Long time delay in impacts.	Romania, Finland.
Promoting local culture	Rural vitality, soil fertility, biodiversity, recreation, landscape, food production.	Sustainable long term development. Improved understanding of rural process and price for local produce.	Disincentive for large business. Time consuming and hard to monitor.	Romania, Austria, Czech Republic.
Area zoning	Landscape, recreation, tourism and land abandonment.	Long term impacts and relatively cheap. Inclusive and transparent.	Time consuming and high potential for conflict.	Romania, Austria.
Market pressure	Landscape, water quality.	Collective action, including local community and with potential to improve rural economy.	May not go far enough.	Bulgaria, France.
Policy integration and coordination	Biodiversity.		Hard to implement and high transaction costs.	Scotland.
Code of conduct	Tourism.	Clear expectations.	Hard to enforce.	Scotland.
Technical assistance	Biodiversity, rural vitality, soil erosion,	Increases professionalisation and encourages young uptake	Slow to achieve results and relies on farmer support. Variable costs.	Spain

	water quantity and quality.	of agriculture. Promotes innovation, and complements other economic activities.		
Infrastructure	Recreation, water retention	Improves collaboration.	Relies on external funding.	Netherlands.
Local development	Recreation, agriculture, rural identity.	Area specific.	External funding needed.	Netherlands, Czech Republic.
Community of practise	Agriculture, biodiversity.	Fits to landscape and engages multiple stakeholders.	May be hard to engage farmers.	Netherlands.
Collaborative partnership	Food production, general.	Represents all stakeholders and fosters motivation.	Can mean decision making is delayed, and organisation structure is ambiguous.	Netherlands.
Performance based payments	Water quality, air quality, soil quality, biodiversity.	Wide impact and appealing to businesses.	Long time delay to see results, and hard to monitor. May rely on economic changes.	Romania.
Polluter pays	Water quality, air quality.	Wide impacts.	Long time delays, and hard to monitor. May rely on economic change.	Romania.
Financial business support	Rural vitality.	Sustainable long term development.	Disincentive for large businesses and specialisation.	Romania.
Tradeable property rights	Biodiversity, forest products.	Appealing to businesses and relatively simple to apply.	Requires stakeholders to be engaged, can be hard to enforce.	Romania.
Local waste collections	Water pollution.	Immediate impacts.	Hard to enforce and high cost of compliance.	Romania.
Think tanks	Soil fertility and biodiversity.	Assesses local needs to provide customised well defined solution.		Austria.
Joint ownership	Forest management.	Increased collaboration, improved efficiency of management.	Time consuming and requires new regulations.	Estonia.
Facilitated land markets	Land degradation and abandonment.	Based on existing structures.		Italy.
Incentives for start-ups and development.	Land degradation.	Based on existing structures.		Italy.

4.2.2 EU level

The second EU workshop did not consider any hotspot considered in the CSRs to be irrelevant to the EU level. Participants placed hotspots on a barometer from low to high relevance, and clustered most hotspots towards the centre. Ranking of importance can be seen in Table 6 and Figure 5.

When considering policy instruments for public goods EU stakeholders recognised a number of important characteristics. The way in which mechanisms are combined, to incorporate top-down and bottom-up approaches, and balance market signals and ownership, was identified as important for managing public goods. Highly noted was the need for mechanisms to be coordinated and targeted. Collaboration was also identified as

being important, between institutions and especially including farmers at all levels. Connected to this was the need for advisory and information services to incorporate policy makers, farmers, and researchers. Financial incentives were suggested to be important for the signals they send to guide behaviour, but must therefore be carefully designed to signal the value of public goods. Other important considerations included scale, particularly for financial incentives, accountability, control, and transferability.

Supply driven mechanisms were recognised as being absent from the mechanisms considered by the CSRs, though reliance on intrinsic motivation within potentially supply-driven mechanisms meant their suitability as governance mechanisms was questioned.

In the third EU workshop participants considered governance options for EU that weren't 'policy' options. It was considered that the reality of EU level governance meant that non-policy options were few, despite recognising that these were important. Collaboration was highlighted as being of interest, though its success is highly variable and reliant on many internal and external factors.

Table 6 Ranking of relevance of hotspots to EU level policy, from 1 (most relevant) to 5 (least relevant).

Hotspot	Rank
Forest landscape and nature based tourism	1
Public good under provision due to intensive agriculture	1
Public goods provided by low intensity agriculture and forestry systems in low development rural systems	3
Risk of public good under provision due to land abandonment	3
Urban rural relationships	5
Intensification/ change of traditional farm systems	5

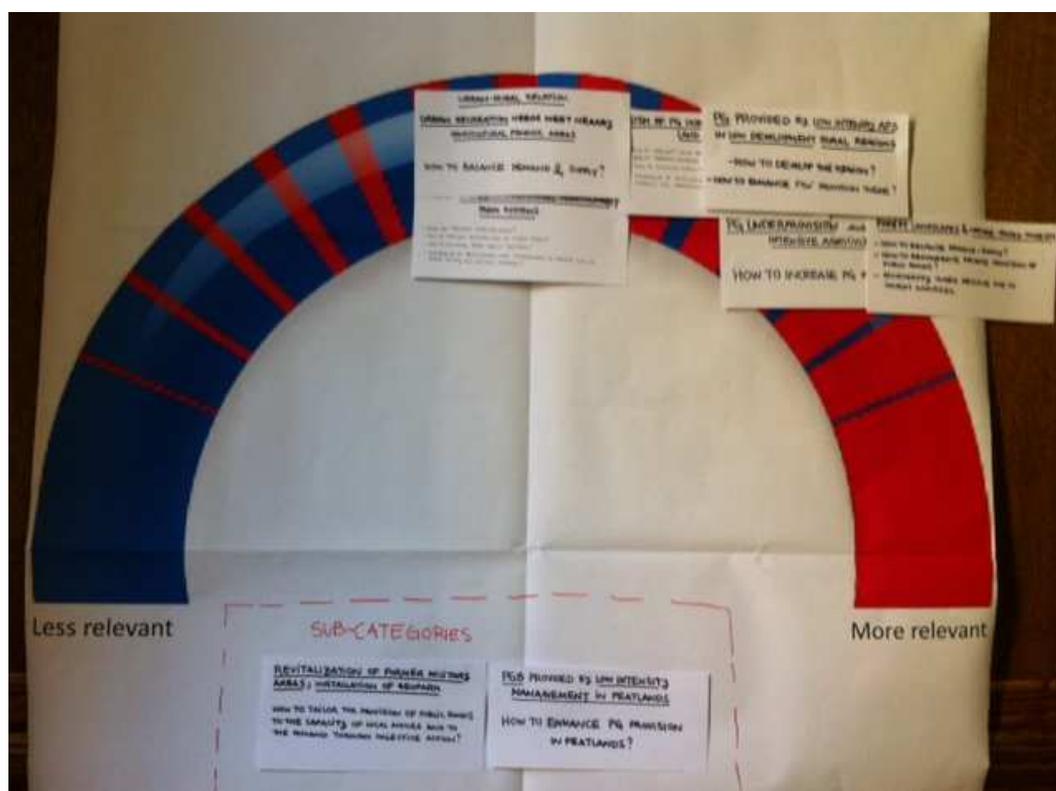


Figure 5 Barometer of importance of hotspots to EU level policy.

4.3 COMPARISONS OF POLICY INSTRUMENTS FOR PUBLIC GOODS

In depth discussion of policy instruments for public goods is considered in Roberts et al. (2018).

4.3.1 Case study regions

In Workshop 4 the CSRs considered the strengths, weaknesses, opportunities and threats associated with the final selection of governance mechanisms for public goods. Stakeholders identified the most important SWOT factors within their CSR, as well as how well the proposed mechanisms meet these criteria (referred to as the performance of the mechanisms). Because a wide range of public goods and governance mechanisms have been considered an equally diverse set of SWOT factors are also apparent (Table 7).

Despite the large range of PGBs and mechanisms considered, SWOT factors could be grouped into 16 broad categories (Table 7), which also grouped corresponding strengths with weaknesses, and opportunities with threats (e.g. the ‘targeting’ group would include successful targeting as a strength and poor targeting as a weakness). Within these categories factors associated with stakeholder characteristics, and cost effectiveness and funding were seen to be most important across stakeholder regions. Other commonly important groups include targeting, inclusivity, pressure from external actors, and local conditions.

Though grouping of SWOT factors was possible across CSRs, commonalities between success of types of governance mechanisms was not apparent. Taking the example of subsidies, considered as part of the governance mechanism for Finland, Estonia, Romania, Bulgaria, Austria, Spain, and the UK, funding was recognised as a strength, weakness, opportunity, and threat, depending on context (e.g. while Estonia and Finland recognised subsidies as having strongly reliable and sustainable funding, in the UK poor financial security was a threat).

Although the packages of governance mechanisms had been designed by the stakeholders in previous workshops, no governance mechanism performed perfectly against the important SWOT factors. This indicates that even when stakeholders are included in the construction process, additional factors prevent creation of perfectly suited governance mechanisms. As well as the CSR specific SWOT factors six additional PROVIDE criteria for good governance (see Schaller et al., 2017) (referring to whether the mechanisms were targeted, effective, acceptable, had low ancillary costs, were measurable and had ancillary benefits), were scored in all CSRs. Overall these factors scored highly for importance (mean 6.1-7.1 out of 10, with no score for any criteria below 5 in any CSR), and mean scores showed little difference in either importance or performance of governance mechanisms. Targeting was identified as both the most important and best scored criteria on average. When comparing difference between criteria importance and the performance of each mechanism against the criteria, measurability performed best on average (i.e. the largest mean positive difference between importance and performance score) and low ancillary costs shows the worst average performance (i.e. largest mean negative difference between importance and performance score).

Comparing performance of individual governance mechanisms against importance criteria indicates that the Spanish use of AES for improving biodiversity performed best out of the mechanisms and public goods considered. The Austrian mix of governance mechanisms (collective bonus, sales guarantee and performance oriented payment by private sector, local collective partnership, marketing & labelling, awareness building) for soil functionality and water quality performed worst against identified important criteria.

Table 7 Strengths, weaknesses, opportunities and threats identified for governance mechanisms across CSRs

SWOT group	Strengths	Weaknesses	Opportunities	Threats
Experience/ Infrastructure	Well known and accepted by stakeholders, with capacity for	Uncertain success, untested.		Lack of physical or institutional infrastructure.

	implementation. Tested with known results.			
Funding/ payment	Reliable and sustainable financing for cost-effective solutions. Attractive support rates.	Low payments or high transaction costs.	Private funding or market prices.	Prevalence of cheap products which restrict funding, or unsustainable funding sources. Poor connection between payments and service delivery, decrease of payments.
Connection to other policies	Connection between land use and nature protection.	Failure to link between science, policy and practice, or to link different policies.	Increased coordination between different schemes.	Trade off with other policies or changing instruments as policies change.
Regulations/ Enforcement/ Monitoring	Clear, enforceable regulations, which are easy to monitor.	Unstable regulation	Reduced monitoring costs due to technology, long-term policy stability.	Compulsory contracts or changed regulations.
Availability of measures	Multiple measure possible, and accessible and communicated widely.	Poor communication and access to information. Specialised equipment needed. Problems with assessing policy effectiveness.	Expansion of management and innovative business models. Good communication.	Misunderstanding use of technical measures.
Targeting	Promoting specific outcomes and standards, accounting for local conditions.	Inflexible and limited coverage, not able to account for local conditions.	Defined target levels; increased match with the local conditions.	Differing views on target sites, lack of flexibility.
Inclusivity	Including all stakeholders, with transparent mechanism.	Exclusion of stakeholders, such as those not willing to work collectively. Lack of information or information asymmetry. Limited popularity.	Shared interests between stakeholders.	Potential for favouring 'popular' farmers, increase of the cost of enrolment, decrease of the availability.
Supports ecosystem	Supporting soil function, biodiversity, nature preservation and protection.	Landscape quality may not be improved.	Natural conditions.	Detrimental environmental effects.
Stakeholder/ Landowner characteristics	High interest in problem solving and support for types of mechanism.	Ingrained habits, differing priorities and lack of interest. Age of landowners and lack of successors.		Farmers reject mechanism or have negative attitude. Farmers have individual values, or may not support paying for nature conservation.

Bureaucracy	Simple to apply.	High effort for planning or coordination. Additional bureaucracy.	Increased ease of implementation.	Bureaucracy.
Contract length/ timing		Short term contracts. Limited flexibility.	Fixed term contracts facilitate decisions, increase of flexibility.	Lack of continuity, decrease of flexibility.
External actors	Ecological and economic optimism.	Reliance on external frameworks and politics.	Increased demand for organic or healthy products, as well as positive perception of public goods; market conditions.	Picture of cultural landscape by public may not match 'best' environmental outcome.
Unpredictable events			Brexit, the EU is no longer an excuse for Scotland.	Climate change
Impacts of governance mechanism	Promote change in farmers perception of compensation, promotes good practices.		Farmers will gain understanding of the public goods, and may be activated to action. Cooperation and networks supported. Land ownership may be influenced.	
Area/ Site selection			Wide area of impact, including optimum sites.	Best sites not selected.
Local conditions	Crop types or farm sizes.	Deviation between farming types.	Region image and local capacity.	Monoculture agriculture and development.

5 Key messages emerging from the workshops

5.1 METHODS OF PUBLIC GOOD VALUATION

Involvement of stakeholders in the public good valuation exercises was in general positive, and enabled the CSRs to identify both supply and demand side values. Where stakeholder involvement was high trust in the valuation estimates was also high, though context was also identified as being an important consideration.

Stated preference methods were generally well accepted, seen to be reliable and useful. When using such methods stakeholders highlighted the need to be aware of the hypothetical nature of values, and the complexity of the survey instrument for respondents.

Interviews and workshops were also thought to be highly reliable, due mainly to their direct connection to PGB providers. However, benefit transfer and accounting were only recognised as reliable in some cases, with the need to account for scale and context highlighted. Results from all valuation methods were suggested to be useful for policy makers and PGB providers.

At the EU level valuation of PGBs was recognised as useful, but barriers, such as time scales, exist to enabling valuation to influence policy. Values were thought to be broadly transferable, though further improvements would be expected from more targeted studies, where funding allows.

5.2 POLICY INSTRUMENTS FOR PUBLIC GOODS

Budget limitations were recognised as a key barrier to policy instruments for public goods, along with media, rather than need, driving policy creation. Across CSRs policy instruments varied, with knowledge exchange, financial incentives and market mechanisms most frequently considered. Important advantages of instruments were identified as low cost and being applied over long time periods. These were reflected in the most frequently identified disadvantage of high labour, financial or time costs.

The high stakeholder engagement employed through the PROVIDE workshops proved valuable for identifying barriers and limitations of governance mechanisms for public goods, which are unlikely to have been otherwise identified. Through working with stakeholders from varied scales CSRs were able to identify the full range of challenges which may prevent improvement of PGBs associated with agriculture or forestry systems. Recognising such barriers provides an important tool for design of future governance mechanisms.

At the EU level the way in which mechanisms are combined was seen as the most important consideration for policy instruments for PGBs. Collaboration was recognised as being important for future development, but may be hampered by the high reliance on context specific factors.

5.3 COMPARISONS OF POLICY INSTRUMENTS FOR PUBLIC GOODS

SWOT factors associated with PGBs and governance mechanisms were highly context specific. Stakeholder characteristics and cost-effectiveness were most frequently recognised as important, however the performance of governance mechanisms against these criteria varied widely. In general the governance mechanisms designed in previous workshops did not meet all of the criteria deemed to be important. This highlights the need to continue to develop governance mechanisms to fit local criteria, as well as the importance of mixtures of governance mechanisms.

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Appendix A

PROVIDE Second regional workshop draft outline

Objectives of the workshop:

- i) Present, discuss and validate with the stakeholders the selected hotspots (HSs) and the HS-stories to be analysed throughout the project.
- ii) Discuss and propose governance mechanisms that would allow for the smart and improved provision of public goods and bads (PGBs) by the agricultural and forestry systems in the context of the HS.
- iii) Discuss relevant information required (from the valuation point of view) to design governance mechanisms to promote a smart provision of PGBs by agriculture and forestry in each HS.
- iv) Discuss the development of the tool.

Overall, this workshop will be essential for the selection of governance mechanisms and valuation methods to be used in the analyses throughout the project.

BEFORE THE WORKSHOP

Prior to the workshop, each partner needs to develop a 'storyline' for each of the hotspots that will be presented and validated at the workshop (in Part 2). In addition, based on the storylines, each team should develop a conceptual map/systems diagram which is a visual illustration of the hotspot storyline and aims to aid with the presentation and validation of the storyline in a more engaging way with stakeholders. That is, the diagram should show the things that you talk about in the storyline.

The storylines, and diagrams linked to those storylines, should summarise the (positive or negative) issues around public goods and/or bads in the hotspot area (based on results from workshop 1) and the factors and processes characterising and influencing the hotspot area and the public goods/bads. This should for example include:

- Description of the Agriculture & Forestry Systems in the hotspot area (e.g. the productive systems, property structure, etc.).
- The public goods/bads that emerged as important issues for that area.
- Issues around the PGBs, i.e. why there is a problem, and factors affecting agriculture/forestry and the production of PGBs (these can be environmental factors such as climate, economic factors such as markets, and other factors such as regulation or tradition, etc.).
- The parties/stakeholders/parts of the society who are consuming/producing the PGBs.

To construct the diagram:

1. Take the elements that occur in the storyline (the bullet points above) and put these into boxes.
2. Connect the elements/boxes with arrows showing which things influence each other. Use '+' to indicate where the influence is reinforcing (if 'A' goes up, 'B' also goes up; if 'A' goes down, 'B' also goes down; e.g. if soil fertility goes up, agricultural production goes up). Use '-' to indicate if the influence is inverse (if 'A' goes up, 'B' goes down and vice versa, e.g. if intensive agriculture goes up/becomes more intensive, biodiversity goes down).

Below is an example of a storyline and diagram from one of the hotspots in Scotland.

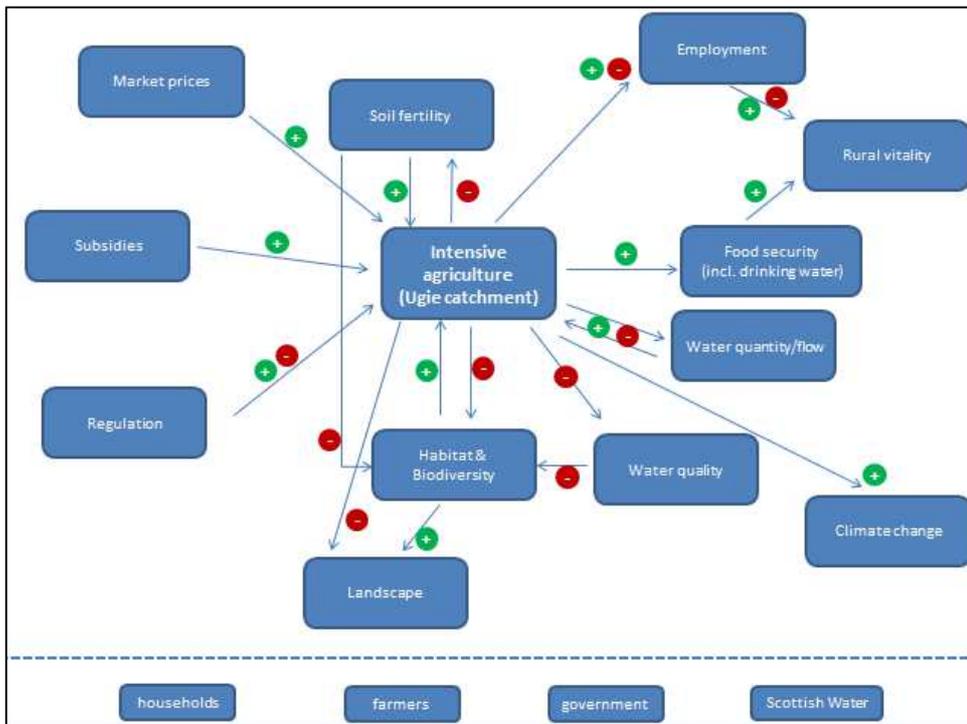
Hotspot storyline – Scotland

The area around the River Ugie catchment is a fertile and relatively intensive mixed farming system in Aberdeenshire, relying on crop production, especially barley but also vegetables, and grassland for dairy cattle and sheep. The farms in the area are mainly owner-operated. This farming system supports much of Aberdeenshire's food production, though some is considered 'luxury foods' in the form of meat and whisky. The intensive agriculture creates income for locals - even though this highly mechanised agriculture create few jobs.

At the same time, intensive farming systems in the area appear to create pressures on the environment in the form of water quantity and flooding problems and, especially, water quality pollution due to high concentrations of fine sediment, nitrates, phosphates and molluscicides. This is especially relevant here as the river Ugie also provides drinking water to local populations. Currently, Scottish Water (the semi-private water provider in Scotland) deals with this problem through costly water treatment procedures.

Agriculture has also been connected with habitat and biodiversity loss, emerging as a direct consequence of the simplification and homogenization of farming practices in intensive systems. In addition, there are negative impacts on soil fertility. Larger and almost fully mono-cropping fields also have negative impacts in terms of reduced landscape variety. Intensive farming also contributes to climate change through increased emissions from livestock and decreased soil carbon storage capacity.

Currently public bads from such intensive production system are likely to exceed the provision of public goods. Furthermore despite that the system creates some benefits which tend to be localized, these systems are also responsible for some wider negative impacts that affect society as a whole. On the one hand, farmers can benefit from high profit margins from their activities compared to other land uses. On the other hand, society suffers the costs of reduced environmental quality. To avoid such social welfare losses, and contribute to preserving or improving environmental conditions, new or simply better governance mechanisms might be needed. Currently, the most important factors influencing farming in the area are market prices, subsidies (e.g. single farm payments and agri-environmental schemes) and regulation, such as the Water Framework Directive or the Habitat Directive. In addition, Scottish Water (the semi-private water company in the region) has started a PES-like scheme in an attempt to get farmers to reduce the level of water pollution.



The storylines and diagrams will be used

- to validate the hotspot information,
- and to support the discussions on governance, valuation and information needs.

They are thus mainly **a tool to help engage the participants** at the workshop and stimulate the discussion.

There should be **one storyline and diagram per hotspot area**.

AT THE WORKSHOP

Part 1: Reporting on results from the first regional and EU workshops and present some brief information about the other CSRs (30 mins: 20 minutes presentation +10 minutes Q&A). This presentation should also introduce the aims of the 2nd workshop.

Part 2: Presentation and validation of the storylines and systems diagrams (30 min.)

Short presentation of the hotspots' storylines and diagrams, including public good/bad issues, followed by a brief facilitated discussion. If you have more than one hotspot, this can be done in smaller groups (where each group looks at one hotspot) to save time.

Outcome of this activity: The main output of this activity should be to:

- share and validate our understanding of factors influencing the provision and consumption of PGBs in the hotspot areas
- feeding into tasks 3.3/3.4 (description and selection of the hotspots);
- identify the PGBs to be focussed on in the subsequent part of the workshop and in the work on valuation (WP4) and governance (WP5).

The following steps are suggested to present the storyline(s) and validate them with stakeholders:

1. Research team **shares the storylines and diagrams** developed based on the results from the first workshop (15 minutes): researchers should very briefly narrate the storylines associated with each hotspot. While you are telling the story of the hotspot, show the systems diagram to aid with the presentation (on power point or printed on a big sheet of paper).

As already described above, the information, that each team can modify/adapt to local issues, in the storyline and diagram should include:

- o Description of the Agriculture & Forestry Systems in the hotspot area (e.g. the productive systems, property structure, etc.).
 - o The public goods/bads that emerged as important issues for that area.
 - o Issues around the PGBs, i.e. why is there a problem, and factors affecting agriculture/forestry and the production of PGBs (these can be environmental factors such as climate, economic factors such as markets, and other factors such as regulation or tradition, etc.).
 - o The parties/stakeholders/parts of the society who are consuming/producing the PGBs.
2. **Get inputs from stakeholders** on the storylines & diagrams (15 minutes): Prompt participants with open questions to gather their views on the storylines presented, whether the hotspot areas are the right ones to focus on, whether the storylines are relevant and appropriate, etc.
- o Do the story and diagram capture the main issues around PGBs in the area?
 - o Which refinements should be made? (e.g. is anything important missing, are some of the connections wrong, etc.)
 - o **WHICH FINAL PGBs would need improved governance and should be investigated in the context of the hotspot??**

For activity 2 within Part 2 time management is really important. There should be some discussion on the diagram but, importantly, at the end of this exercise the stakeholders should have identified the PGBs to focus on for the hotspot.

3. **Make adjustments to the diagram** based on the feedback received

This will allow to validate, with stakeholders, the relevant PGBs identified in the hotspot area, what factors influence their supply and demand, what other things they are influenced by (e.g. farming intensity, topography, ...), who benefits from the PGs (suffers from the PBs), what is that influenced by, etc.

If partners have several, potential hotspots, the discussion should also try to clarify which one would stakeholders think would be the most relevant/interesting. The final selection of hotspot(s) to focus on for the remainder of the project will take place at the second project meeting in Brussels, taking into account stakeholders' preferences and the needs of the project. Please note that each partner will have to select and analyse at least one hotspot.

Part 3: Identification of governance tools (1 hour)

Identify potential governance mechanisms which could promote the smart delivery of PGs.

Outcome of the activity:

- i) A revised list of Governance Mechanisms, including the Governance Mechanisms collated by WP5 plus "new" or "alternative" governance mechanisms suggested by participants (WP5).
- ii) A preselection of Governance Mechanisms to be empirically analysed in each HS (WP5).

In particular, this information will provide crucial inputs to deliverables D.2.4 (Report on workshops supporting WP4 and WP5), D5.1 (Report on governance mechanisms selection, methodology adaptation and guidelines for evaluation), D5.2 (Report on comparative evaluation results) and D5.3 (Report on practicability and transferability). The final selection of Governance Mechanisms will be made by each partner but coordinated with BOKU, UNIBO and UCO.

Steps:

If partners have several hotspot areas participants should work in small groups, so that each group only focusses on one hotspot area.

1. Introduce what is meant by governance mechanisms (depending whether or not the equivalent term in your language is a generally understood term) and different types of governance mechanisms (e.g., policy tools, market and non-market,...). A definition and some examples of governance mechanisms will be provided by BOKU.
2. Ask stakeholders to think about aspects that they consider would contribute to make a governance mechanism a 'good' one (i.e. 'smart' in PROVIDE's terms). These aspects should be written down on post-its and be kept at hand by the participants to refer to during the selection and discussion of governance mechanisms.
3. How are governance mechanisms normally designed in the region? Do policy-makers define a goal to be achieved by e.g. desired percentage of increase in the provision of PGBs, or the budget to be spent on the implementation of governance mechanisms and then set the level of delivery to fit with what they think can be achieved for that budget? Are there other policy-making strategies?
4. **Identification of governance mechanisms:** For each of the PGBs selected (in Part 2) as important and in need of intervention stakeholders should discuss, which existing or novel governance mechanisms could be used to ensure a good/desired delivery of the PGBs, and where in the system it would make most sense to intervene. Use the modified system map/diagram resulting from Part 2 to aid the discussion and the pre-defined list of governance mechanisms collated by WP5 to supplement the ideas proposed by the stakeholders and widen the discussion. For each proposed governance mechanism discuss:

- Where in the system would these governance mechanisms try to intervene/what levers are they pulling where in the system? (use systems map/diagram to point out)
- How would this affect the rest of the system?
- What would be the advantages, what would be the disadvantages of the governance mechanisms? Which governance mechanism would work better to achieve a 'good' provision of each of the identified PGBs? This should draw on the participants' definitions of what they think 'good governance mechanisms'/smart provision means.
- Who would benefit and who would be negatively impacted from the implementation of such mechanisms?
- To what extent can the governance mechanisms deal with heterogeneity in the supply of PGBs?

Part 4: Information needs (45 mins)

Outcome of this activity:

- i) A discussion on the data needed (and from whom) for the valuation (WP4).
- ii) Identification of the information needs of different stakeholder groups (e.g. land managers, policy makers, etc.) and requirements for the format of the tool (WP6).

This activity is important to collect Stakeholder ideas and information on the demand and requirements for the governance mechanisms discussed in part 3, for the valuation and for the support and communication tool (developed in WP6) that would be useful for end-user at the regional level.

- 1. Information for governance and valuation:** Explain that part of the project will consist of a valuation exercise. The following questions should be discussed:
 - What kind of (economic or other) information would be needed to implement/monitor/make decisions in relation to each proposed governance mechanism? (e.g. what information would be needed to know that it works?)
 - How do you think the valuation assessments should feed the design of the proposed governance mechanisms?
 - Are there differences in the information needed for the different mechanisms?
- 2. Information needs and tools for stakeholders.** Explain that one of the planned outcomes from PROVIDE will be some kind of information tool, and that this is why we would like the participants' feedback on what kinds of information this should contain and what form it should take. The following questions should be discussed:
 - What type of support and communication tool are already used in the region (e.g., website, forum, decision support tool, social media, ...)? And by whom (community of practice)?
 - Is there interest/need for addition/new support and communication tools?
 - *Type of information:* What kind of information would you want/do you need? (e.g., *general knowledge* about land management/rural development and the understanding of PGBs (e.g., best practice examples, research results, databases, access to wider networks); specific land use/management *decision-related* information and support (e.g., costs/benefits of management practices, guidelines, legal information); or platform for policy or market place for PGBs provision (e.g., payments for ecosystem services).
 - Should it be a platform for sharing information amongst practitioners in the region/area or for disseminating knowledge from the regional/national levels to stakeholders in the region?
 - *Form of information:* What types of communication tools would you find most useful (e.g., website, newsletter, blog/forum, social media, presentations, educational movies, discussion forum, decision

support tool, ...) How do you want/need to access information (e.g., mobile device, desktop, internet, online / offline)? How important is that information is provided in native language / English?

Part 5: Feedback forms for participants (optional) (see separate document)

Draft guidelines for the 3rd PROVIDE workshops with local stakeholders

Introduction:

The 3rd PROVIDE local stakeholder laboratories/workshops will mainly inform the following tasks:

- WP2 Task 2.2.3 “Understanding of methods for PG valuation and related information” and will involve the evaluation of results and methods from the perspective of the local stakeholders. The workshops/laboratories will therefore provide stakeholders input to Task 4.6 (lessons learned) and previous tasks of WP4 (especially Tasks 4.4 and 4.5, on determinants and transferability of values, respectively).
- WP5 Task 5.3 “Practical, case study based evaluation of governance strategies”. For this it will include the gathering of information that will directly feed task 5.3.1, as well as information needed for the evaluation exercise in Task 5.3.2.

Objectives of the workshops/laboratories:

The stakeholder workshops/laboratories are focused on updating the stakeholder about the project’s results so far and on gathering knowledge for advancing WP5 work. In particular:

1. The results of the WP4 (valuation) should be fed back to the stakeholders and be discussed with them.
 2. As regards gathering knowledge for advancing WP5 work, this should focus in particular on the specification and elaboration in more detail –or maybe the development of alternatives– of the most promising governance mechanisms to reach the public good targets in your CSRs.
 3. In case there is enough time left at the workshops, an additional objective is setting the PROVIDE scenario narratives into the context of local conditions. If this is not accomplished at the workshops, this should be done in subsequent contact with the stakeholders (this could be in the form of an additional workshop or in another format)
- The stakeholder activity to answer the above objectives has to be implemented by all PROVIDE partners. In the following guidelines we suggest a format of a stakeholder workshop, which is suited to answer the different objectives.

Timeframe

- Beginning of M20 (April 2017). Provision of reporting template by JHI, UCO and BOKU to all partners
- M20 (April 2017): Implementation of the CSR workshop/laboratory
- End of M21 (May 2017): Reporting on methodological approach and the outcomes of the workshop/laboratory, by using the reporting/outcome template of JHI, UCO, BOKU, sending fulfilled template to JHI, UCO and BOKU.

Before the workshop/laboratory

- Identification of all relevant stakeholders of the CSR which should be invited to the laboratory. As every CSR is different, there are no rules on a fix number of involved stakeholders. Guiding value: ~ 12 persons.
- It is important, to involve stakeholders of a rather wide spectrum, in order to represent the societal relations of the CSR. Moreover, as we aim at governance development, it is important to include stakeholders from the level of decision and policy making and the agriculture, forestry, trade/value chain and conservation sectors. Our suggestion would be to have a similar group as in workshops 1 and 2 to ensure some continuity and engagement along the project.

During the workshop/laboratory

- Guiding length: ~ half a day (3-4 hours), depending on the CSR condition (e.g. disposable time of the stakeholders, number of stakeholder).
- If informed consent has been obtained, workshop could be audio/video recorded. Otherwise, in addition, please take minutes.

Workshop activities

Activity 1. Project update with a special focus on the discussion of the results from demand-side and supply-side valuation (guiding length: 60 min)

Aim:

Remind the stakeholders of the project and inform them about what happened since the last workshop. Present and discuss the WP4 results with the aim of feeding Tasks 4.4 and 4.5 (of determinants and transferability of values) and especially Task 4.6 (of lessons learned), as well as linking these results with WP5's tasks.

Expected outcome:

To have a better understanding of the valuation results, their related issues (with regards to the valuation itself and its limits to correctly reflect values) and their policy-relevant messages.

Operationalisation:

The workshop will start with a short presentation (circa 20 minutes for points 1 to 3 below) about what happened since the last stakeholder workshop in June 2016, followed by a discussion about the results obtained from the valuation assessments (circa 40 min for point 4 below). We suggest including the following contents:

- 1.) In case you involve new stakeholders/experts in the workshop, give a very quick overview on PROVIDE, perhaps also on the overall project workflow.
- 2.) Summarise in short the results of the past stakeholder workshops. *(As a reminder, in the last workshop a) the major hotspot storylines have been validated, b) system maps around the*

hotspot issues have been developed to assess the main drivers for the public good issues in the CSRs, c) attributes of “good” governance mechanisms have been collected, d) potential governance tools to improve PG provision have been identified). One way to summarise the results of this workshop could be to shortly refresh what has been done in the last workshop and then show the final system map for the hotspot story you finally chose (from your report of the 2nd workshop), explain the hotspot story again and outline what you are now investigating in PROVIDE alongside this final choice.

- 3.) Present the results obtained from the valuation (demand-side and supply-side) exercises.
- 4.) Discussion of valuation results (use the following structure and questions): break-outs (15 min), plenary (25 min)

For point 4, discussion of valuation results we suggest to divide the participants into two groups. One group is asked to think about the strengths and the other about the weaknesses of valuation results. Each group then presents their main points to the other group followed by a plenary discussion. Alternatively, this can be done in one group, addressing first the strengths and then the weaknesses followed by the plenary discussion

Prompts for the plenary discussion (within each group as well as the debate with the whole group):

- a) Reliability of demand-side and supply-side results
- b) What are the key/most striking results and reasons behind them in the study area? Do these reasons represent issues challenging valuation assessments?
- c) What are the main determinants impacting costs and benefits of PGBs in the study area?
- d) Potential uses and usefulness (and for whom), especially for governance-making?
- e) Relevance of the valuation assessments for other areas/PGBs

Activity 2. Discussion of the target levels of public good provision (guiding length: 30 min)

Aim:

Directly after discussing the WP4 results, in Activity 2 we suggest to re-discuss and finally define the target levels of public good provision in the CSR. It is obvious, that the outcomes of the WP4 exercise will lead to a fruitful discussion about which levels of public goods should be envisaged to best meet the demand as well as the costs for supply.

Expected outcome:

Defined target levels for the public goods investigated - in the optimal case, the scale represented by these levels is also defined (e.g. emissions mitigated per hectare/ per region/ per inhabitant/ etc.).

Operationalisation:

The task can be done in an open discussion. Looking at both sides of the coin, namely the WP4 results on demand (e.g. society's WTP) and the costs (e.g. for the farmers) for public good provision in the CSR, the discussion should cover the following 2 questions:

- Which level of public good provision (of the specific CSR PGs) would be appropriate and realistic to best meet all societal demands in the CSR? (societal demand includes all stakeholders interests and will therefore constitute a compromise)
- What scale is represented by these levels (e.g. emissions mitigated per hectare/ per region/ per inhabitant/ etc.).

(break 15 min)

Activity 3. Refinement of governance mechanisms considering main criteria of good governance (guiding length: 75 min)

Aim:

In Activity 3, the most promising governance mechanisms identified in previous workshops shall be discussed with the stakeholders and be elaborated into good and practical, real-world governance strategies for your CSR.

Expected outcome:

The expected outcome from this activity is well defined governance strategies. These governance strategies will provide the basis for your evaluation exercise in Task 5.3.2, where the performance of this strategy as regards public good provision will be measured.

Operationalisation:

To reach the objective of this activity, we suggest carrying out the following steps.

Before the workshop:

- Please go through the list of criteria provided in Annex 1 of this document. Beside the obligatory criteria to be considered by **ALL CSRs**, feel free to choose more criteria that appear to be relevant in the context of your governance mechanisms.
- Prepare handouts, tablecloths or flipcharts or any other suited media, (figure 1), which suggest “Public goods/governance mechanisms pairs”. The following contents should be included:
 - The public goods addressed (leave also some space, where you can fill in the target levels of public good provision derived from activity 2.)
 - The governance mechanisms/mix of governance mechanisms suggested to improve the provision of these public goods
 - The main criteria (obligatory and partner specific) to be kept in mind when discussing the GM

At the workshop:

In case you aim at investigating more than one “public-goods/governance-mechanisms pair”, we suggest dividing participants into different groups. If not, you can keep the discussion on level of the whole group of course.

Each group is then assigned one PG/GM pair. The respective PG/GM pair will be explained by a facilitator from the project.

Making use of the handouts, tablecloths or flipcharts, the stakeholders/experts will now discuss the suggested GMs. In this process they should go through the criteria in the table, and discuss how the GMs need to be designed to meet the criteria of good governance (and finally the target levels of public good provision). The stakeholders can write down their discussion results directly on the handouts, tablecloths or flipcharts e.g. by inserting bullet points in the respective field. Also they can mark, which parts they find are the most important.

Figure 1: Example of handouts, tablecloths or flipcharts:

Public Good 1	Target level PG1: _____
Public Good 2	Target level PG2: _____
Public Good 3	Target level PG3: _____
Public good x	Target level PGX: _____
Description of Governance Mechanisms/Mix of GM to enhance the provision of PG1, PG2,.....:	
Xxxxx	
Xxxxx	
Xxxxx	
Xxxxx	
Criteria:	How does the specific GM/Mix of GM needs to look like, to meet the criteria of good governance
Targeted to the topic:	
Avoidance of ancillary costs → How does the mechanisms need to be designed to have only few negative side effects on other PGs	
Ancillary benefits → How can the mechanisms best yield positive side effects on other PGs (win-win situations)	

Measurability → how can the effects of the implementation can be made measurable	
Effectiveness → How does the mechanism need to be designed to in fact lead to a better provision of PG	
Acceptance → how can be ensured that the mechanism is accepted, Who is eligible / able to participate in GM X, who isn't?, Who is likely to respond?	
....	

If you have more than one group, you could think about a round of rotation: once each group has filled the table and discussed about it participants rotate around tables so that groups get to see what the other participants wrote and maybe add further comments (each round 10 min). Each facilitator remains on the table, in order to introduce the new-comers the table again and the essential points/results of the round before. This aims to promote the exchange of all participants in very dynamic way.

In case you have more than one group, and after all groups have rotated through all tables, each table facilitator summarises the main results in a **plenary session**. If you have only one group, you can have a short wrap up of the results.

At the end shortly light up the following questions:

- What are the advantages of the single GM X? What are the disadvantages?
- Who would be involved (e.g. authorities, organisations...)?
- Which mechanisms supplement each other?

Additional Exercise: Activity 4. Scenarios (guiding length: 40-60 min)

At this point we want to leave it up to you, if you want to ask for scenario parameters in the workshop as well, or if you want to perform the following activity in form of a separate expert consultation.

Aim:

The evaluation of the performance of the final governance strategies in Task 5.3.2 will consider probable and relevant scenarios on socio-economic and natural development. The PROVIDE “scenarios” consist of 3 major scenario narratives, describing possible future social, economic, technological and policy pathways. Besides a “Business As Usual scenario” (BAU), the second scenario considers a future, where the provision of environmental public goods is rather neglected, while in the third scenario, the provision of environmental public goods is in the focus of development. These

scenarios are defined by specific characteristics of 5 parameters, which are “climate change”, “consumption patterns and public good demands”, “price volatility/markets”, “technical progress”, and “prices of natural resources, in particular oil” (see Annex 2 and Chapter 5.2 of D5.1).

In Task 5.3, these general narratives have to be discussed with relevant actors and be translated into region-specific scenarios under the precondition of the overall pathways described in the PROVIDE scenario narratives. Researchers should keep in mind that scenarios are the basis for the subsequent 5.3.2 modelling exercise. Thus, this exercise should be also used to gather modelling relevant information (e.g. applicable parameters) and it should consider model feasibility of scenario details.

However, as the main outcome of the WP5 related activities of the workshop are first and foremost the elaborated target levels of public good provision and the elaborated governance strategies, we want to leave it up to you, if you want to ask for scenario parameters in the workshop as well, or if you want to perform this activity in form of a separate expert consultation.

Expected outcome:

The expected outcome of the process of scenario definition will be locally adapted versions of the PROVIDE scenario narratives, that is, translations of the general PROVIDE scenarios into the regional context with relevant local characteristics and modelling relevant details added in. These will be directly integrated into the evaluation exercise in Task 5.3.2.

Operationalisation:

Before starting the exercise, a short impulse/stimulus information, by the project team, explaining the scenarios, is given to the participants.

Use a **carousel exercise** with 3 stations (each scenario = one station). The participants rotate through the three stations (guiding time: each time around 10 minutes) and discuss how each scenario would look like in the relative hotspot area.

On each station (with a chairman), the scenarios have to be described in a short form on the top of a piece of chart paper, taped on the wall.

The 3 groups have different coloured markers, in order to distinguish their responses on the paper.

After the end of the exercise, each group rotates completely (except the chair-man) to the next station. On the next station the groups are confronted with a new scenario and will discuss it as well as the answers of the other groups before. The group will add their discussion and/or also comment to the things that other groups wrote before.

At the end, each group is back on their original station.

Now in a gallery walk the results of each station will be presented by the chairman and discussed with all participants.

Table 8: Provide set of evaluation criteria

Type of criteria	Criteria
Governance framework	Functioning institutions Accountability Transparency Rule of law
Governance mechanism design	Inclusiveness/Participation/Communicative action Legitimacy/Consensus orientation Procedural and distributive justice, Fairness/Equity Objective, Science-based Clarity/Transparency of the design process Timeliness and facilitation efforts
Governance mechanisms characteristics	Consistency of goals, Coherence Objective, Science-based Targeted to the topic Spatially targeted Targeted to the group responsible Simplicity/Practicability Adequate compensation of expenses Ancillary costs → the mechanism has negative side effects on other PGs Ancillary benefits → the mechanism has positive side effects on other PGs (win-win situations) Flexibility Partnerships between players Trust between actors horizontally (land manager to land manager) Trust between admin bodies and farmers Equity and fairness (GM-related) Vertical integration Horizontal integration
Monitoring	Measurability → the effects of the implementation can be measured Who measures/monitors? (citizen science) Coherence of monitoring
Performance	Is it the society better-off? (achievement of net social gains) Effectiveness → the mechanism in fact leads to a better provision of PG Efficiency Acceptance → the mechanism is accepted

Table 9: PROVIDE narratives on socio-economic and natural development

Scenario	Business as Usual (BAU)	Sustainability driven (Sust_Driven)	Market driven (Market_Driven)
Climate change	as given (two degree increase will be missed)	max two degree increase	significantly more than two degree
Population increase	as given (moderate)	low	high
Consumption patterns and willingness to pay for public goods	as given (low willingness to pay for public goods)	significant willingness to pay for public goods	no willingness to pay for public goods
Prices of natural resources, in particular oil	as given (moderate)	high, clearly reflecting scarcity	low, not reflecting long-term scarcity
market price volatility	as given (high)	moderate	extreme
Technical progress	as given (without fundamental breakthroughs)	significantly, clearly environmental oriented	extraordinary, clearly market oriented

In order to give a deeper insight into the underlying rationality of our scenarios we offer in the following two pages brief narrative descriptions of our scenarios.

Scenario narrative ‘Business as Usual’ (BAU)¹⁾

‘The world follows a path in which social, economic, and technological trends do not shift markedly from historical patterns. Most economies are politically stable. Globally connected markets function imperfectly. Global and national institutions work toward but make slow progress in achieving sustainable development goals, including improved living conditions and access to education, safe water, and health care. Technological development proceeds apace, but without fundamental breakthroughs. Environmental systems experience degradation, although there are some improvements and overall the intensity of resource and energy use declines. Even though fossil fuel dependency decreases slowly, there is no reluctance to use unconventional fossil resources. Global population growth is moderate and levels off in the second half of the century as a consequence of completion of the demographic transition.’

¹⁾ quoted and italic marked text taken from the scenario narrative ‘Middle of the road’, published by O’Neill et al. (2017)

Scenario narrative ‘Sustainability driven’ (Sust_Driven)²⁾

‘The world shifts gradually, but pervasively, toward a more sustainable path, emphasizing more inclusive development that respects perceived environmental boundaries. Increasing evidence of and accounting for the social, cultural, and economic costs of environmental degradation and inequality drive this shift. Management of the global commons slowly improves, facilitated by increasingly effective and persistent cooperation and collaboration of local, national, and international organizations and institutions, the private sector, and civil society. Educational and health investments accelerate the demographic transition, leading to a relatively low

population. Measures to reach the common global climate change goals on emission mitigation are consequently implemented, the maximum of two degree increase in temperature is paradigm. *'Consumption is oriented toward low material growth and lower resource and energy intensity'*. Technical progress is clearly oriented on the *'development of environmentally friendly technologies'*. Due to internalization of external effects prices of natural resources, in particular of fossil fuels, are high and clearly express scarcity. Clear regulations and international agreements structure markets and reduce price volatilities.

¹⁾ quoted and italic marked text taken from the scenario narrative 'Sustainability-Taking the green road', published by O'Neill et al. (2017))

Scenario narrative 'Market driven' (Market_Driven)³⁾

'Driven by the economic success of industrialized and emerging economies, this world places increasing faith in competitive markets [...] to produce rapid technological progress [...]. Global markets are increasingly integrated, with interventions focused on maintaining competition'. The *'push for economic and social development is coupled with the exploitation of abundant fossil fuel resources and the adoption of resource and energy intensive lifestyles around the world. All these factors lead to rapid growth of the global economy.'* *'Market dynamics play a central role [...] and the economy is booming. People rely heavily on technology and witness rapid technological developments'*. Since the rapid technological progress also enhances the possibilities to exploit natural resources, prices of fossil fuels and other resources stay low or even decrease (at least within the next decade). As a consequence, carbon dioxide emissions are significantly increasing and the goal of a maximal two degree increase in temperature is clearly risked to be missed. Global population increase will continue, although it may peak and decrease later on. There is a high demand for agricultural products, but the willingness to pay for public goods is almost not given, since people *'place trust in technological development and the mechanisms of the market to solve problems'*.

¹⁾ quoted and italic marked text taken from the scenario narrative 'Economic optimism/Fossil-fueled development—Taking the highway', published by O'Neill et al. (2017)) and from the scenario narrative 'Scenario 1 – Economic Optimism', published by EPRS (2016)

WP2 and 5: Next steps

The next steps in WP2 and WP5 over the next few months consist of an evaluation of the governance mechanisms together with the regional (and later the EU) level stakeholders. This is at the same time part of WP2 and will be the last round of stakeholder workshops (apart from the final project dissemination events).

In the project documents, it says the following:

Task 5.4: Analysis of the practicability and transferability of the instruments at programming and EU level. (Lead: JHI; co-lead BOKU)

DoA text: “Of particular importance in this task is the development of ideas on how the EU could provide good framework conditions for regional solutions and how potentially arising conflicts between optimal local solutions could be handled on European level. This task is linked to the stakeholder process conducted in WP 2.2.5.”

WP2.2.5: Qualitative evaluation workshops (final stage of WP5): comparison of tools/mechanisms/policies based on info from quantitative analysis and soft parameters at two levels: EU level and within programming level. This subtask will provide stakeholders input to tasks 5.4 and 5.5. The EU level workshop will be carried out in connection with the sixth project meeting.

Task 5.4.1: Assessment of enabling factors and barriers for uptake.

DoA text: “This will be investigated with stakeholders at the programming level in workshops in relation to the mechanisms identified in WP 5.1.”

Task 5.4.2: Comparative analysis of mechanisms.

DoA text: The strengths and weaknesses of the different governance mechanisms will be assessed through an improved **SWOT analysis**, enriched with a **multi-criteria analysis** method (Kurttila et al. 2000). **Indicators** for the evaluation of the governance mechanisms will be identified in collaboration with the stakeholders at programming level. **Gaps** between the given governance instruments' spatial coverage and the detected steering needs will be identified.

Suggested approach:

In order to implement the above tasks, we suggest that partners carry out the local evaluation workshop (WP2.2.5) with the CSR stakeholders to

1. Present & discuss the outcomes of the modelling work
2. Conduct a SWOT analysis for the package of governance mechanisms
3. Evaluate the SWOT factors using multi-criteria methods
4. Discuss (during steps 1-3)

The workshop needs to be finished and reported back by the end of **month 30 (February)**.

1: Presentation of modelling work:

The presentation of the modelling work of Task 5.3 is left for each partner to prepare in the way that is most appropriate for your context.

2: SWOT analysis:

In this step we need to get the stakeholders to identify the

- Strengths
- Weaknesses
- Opportunities/enabling factors
- Threats/barriers

which are relevant in relation to the uptake of the package of governance mechanisms previously identified for the CSR.

We suggest first giving a short presentation of factors that have been identified from the literature as commonly occurring enabling factors/opportunities and barriers/threats.

Then give each participant 3x4 cards to write down the three most important strengths, weaknesses, opportunities/enabling factors, and threats/barriers in relation to the uptake of your package of governance mechanisms. Depending on the number of participants and time, participants can be divided into groups so that some think about strengths & opportunities/enabling factors, and some at weaknesses & threats/barriers.

List all the identified factors (these could be clustered according to the type of factors e.g. economic, social,...) and get the participants to select the three most important ones for each SWOT category (strengths, weaknesses, opportunities/enabling factors, threats/barriers). This can be done by giving participants 3x4 sticky dots of different colours (one for strengths, one for weaknesses, etc.) and asking them to place the dots on the most important factors or through deliberation.

3: Evaluation of the SWOT factors & previously identified indicators

Use multi-criteria methods to get the participants to **weight the importance and impact of the most important factors identified under step 2, as well as the indicators previously identified as important evaluation criteria** (workshop round 3)(see table 1).

One approach to the use of multi-criteria analysis with stakeholders is to ask participants first to indicate the importance of each factor and indicator. This could for example be done by asking participants to assign a value between 0 (not important) and 10 (extremely important) to each factor (table1). Afterwards, participants are asked to evaluate how they think their governance approach performs against each factor and indicator, using the same scale (e.g. from 0 to 10) to indicate whether the governance mix shows the characteristic described by the factor/indicator. In the example, assigning 0 would mean that the governance mix does not show the characteristic described by a factor/indicator, whereas giving the value 10 would mean that the governance mix to a high degree has the characteristic described by a factor/indicator. See table 2 for a hypothetical example. See Kajanus et al 2012 for other approaches within multi-criteria methods. Each partner can decide the exact nature of the multi-criteria methods they wish to employ in the workshop. Regardless of the exact method used, a minimum of three strengths, three weaknesses, three opportunities/enabling factors, three threats/limitations and the six desirable characteristics/indicators should be evaluated

The multi-criteria analysis can be implemented as an individual exercise (each participant fills in something like table 1 individually), or through group deliberation. If more than one package of governance mechanisms was selected in the CSR this would need to be repeated for each package of governance mechanisms. Discussions should focus on factors that are considered important but that score low for positive factors (i.e. the strengths,

opportunities/enabling factors, and desirable characteristics/indicators) or that score high for negative factors (i.e. the weaknesses and the threats/limitations).

4: Discussions

At appropriate points in the process, participants should discuss issues such as:

- Why do they think particular SWOT elements are most important?
- From whose perspective do the identified factors act as barriers, opportunities, etc.?
- How can barriers be overcome?
- How do the different factors interact with each other? (e.g. are some of the opportunities directly addressing some of the threats,...?)

For WP6 it would be good if some of the things that come out of the discussions can be formulated as statements, which can be included in the tool to illustrate the issues characterizing PGB and governance issues in each CSR.

References:

Kajanus, M., Leskinen, P. Kurttila, M. & Kangas, J. (2012). Making use of MDCS methods in SWOT analysis – Lessons learned in strategic natural resources management. *Forest Policy and Economics* 20: 1-9.

Table 1: Example of scoring sheet for MCA of SWOT factors and indicators

		Name:		
	Criteria		Importance of criteria (e.g. each factor assigned a value between 0 (not important) and 10 (extremely important))	Scoring of governance mix 1 against the criteria (e.g. each factor assigned a value between 0 (governance mix does not have this characteristic) and 10 (governance mix has this characteristic to a very high degree))
Strengths	S1	+		
	S2	+		
	S3	+		
Weaknesses	W1	-		
	W2	-		
	W3	-		
Opportunities / enabling factors	O1	+		
	O2	+		
	O3	+		
Threats/ Barriers	T1	-		
	T2	-		
	T3	-		
Desirable characteristics/ indicators	I1: Targeted to the topic	+		
	I2: Low Ancillary costs	+		
	I3: Ancillary benefits	+		
	I4: Measurability	+		
	I5: Effectiveness	+		
	I6: Acceptance	+		

Table 2: Example of filled in scoring sheet for MCA of SWOT factors and indicators

		Governance mix for water quality improvements: green subsidies, catchment partnerships, environmental regulation, education & extension services (for both the general public as well as farmers), public pressure and green labelling		
	Criteria		Importance of criteria (e.g. each factor assigned a value between 0 (not important) and 10 (extremely important))	Scoring of governance mix 1 against the criteria (e.g. each factor assigned a value between 0 (governance mix does not have this characteristic) and 10 (governance mix has this characteristic to a very high degree))
Strengths	S1 Cost effective	+	7	6
	S2 Easy to verify/monitor	+	6	5
	S3 Inclusive	+	5	7
Weaknesses	W1 Does not take local conditions into account	-	7	7
	W2 Short-term horizon	-	9	9
	W3 Uncertain effect	-	8	7
Opportunities/ enabling factors	O1 Synergies with other policy goals	+	4	7
	O2 Public support	+	5	7
	O3 Shared interest between different stakeholders	+	5	6
Threats/ Barriers	T1 Limited uptake	-	9	8
	T2 Contradicts stakeholders' values/world views	-	8	6
	T3 Trade-offs with other goals	-	8	7
Desirable characteristics/ indicators	I1: Targeted to the topic	+	9	7
	I2: Low Ancillary costs	+	8	6
	I3: Ancillary benefits	+	6	8
	I4: Measurability	+	6	5
	I5: Effectiveness	+	7	5
	I6: Acceptance	+	7	5
Total				30 (out of a maximum possible score of 120 if all positive factors=10 and all negative factors =0)

