MS 3.8: Summary table of exemplars´ needs from WP3

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Introduction

Apart from providing important testing ground for much of the empirical research undertaken in WP3, some exemplars (WP2.2) have specific expectations concerning the further elaboration of research methods. Over a period of half a year, all exemplar leads have been asked three times for their specific needs from WP3 activities. In addition also task leaders of Task 2.2 on socio-cultural valuation provided some inputs from their survey amongst all exemplar leads. The identified needs are compiled in this Milestone following the structure of the five WP3 tasks, and Table 1 provides a brief overview.

Questions to Task 3.1 Quantification of Ecosystem Services

Related to the quantification of ecosystem functions, researchers in exemplars ask two principle questions related to ecosystem services and biodiversity. First, they ask for indicators sets that translate the ecological information into ecosystem services. While, for instance, the advantages of process-based models and scenario analysis for future ecosystem service assessment are obvious, the deduction of ecosystem services is still a matter of concern: What are appropriate indicators? What are the indispensable social aspects that need to be incorporated? Deliverable D3.1 “Transferable geo-referenced metrics, and GIS based quantification and valuation functions” is a first step to answer these queries and would be most appropriate to communicate within the OPERAs community. The second complex of questions is related to biodiversity. Here, Exemplar researchers ask for an improved set of methods to deduce biodiversity impacts from land use change.

Questions to Task 3.2 Socio-cultural valuation

Most questions have been gathered for the tasks on socio-cultural and economic valuation, in particular because of additional initiatives to identify important issues in these areas, but also given the predominantly natural science backgrounds of Exemplar leads. Here, the deliberative methods to systematically elicit socio-cultural values of ecosystem services are a key interest of several Exemplars. The application of socio-cultural valuation in conflicting situations and the identification of losers and winners of particular decisions are further important issues that require attention particularly when using deliberative methods of socio-cultural valuation. Typical indicator sets for socio-cultural valuation and the identification of hotpots of socio-cultural values are of high interest for some Exemplars. Furthermore, the role of information and how much it impacts socio-cultural valuation is a particular area of interest closely related to environmental education. On a more conceptual level, the question

arose how socio-cultural valuation actually feeds into the overall frame of ecology and landscape-based goods and services and their value. This question can perhaps be rephrased as follows: Is socio-cultural valuation important only for cultural ecosystems services, and how do we encounter these socio-cultural values when looking at provisioning and regulating services?

Questions to Task 3.3 Economic valuation

Closely related are the more methodological questions of economic valuation of ecosystem services. Early consultation between the partners of WP2 and WP3 and a general introduction to social and economic valuation methods could already solve some of the urgent methodological questions and helped to set up individual exemplars. The typical application of economic valuation to show and quantify trade-offs between ecosystem services promoted by different management options, is of central interest for multiple Exemplars. Furthermore combining economic valuation methods with deliberative methods (e.g. participatory multi-criteria analysis) is an area of interest, making use of two of the very central ideas of the ecosystem service concept: the encouragement of discourse between multiple stakeholders with conflicting views and the idea of quantifying the value of the social benefit in economic terms. Moreover, the fundamental question was put forward by some exemplar researchers, whether and how natural capital can be quantified. This question goes beyond the economic valuation of ecosystem goods and services which are actively used by humans, and targets the economically more critical concept of natural capital, with a special emphasis on biodiversity.

Questions to Task 3.4 Governance and institutions

Governance of ecosystem services is an important issue. The ecosystem service concept would be one option to develop towards a more integrated view in practical planning and policy making across economic and geographic sectors. Policies defined at higher level of governance are often not very specific and leave individual specification to lower governance levels, or alternatively, represent a weak consensus with few restrictions to lower governance levels. In particular at the level of EU, but also within the global exemplar, multi-scale governance of ecosystems services is a key issue and could be well studied. Research on the governance of ecosystem services is anchored well in two exemplars, and we see a strong potential in the OPERAs project to address them in even more of the exemplars, each with strong involvement of stakeholders, as well as in the userboard, where representatives from each exemplar as well as decision-makers of different levels regularly meet.

Questions to Task 3.5 Trade-off Analysis

Finally, questions arise related towards well-structured multi-dimensional trade-off analysis including trade-offs between regions, between time slots, between beneficiaries and losers as suggested by Peter Verburg in Lisbon. The data gathered within the Exemplars and in the

metadata analysis provides high potential to cross-check numerous trade-off analyses. Close guidance should be given to allow for comparable trade-off analyses in different Exemplars, if feasible in the individual case. Structuring multi-dimensional trade-off analysis is in particular relevant when data constraints are not too high, i.e., for model-based work. Exemplars which have the opportunity to select from several dimensions for trade-offs could possibly provide useful data for analytical experiments in WP3.5.

Conclusion and way-forward

Finally, it needs to be stressed, that collaboration between WP2 Practice and WP3 Knowledge could be well established and researchers from WP3 are part of many Exemplar teams. However, the activities in WP3 still seem to be partly unclear to some Exemplar researchers. Here, the exchange between WPs could be further improved. It might help to show and discuss what research activities have been planned and started in WP3 and how they are integral parts of the some Exemplars, to move away from the partly more consultative role of WP3 for the Exemplars. The description of activities in WP3 is a good source of information to push towards this improvement.

Table 1. Summary table of exemplars´ needs from WP3 as collected from exemplar leads.

	Swiss Alps	French Alps	Montado	Wine	Dublin	Barcelona	Baleric islands	Lower Danube	Scotland 1 (Pentland)	Scotland 2 (East Lothian)	Scotland 3 (Fifth of Forth)	Mediterranean	Pan European	Global
Task 3.1 Ecosystem function and quantification													▪ Research gap: the limited amount of indicators for biodiversity that can be used for evaluation of land use change scenarios	▪ Model coupling CLUMondo + LPJmL/LPJGUESS; quantification of ES based on state variables of the global ecosystem models.
Task 3.2 Socio-cultural valuation		▪ SCV in relation to competing land uses and landscape management strategies.	▪ Indicators of social and cultural values. ▪ Competing land uses. ▪ External costs.		▪ Identification of SCV for planning and synergy with ecology and economic methods	▪ Quantification of SCV and synergy with ecology and economic methods. ▪ Conflicting views around naturalness/wilderness on peri- and urban landscapes	▪ Deliberative methods to establish SCV for seagrass and coastal environments	▪ Deliberative methods to determine role of different SCV in relation to ES and flood management. ▪ Winners and losers	▪ Practical use of SCV in relation to traditional land use and recreation/ conservation ▪ Role of information	▪ Spatial distribution of SCV.	▪ Attitudes to adaptation to climate change and willingness to accept alternatives. ▪ Role of information			
Task 3.3 Economic valuation		▪ Potential for trade-off methods (landscape and water)	▪ Potential for trade-off methods (cattle vs cultural landscape)		▪ Potential combination of PMCA with economic values	▪ The economic impact of landscape quality on housing prices (the case of urban beaches).	▪ Potential for trade-offs methods between coastal activities	▪ Identifying trade-offs for most sustainable means of flood and ES management			▪ Potential for trade-offs of alternative scenarios incl. wildlife		▪ If there is a possibility to quantify natural capital	
Task 3.4 Governance & Institutions			▪ ES in governance systems										▪ Multiscale governance: At EU level, there is tension in the amount of guidance that the EC wants to provide to MS (subsidiarity principle), and the needs in terms of large-scale vision and planning to be able to address climate and land use change for biodiversity (see Van Teeffelen et al, subm., REEC)	▪ How can governance adapt to ES concept across institutions and levels of administration?
Task 3.5 Trade-offs & synergies in ES/ NC, and betw. alternative valuation perspectives													▪ Innovative ways are needed to elucidate a range of trade-offs in space, time to winners and losers etc. (Peter V.'s presentation + discussion in the Trade-off session, Lisbon)	▪ systematic multi-factorial trade-off analysis / application to modelled output