INVALUABLE – Integrating valuations, markets and policies for biodiversity and ecosystem services

While the use of “market-based instruments” (MBIs) for the management of biodiversity and ecosystem services (B&ES) is currently booming, the definition and underpinning theory of these tools are matters yet to be settled. Among MBIs, Payments for Ecosystem Services (PES) are increasingly regarded as promising tools, but evidence regarding their performance is still far from being conclusive. More research is required to understand which policy and legal frameworks are supportive of their development. Furthermore, public policies have an essential role to play in ensuring that the main types of ecosystem values are identified and taken into account. To this end, economic valuations may be helpful for allocating public spending, and for setting guidelines and regulation in offset-schemes, just to name a few examples.

In this context, the overall goal of INVALUABLE is to clarify the potential of MBIs to better integrate B&ES into society, based on appropriate institutional arrangements for relevant public policies and an improved utilisation of economic valuation approaches. The project objectives are:

- Clarify the nature and meaning of the heterogeneous group of MBIs, including Payments for Environmental Services as a broad category
- Inform stakeholders, including decision makers, about the relevance (or conversely) of using MBIs with associated strengths and weaknesses
- Provide an analysis of the emergence of MBIs in societal discourses in relation with their theoretical foundations
- Research the impacts of their implementation on agents’ motivations, institutional arrangements, environmental efficiency, social equity, legitimacy, reinforcement of environmental public policies
- Investigate the use of scientific information (e.g. economic valuations) for decision making and especially through existing Science-Policy Interface bodies
- Study the role of legal / institutional frameworks in improving the use of scientific information and other types of knowledge for MBIs.

In order to guarantee the societal integration of these results, the INVALUABLE consortium will carry out analyses of the emergent and spread of MBIs, followed by stakeholders’ interviews on successful and unsuccessful science-policy interface processes. It will then identify key methods for the uptake and effectiveness of results by stakeholders. Policy briefs will also be developed as part of the project’s dissemination plan, and seminars will be conducted at international and national levels for a presentation of the results to key stakeholders in the policy field.

SmallFOREST – Biodiversity and ecosystem services of small forest fragments in European landscapes

In many parts of Europe, the original forest cover has strongly reduced and forests presently occur as small fragments, often embedded in an intensively used agricultural matrix. Despite their small size, these forest patches often act as refugia for biodiversity and may provide a wide range of ecosystem services (ES) to human society. Biodiversity and ES of small forest fragments are mutually dependent as they are determined by a similar set of drivers. However, the nature and strength of the relationships between biodiversity and ES will vary, depending on the taxonomic group and ES under consideration, and on the landscape context including the type and intensity of the surrounding land-use and the land-use history. Moreover, the value attributed to an ES will differ between different regions. All these sources of variation remain largely unknown and their effects on human perception, hence on decisions about management, planning and policy, is poorly understood.

Therefore, the main objectives of SmallFOREST are to:
- quantify ES and biodiversity in small forest fragments among agricultural landscapes and across different regions in Europe,
- analyse how their mutual relationships vary between landscapes and regions,
- assess the extent to which ES are valued differently.

The project is built on a unique database covering ~650 forest patches in sixteen 5 km x 5 km landscape sampling windows in southern France, northern France, Belgium, northwestern Germany, northeastern Germany, southern Sweden, central Sweden and Estonia (2 windows per region). This sample design covers the entire European temperate forest biome through a SW-NE transect. For each patch standardized data are already available on the occurring vascular plant species, its history, the surrounding land cover, and its spatial characteristics. During the project, additional data are collected to quantify the structural, functional and taxonomic biodiversity and to determine a well-chosen set of ES (including provisioning, regulating and cultural services) delivered by the patches. The valuation of the ES considered is assessed through a combination of local data collection and benefit transfer approaches, using innovative tools such as cognitive mapping.

To achieve their goals, FarmLand partners will rely on interviews and workshops with key agricultural stakeholders (farmers, and farming organisations). They will implement a strong dissemination plan to convert results into socially acceptable and economically feasible policies that benefit biodiversity and ecosystem services.