

Internship

Design, implementation and testing of a socio-economic module/tool to evaluate impacts of land use management on ecosystem services

THE ORGANISATION

ACTeon is a French-based human size (20 staff) research and consultancy company, active in the field of EU environmental policy. It is specialised in the “soft” components of environmental management and policy, i.e. social values & perceptions, economic values - including values of ecosystem’s services, the search for adequate incentives (knowledge, processes, economic instruments) to steer change in behaviour, prospective and policy (ex-ante and ex-post) evaluation, governance & institutions, and mediation & communication. ACTeon is providing support to policy development and implementation in the field of water, marine resources, biodiversity, climate change and adaptation, agriculture and the environment, renewable energy, etc. The geographic focus of activities includes France, Europe (other European countries & EU level initiatives), the Mediterranean Sea and the Caucasus regions. For more information: www.acteon-environment.eu.

THE FOCUS OF THE INTERNSHIP

ACTeon is looking for an **Intern** to support its team with the design and implementation of a socio-economic tool that aims to evaluate the impacts of land-use change on ecosystem services (ESS).

The internship is part of the EU-funded research project LANDSUPPORT (www.landsupport.eu). The objective of LANDSUPPORT is to build a web-based geoSpatial Decision Support System (S-DSS). The S-DSS aims to support decisions concerning: 1. sustainable agriculture and forestry, 2. trade-offs between land-uses, and 3. the implementation of European land-use policies and of the actions required for achieving the UN Sustainable Development Goals (SDGs). The objective will be achieved by integrating databases and models that simulate agriculture, forestry, land degradation and other environmental issues.

A socioeconomic module, able to simulate how changes in land use are translated into changes in ecosystem services and their values, is one of the modeling engines that will be part of this S-DSS. Economic evaluation of ESS attempts to measure human welfare derived from ESS and is one way to communicate the importance of ESS. The strength of economic quantification is that it conveys the importance of ESS directly in terms of human welfare and uses a common unit of account, allowing the analysis of trade-offs of multi-dimensional costs and benefits. The design and implementation of the socio-economic tool are the subject of the internship.

The objective is to develop, implement and test a socio-economic module/tool that allows the spatial economic evaluation of ecosystem services due to land-use change that is driven by future developments (climate change, socio-economic change) and agro-environmental policies. The model/tool will be a connection between scenarios and management decisions that: 1. affect the biophysical environment, 2. change the supply of ESS and, 3. impact economic values of ESS. For this purpose, the module/tool should have the capacity to be “connected” to other biophysical models currently developed in LANDSUPPORT. Given these relations/connections, the evaluation of changes in the provision of ESS and their values is strongly related to other tasks and work packages of the LANDSUPPORT project. For this purpose, the intern will work in close collaboration with Acteon’s staff and project partners.

PROPOSED TASKS

The main tasks that are relevant to the position include:

- **Contributing to the design of the socio-economic tool** including the development of a conceptual model and design details (input data requirements, computation needs, and output/indicators...);
- **Implementing the model** in Excel or any other modeling language (R/dBase, QGIS...) as seen appropriate;
- **Organizing data flows** between the output of bio-physical models and/or data describing land use for a given territory (spatial/GIS data) and the tool. The tool will translate maps of changes in land use, land characteristics and management practices, into changes in the supply of ESs including their socio-economic values, using marginal values per unit of ecosystem service provided;
- **Visualizing results.** The tool will translate maps of changes in land use, land characteristics and management practices – or changes in the supply of ESS – into socio-economic values, using marginal values per unit of ecosystem service provided. The output of the socio-economic tool will be schematic diagrams, tables or maps (to be defined) of potential services affected and impacts on socio-economic values.
- **Testing the tool in (virtual/real) case studies**, in close interaction with other researchers of the project and/or land-use stakeholders
- **Reporting** on the internship including the conceptual model, tool developments, possible tests in (virtual/real) case studies

In the initial phase of its internship, on the basis of first literature review and interviews with key researchers, the intern will develop a more detailed description of these tasks (or of additional tasks that are seen as necessary for the completion of the work) and workplan.

EXPECTED QUALIFICATIONS

- **Master student in ecological economics** with interest in ecosystem services and valuation;
- **Taste & skills for quantitative approaches and modelling**, with experience with Excel macro's/R (knowledge of other programming languages Python, Java, C++ can be an advantage);
- **Good knowledge of GIS**;
- **Proactive and independent**, with ability to work **autonomously**;
- Excellent **English (written and oral)** communication skills (Fluency in French is seen as an advantage);
- Applicants must be **currently enrolled in a University or engineering school**.

ADMINISTRATIVE & WORKING ARRANGEMENTS

The internship will take place at ACTeon's Colmar office (France – 30 minutes by public transport from Strasbourg or Basel). The intern will receive a regular internship allowance as defined by French law. The internship duration is expected to be **6 months** starting in February/March 2020.

How to apply?

You can apply up until 31 January 2020 by sending your application (including a cover letter and a CV) to:

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