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EcoChange Briefing Sheets regularly inform on the progress within the project activities and can be downloaded from our website. If you are interested in receiving the *EcoChange newsletter* on a six-month basis, please subscribe to [ecochange@seri.at](mailto:ecochange@seri.at) or register on our website. You will then also receive an invitation to the stakeholder workshop in summer 2011 where EcoChange results will be discussed with the public.

Find more information at [www.ecochange-project.eu/](http://www.ecochange-project.eu/)!

### The EcoChange Project

#### Aim and Focus

The aim of EcoChange is to assess and forecast changes in terrestrial biodiversity and ecosystems. The project assesses the capacity of biodiversity and ecosystems to supply humans with required goods and services and to buffer against climate and land use change.

The project concentrates on the improvement of models and the generation of new data. It also integrates the findings with socio-economic analysis. Project work is organised into six activities.

#### Project information

EcoChange - "Challenges in assessing and forecasting biodiversity and ecosystem changes in Europe" is an Integrated Project with 22 Partners from all across Europe. It is supported by the 6<sup>th</sup> Framework Programme of the European Union.  
Contract number: FP6-036866

Project duration: January 2007 - December 2011

The consortium of EcoChange is led by the National Centre for Scientific Research (CNRS), Grenoble, France. Project Co-ordinator: Pierre Taberlet, [pierre.taberlet@ujf-grenoble.fr](mailto:pierre.taberlet@ujf-grenoble.fr)



## Integrated Sustainability Assessment

### Deriving Conclusions for People

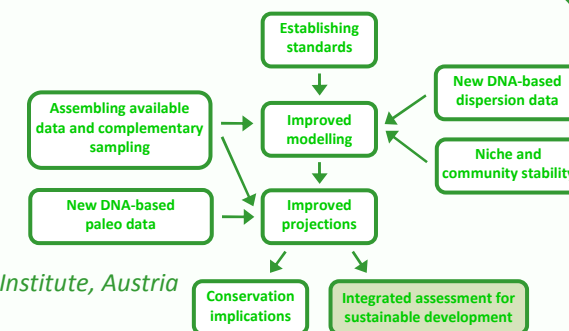
The EcoChange project is built around a number of activities that aim at improving models in order to get better projections of biodiversity and ecosystem changes. The outcomes of the modelling work are directly linked to an "Integrated Sustainability Assessment" (short ISA) to provide conclusions on the consequences for human life. An ISA is a process that supports a transition towards sustainable development. Within EcoChange, the process is implemented in three case study regions in Belgium, Romania and Switzerland.

#### EcoChange Briefing Sheet

Work Package 6.4  
Integrated Assessment for  
sustainable development

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## Overview

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Ecosystems provide food, timber, fibres, they contribute to air quality or nutrient cycling, they are of enormous cultural and aesthetic value and provide many more functions for humans. Thus, human life strongly depends on biodiversity and related ecosystem functions and a rich biodiversity influences human well-being to a crucial extent. However, biodiversity is highly threatened, mainly due to human interactions with natural systems, which put pressure on those systems and thus on biodiversity and its ability to maintain or increase human well-being.

The EcoChange project assesses and forecasts changes in terrestrial biodiversity and ecosystems. Being aware of causes and effects of biodiversity change is a necessary but not sufficient prerequisite to deal with these changes. Like many other problems of our society, biodiversity loss and the change of ecosystems seem to be persistent problems. As such problems are very complex, insecure and unstructured, they are difficult to handle. Attempts to improve the situation by single optimisation interventions usually do not help – rather, a basic redesign of the system (i.e. a transition) is needed.

The Integrated Sustainability Assessment (ISA), which is implemented in three case study regions, tries to initiate such a system innovation. It aims at sustainable development and strives to enable social transition. An ISA consists of four phases (scoping, envisioning, experimenting and learning) and combines an integrated system analysis and a participation process with affected parties as well as with experts. Involving stakeholders in the process is one of ISA's basic principles, also in respect to guaranteeing a comprehensive and stable vision of sustainability.

## The case study regions

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The three selected regions and their foci:

- Canton Aargau in Switzerland: agriculture
- Brabant-Wallon in Belgium: agriculture and agro-environmental measures
- Sacueiu, Poieni in Romania: future options concerning innovations and entrepreneurs



## ISA in EcoChange

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The ISA will discuss the projected changes of biodiversity with regional stakeholders in the three case study areas in order to derive at possible mitigation and adaptation strategies for the given regional context. According to the four phases of ISA, stakeholders are involved in the definition of the research scope, the elaboration of scenarios, which depict possible pathways of development for the region, as well as in the discussion of implications that follow the realisation of the scenarios.

The **scoping phase** sets the beginning of the ISA and aims to develop a shared interpretation of what sustainability means. Within this phase, interviews with various agents in the case study regions were performed in order to learn about their perception of ecosystem functions and biodiversity.

Within the **envisioning phase**, three different scenarios were developed in collaboration with stakeholders. These scenarios describe

- 1) a future that might be usual if current policies are continued
- 2) a future that follows a sustainable trajectory
- 3) a future which primary aims at economic growth.

An Agent Based Modelling (ABM), which is developed by the University of Edinburgh, is the main tool for the **experimenting phase** of the ISA. Further model outcomes from the EcoChange project will be used in order to get a 'complete' picture of impacts on biodiversity and ecosystem changes if the pathways described in the scenarios are followed.

The discussion of these results with the regional stakeholders and the derivation of conclusions and policy recommendations constitute the **learning phase** of the ISA.

## Expected results

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- Better understanding of the connections between environmental change – biodiversity – EGS – humans and their well-being;
- Figuring out what sustainability could mean in this context;
- Developing possible (policy) measures to adapt to /mitigate impacts;
- (Social) learning of stakeholders in case study areas;
- Providing/developing conclusions for the EU-level.