

3rd NEWSLETTER



Dear Readers,

During the last months the scientists in INTEGRAL, a large-scale European collaborative project, made great progress in the first project phase. INTEGRAL has set itself the goal to contribute to better understanding of forest management conflicts in Europe. This newsletter issue informs about the latest project results on mapping and analyses of key social, ecological and technical factors in selected forested landscapes in Europe. Furthermore, it highlights examples of the case studies, undertaken in France and Lithuania. In the last article INTEGRAL-researcher Elmar Schüll (Salzburg University of Applied Sciences / Austria) illustrates the challenging task to integrate new and innovative “human filters” into forest decision support systems in order to assess how decisions of forest owners and managers can affect forest management.

Enjoy reading!

LATEST ON PROJECT

In the first project phase the activities in **INTEGRAL** have focused on gathering comprehensive interdisciplinary knowledge on natural resources and land-use structures and their management in Europe. The scientists from 10 countries have completed a diagnostic analysis of the key socio-ecological drivers of change in integrated forest land-use in 20 case study areas throughout Europe. Furthermore, they have investigated the bio-physical limitations for these 20 forested landscapes by simulating their development under different management schedules. The findings of this challenging work will be used as the basis for participatory foresight processes in the second project phase.

An analysis of the results across all 20 case studies will be merged into a European synthesis that seeks to answer an important question: what can we learn from policy, socio-economic and ecological drivers of forested landscapes that are relevant for forest policy-making at the EU and national level?

Simultaneously, the project partners prepared two further studies that shall significantly contribute to the synthesis report. The first investigates how the development of European level policy and socio-economic factors has affected forest management in the last few decades. The second focuses on the analysis of existing and potential impacts of global trade-related policies on sustainable forestry.

INTEGRAL will publish a **policy brief** that will summarize the main findings of the cross-case analysis and the two specific studies on the EU and global drivers in June 2013. The document will be also available on www.integral-project.eu. The synthesis report and the policy brief are coordinated by Dr. Metodí Sotirov, University of Freiburg, Germany.

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Partners in focus:
ELMAR SCHÜLL
Research fellow at the
Center for Future Studies at
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PROJECT MEETING IN SALZBURG

More than 50 INTEGRAL-researchers gathered for the second cross-project meeting of INTEGRAL in Salzburg (Austria), 28th January to 1st February 2013. The meeting can be understood as the official start of the second phase of the INTEGRAL project. Its main goal was to give a platform for joint discussions of results gained so far and to agree on the next steps to be taken - above all the foresight research processes such as the development of future scenarios at the level of the selected forest landscapes. The main aim of this exercise is to analyze, which consequences for forest management and for the provision of ecosystem services may arise from possible future developments in the different landscapes. The Center of Future Studies in Salzburg offered after the project meeting a training session on practical methods, how to conduct the scenarios in a participatory manner, involving national and local practitioners and experts.

In addition to the project meeting, a Young Ideas Workshop was held to give young researchers a platform to present their work and PhD-activities within the INTEGRAL project. During the workshop it became obvious, that a big collaboration project like INTEGRAL has very positive side-effects on the academic qualifications of junior research staff. The presentations showed a wide range of stimulating research questions referring for example to the accounting for social impacts in forest management or the future representations of forest stakeholders.

The goal of the case study research in **INTEGRAL** was to identify and analyze structural and agent-based factors which are likely to affect management practices of the selected forested landscapes. These include on the one hand economic framework conditions, technological innovations in forestry or forest-related policies and on the other hand preferences, knowledge or

resources of relevant forest owners, forest managers and different other land-user groups (e.g., nature protection, agriculture, water management, recreation) with issues at stake. The following examples highlight some of the key findings of the French and Lithuanian case studies.

PONTENX PILOT ZONE / FRANCE



The French **INTEGRAL** case study, called 'Pontenx pilot zone', is a small forested area located in the heart of the Gascony forest. This region of southwestern France, interfacing Northern Europe and Iberic peninsula, covers an area of about 1.5 Mha. A triangle bor-

dered by the Atlantic Ocean and the large urban areas of Bordeaux and Bayonne, it is not an administrative region but a predominantly wooded area. Its identity and coherence are built around three main features. Firstly, this area is characterized as a biophysical unit

with podzolic sandy soils and shallow ground water levels. Secondly, forest stretches on 2/3 of the area, compared with agricultural and built-up lands amounting to respectively 18% and 7%. Gascony forest, primarily composed of maritime pines (*Pinus pinaster*), is often described as the largest cultivated and privately owned (92%) forest in Europe. Thirdly, it also carries significant economic weight throughout a regional forestry-wood chain. The specificity of this forest-based sector is that the two processing stages are almost entirely connected to the local wood resource of maritime pine and localized in the same territory.

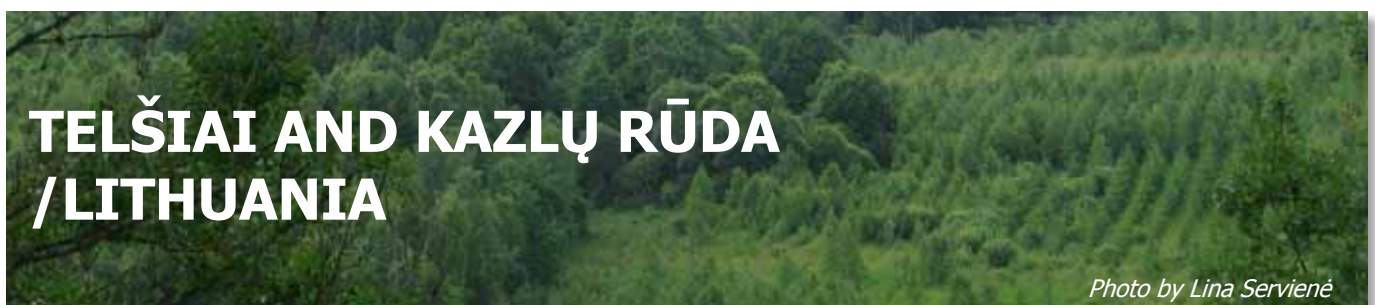
In 1999, the northern part of the Gascony forest was damaged by the Martin storm, which windthrown 23 million cubic meters. Ten years later, in January 2009, the Klaus storm severely damaged the central and southern parts of the Gascony Forest. An estimate of 40 million cubic meters (on 223,000 ha) were windthrown, amounting to five normal regional annual harvests.

The forest area is shared by some 58,000 forest owners, with an average area of 14 ha. In comparison with the national average (3 ha), fragmentation of private ownership is not the most salient issue, but tenure patterns are nonetheless quite heterogeneous in the Gascony forest. Since the 1960s' a 'planted pine' silvicultural model has been developed and become widespread amongst forest owners. This convergence can partly be explained by the development of the sharing or delegation of the forest management

with external actors (forestry cooperative, forest contractors). This silvicultural model, mainly dedicated to wood production for the regional industry, is put into tension by contradictory demands, between more multifunctionality and shorter rotations, able to match the regional economic demand. While the regional wood market has indeed been increasingly driven by paper mills, strengthened by the emergence of bio refinery activities, the forestry sector has - especially in the context of post-storm recoveries - been increasingly asked to contribute more to rural well-being through the provision of ecosystem services and in providing a living environment which many people find attractive nowadays. Despite these trends and current imbalances, the interviews confirm that most of the owners and local stakeholders still trust the dominant standard forestry model. This is due to structural constraints of regional wood markets, but also to a lack of alternative models, even if some of them wish to shorten rotation cycles dramatically (from 50 to 25 years) or to introduce new species.

Three years after Klaus, reactions suggesting a total transformation of the forestry model are not obvious: even where the storm engendered a large disappointment in forest owners' minds and some of them have reduced their financial and management personal investment, the vast majority of forest owners have decided to re-afforest their land almost exactly as it was.

Arnaud Sergent - IRSTEA



Being one of the **INTEGRAL** countries that went through a socio-economic transition in the 1990s, Lithuania is represented by two case study areas: Telšiai and Kazlų Rūda. The case study areas were chosen due to different ownership structure, spatial forest distribution and resultant differences in forest role, management and impacts on the landscape. The Telšiai area is characterised by dominance of private forests that are mainly scattered as small plots over the agricultural landscapes on relatively poor soils. Mixed forests, hilly terrain and lakes all contribute to scenic value of the landscape that harbours many protected areas with ensuing restrictions on forest management. There has been a considera-

ble change of forest cover over that last half century (Figure 1). Due to the abandonment of a lot of agricultural land, increase of the forest area accelerated during the period of transition, (Figure 2). Since 2005 afforestation was boosted further because of sizeable subsidies from the EU Rural Development Programme. Within the task of mapping stakeholder and management attitudes and motivations in Telšiai a great diversity of private forest landowners ranging from small-scale "passive forest lovers" over small-scale "household foresters" to large-scale "forest businessmen" was identified. Contrary to the prevailing opinion in Lithuania, many of the owners are not primarily driven by immediate economic benefit.



Figure 1.: Artificial and natural afforestation of abandoned agricultural land in Telšiai. Photo by Lina Servienė

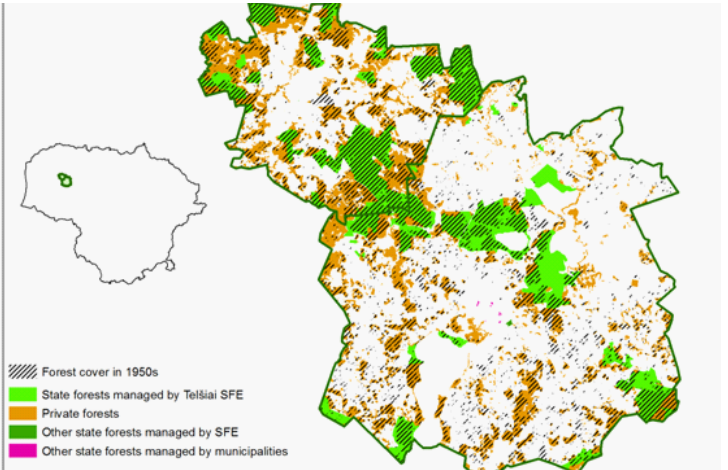


Figure 2.: Forests of Telšiai case area by ownership types

Interviewed landowners appreciate the sizeable subsidies and are willing to expand afforestation. However, the subsidy schemes contain notable deficiencies such as one-sided prioritization of soils based on outdated maps of soil fertility and drainage infrastructure. Therefore, the hope is that in second and third phases INTEGRAL will contribute to improved landscape consideration by: elaborating a common landscape vision by the key stakeholders; taking into account different future flows of different ecosystem services such as aesthetic values; and helping to streamline the administrative procedures concerning afforestation.

The case study area in Kazlų Rūda is, in contrast, dominated by state forests, managed by Kazlų Rūda Training Forest Enterprise (TFE) (Figure 3). The landscape is flat, sandy soils being primarily occupied by relatively homogenous stands of Scot pine (*Pinus sylvestris*). The terrain, compact spatial allocation, homogenous stands, and small share of protected areas are good preconditions to timber production-oriented forestry.

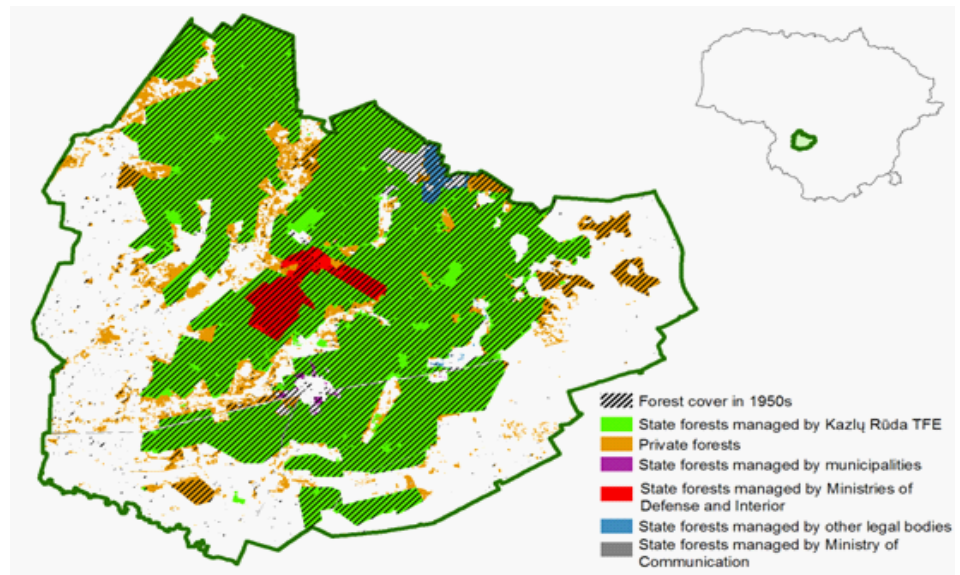
Interviewed managers of TFE see themselves as careful stewards of forests.

Timber production forms the income base and forests must be managed rationally so that TFE can cover its costs plus pay taxes. However, the interviewees emphasized the importance of good forest maintenance as well as the necessity to pay tribute to societal needs, such as maintenance of recreational sites and proper nature consid-

eration. On the downside, the managers are dissatisfied with excessive legal and administrative steering that diminishes creativity and steals away working time in forests. In particular, managers have to follow prescriptive forest management plans that are inflexible, elaborated with little consultation with practitioners. In 2014, INTEGRAL will contribute to the preparation of a modified version of the forest management plan that is better anchored in the local knowledge, enables more adaptive management and more explicitly weighs different ecosystem services. Thus it could help to achieve the highest societal benefit at possibly lowest cost.

Vilis Brukas - Swedish University of Agricultural Sciences
Gintautas Mozgeris - Aleksandras Stulginskis University

Figure 3: Forests of Kazlų Rūda TFE by ownership types



PARTNERS IN FOCUS: ELMAR SCHÜLL / RESEARCH FELLOW AT THE CENTER FOR FUTURE STUDIES AT THE SALZBURG UNIVERSITY OF APPLIED SCIENCES

The foresight research in **INTEGRAL** seeks to capture possible consequences of changes which may affect integrated management of forested landscapes in the coming decades. In order to reach this goal, it is utmost important on the one hand to study the interplay between social structures and human behavior and on the other hand to integrate the findings into the practical work of scenario development and projections using forest decision support systems. We asked Mr. Elmar Schüll, research fellow at the Center for Future Studies how **INTEGRAL** intends to address this challenging task.

Elmar Schüll:

There are two basic sociological challenges. They regularly show up in different forms and settings and are also of high importance within the **INTEGRAL** project. The first challenge is to explain the behavior of people under given conditions and social structures. This is about the influences of regulations, social norms, values and incentives on actual human behavior - in our case the forest owners and forest managers in different European regions. The second challenge is to explain the occurrence of such social structures as the result of human behavior. It is obvious that both challenges are highly interlinked. National forest regulations, for example, can determine to a certain extent how much timber has been harvested in a given situation. At the same time, these regulations are the result of historical human behavior towards and in the forests. Usually, research projects tend to focus on only one of these challenges. Since **INTEGRAL** deals with the future development of forest ecosystems, we cannot ignore the constant and dynamic interplay between social structures and human behavior. We have

to estimate how forest managers might act in given situations and how this behavior again might change the structural settings.



Currently, several research partners are working on integrating sociological actor models into software tools that are used to project the development of a specific forest stand. In this way, the "human factor" is introduced into the algorithms that are used to model future forest developments. The next step in the research process will be the moment, when structure meets actor: the scenarios that are going to be produced in the next months will have a time horizon of about 40 years. They will describe possible structural settings for the forest owners and managers to act in. The results of these actions (modeled by the software tools) will then be fed back into the scenario processes, to see how they might change the overall situation. Our task at the Center for Futures Studies in Salzburg will be to see that both sociological challenges are met, thus making more comprehensive and reliable scenarios on the future development of the European forests.

INTEGRAL Key Facts

Project acronym: **INTEGRAL**

Project full title: Future-oriented integrated management of European forest landscapes

Project duration: 01.11.2011 - 31.10.2015

Funding scheme: EU FP7 Seventh Framework Programme

Grant agreement no.: 282887

Project Partners:

21 partners from 13 countries

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