

Sustainable Forest Management from policy to practice in Europe's West and East: course introduction

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- We developed a course and course material about how Sustainable Forest Management (SFM) policies can be translated from policy level criteria and indicators via assessment of states and trends to concrete management and governance practices in actual landscapes.
- To satisfy and balance economic, ecological, socio-cultural dimensions in actual landscapes, government, and governance by multiple stakeholders and actors need to be integrated.
- Policy cycle and landscape are concepts and tools to produce and communicate knowledge about implementation of SFM criteria and indicators from policy to practice, and back again.
- To illustrate the need to understand regional contexts, nine landscapes in NW Russia, Sweden, Ukraine and Belarus are analysed as social-ecological systems.
- Our attempt towards a holistic approach to understanding SFM requires problem-based learning, and combination of lectures, exercises and individual studies.
- The next steps are to (1) get the course programme accepted by the committee responsible for forestry education in the Russian Federation, (2) continue editing the course material. Funding has already been secured to continue our work.



To implement sustainable forest management (SFM) the role of biophysical, historical and governance contexts must be considered. Focusing on boreal, temperate and mountain forests Europe's East and West, different regions and countries have much to learn from each other regarding sustainable development as a process, and sustainability as a long-term goal.

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Why is a course on sustainable forest management needed?

Forests have provided resources for humans for thousands of years. The intensities and profiles of use of forest wood and non-wood goods, ecosystem services and immaterial values vary in time and space. Exploitation of biological resources in forests such as fur animals and large trees turned out to be unsustainable, unless there were large unexploited areas to which harvesting can move. Forests became economically sustainable locally in many countries with limited wood resources when the sustained yield concept from agriculture entered forestry. The awareness of negative impacts of intensive economic use became obvious to many only from the 1960s. Socio-cultural concerns are now also emerging, both in remote regions as a livelihood issue, and in urbanised settings where people use forest for recreation.

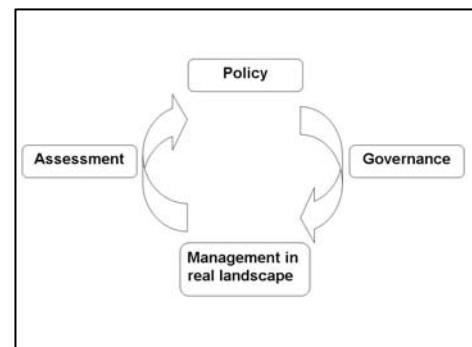
Sustainable Forest Management (SFM) policies aim at maintaining, now and in the future, all these ecological, economic, social and cultural dimensions of development based on forest goods, ecosystem services and values. This requires integration of policy, governance and management by continuous assessment of progress. Sustainable development as a societal process and sustainability as a long-term goal have started to engage new stakeholders concerning the use forests and woodlands to develop products. To support implementation of SFM on the ground calls for exchange of experiences among regions and countries in Europe's West and East.

To implement SFM it is necessary to produce wood for the forest sector, and also to satisfy the needs of sectors involved with bioenergy, climate mitigation and adaptation, rural development and biodiversity conservation including ecological integrity. This implies a need to plan at stand and local spatial scales in forest management units, but also at regional and even transnational levels. A key challenge for practitioners is to build bridges among actors in different sectors at different societal levels, and for the education and research community to integrate different disciplines for knowledge production and learning. Communication, education and public awareness are therefore important to support implementation of SFM. These are key motives for creating a new course and materials.

Two frameworks to link policy and practice

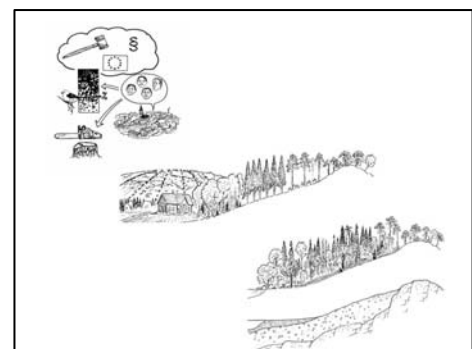
The policy cycle

Societies' perception of the role of forests and woodlands is dynamic. For example, based on assessments of the contemporary situation in both Sweden and Russia, forest policies and laws have been modified many times during the past 100 years. Governance and management are thus continuously evolving. This complex interaction among actors with different views, and the formulation of policies, is often termed the policy cycle (see figure to the right).



The landscape concept

Sustainable forest management is about both forests and society. The natural composition, structure and function of the forest itself depend on climate, site conditions and evolution. However, few forests are unaffected by humans. In fact many forests and woodlands were managed to deliver certain wood or non-wood products or services like clean water. Finally, societal actor's appreciations of different aspect of forests are different. The landscape concept's perceived, anthropogenic and biophysical dimensions capture this well (see figure to the right). Another way of expressing this is that landscapes are integrated social-ecological systems.



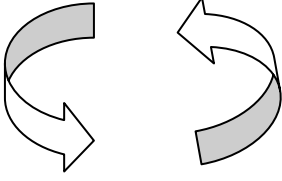
Course content - an overview

The aim of this course is to provide an introduction to how the SFM principle can be translated from the general policy level criteria and assessment of indicators to concrete management and governance practices in actual landscapes. Global change in terms of climate and economy stress the need for innovations to adapt policy and implementation. However, to create and implement SFM policies the local and regional context in terms of forest history, models for government and governance and biophysical conditions in the landscape need to be considered. To make the role of context for SFM implementation concrete, we focus on examples from northern and central Europe, from Fennoscandia in the West to the Ural Mountains in the East. Ultimately, through the students at universities in Europe's West and East, the intended audience is private, public, and civil sector actors at multiple levels.

(A) Lectures about SFM as process and outcome

The study material (see overview in Table 1) is based on the need for professionals to (i) be well-informed about the states and trends of different sustainability dimensions based on criteria and indicators as a “map and a compass” that tells forest and natural resource managers, policy-makers, media, authorities exercising governance, students and the general public how different SFM dimensions develop, and to (ii) develop ways of establishing integrated multi-sectoral societal platforms for local and regional governance as a “gyroscope”. This would contribute to make informed decisions based on knowledge, and make it easier to adapt to an increasingly uncertain situation.

Table 1. The course programme is based on three means of learning, (A) lectures, (B) exercises, and (C) individual studies. To support this, the course material has been divided into a total of seven blocks (i-vii) with 30 chapters (number in brackets). In the first block we introduce the course and the SFM policy (3 chapters). The second and third blocks define criteria and indicators (C&I), and review knowledge on how to manage forests to affect them in the desired direction for ecological, economic and socio-cultural criteria (12 chapters in three groups). The fourth block focuses on how governance is exercised by multiple actors and different levels (2 chapters). The resulting need to implement SFM based on cross-sectoral integration in a geographical territory by collaboration is summarised in the fifth block that reviews the landscape approach and different implementation concepts (1 chapter). To make the generic approach to SFM concrete, the sixth block presents how forest landscapes can be analysed with respect to SFM, and describes four landscapes in northwest Russia, three in Sweden and two in Ukraine. The final block focuses on concrete guidelines that improve learning and communication by writing reports.

(A) LECTURES (36 hours, 18 chapters)	(ii) <u>Assessment</u> of ecological C&I (4-5) economic C&I (8-9) socio-cultural C&I (12-13)	(i) <u>Introduction; Policy processes promoting SFM (1-3)</u>	(iv) <u>Governance</u> by multiple actors at different levels (16-17)
			(iii) <u>Management</u> of ecological (6-7), economic (10-11) and socio-cultural (14-15) criteria to affect them in the desired direction
(B) EXERCISES (36 hours, 10 chapters)		(v) <u>Synthesis of landscape approach (18)</u>	(vi) <u>Forest landscapes as laboratories (19): case studies in Europe's and W (20-28)</u>
(C) INDIVIDUAL STUDIES (72 hours, 2 chapters)			(vii) <u>Read literature, write own report (29-30)</u>

(B) Exercises based on challenges and solutions in different landscapes

The European continent provides gradients in many dimensions of forest and woodland landscapes of the boreal, temperate and mountain ecoregions. There are many regular management units with mainly economic goals, with and without special efforts towards sustainable development as a process and sustainability as a goal. In addition there are local and regional development projects constituted by international landscape initiatives such as Biosphere Reserve, Model Forest and integrated watershed planning, and national initiatives such as the Polish Promotional Forest Complexes. The experiences from all these efforts provide an important resource of new knowledge and experiences. Responding to the need to apply new approaches to management and governance of development of SFM on the ground in actual landscapes, we present experiences from a carefully selected suite of landscapes in Sweden, Russia and Ukraine as case studies (see figure and chapters 20-28).



Following the approach of analysing a landscape as a social-ecological system (chapter 19) we present the situation in different contexts in chapters 20-28. The rings indicate the location of nine landscape case studies in Europe's West and East.

(C) Individual studies

Learning processes are improved when several methods are used. Problem-based learning (PBL) is an approach to learning, in which students collaboratively solve problems and reflect based on their experiences and search for new knowledge (see chapter 29). Some characteristics of PBL are that learning is driven by challenging, open-ended problems where students are encouraged to work in small collaborative groups, and that teachers are facilitators of learning. Thus, students are encouraged to be responsible for and organise the learning process with support from the facilitator. An important skill of professionals working toward SFM is the ability to communicate with people. Writing reports as course examination projects are a good way of learning to design, structure and present a message (see chapter 30).

Implementation and next steps

Developing a common understanding of what SFM is among regions and countries with different contexts, how it can be assessed, and how forest landscapes can be managed and governed is a process. To develop this course programme and content of the educational materials we organised a series of workshops in the Russian Federation's north-west (Arkhangelsk, Moscow, Petrozavodsk, Saint Petersburg and Syktyvkar), in Sweden (Skinnskatteberg, Uppsala, Vilhelmina and Malmö) and in Ukraine (Lviv and Poltava). An additional important outcome of these activities was the establishment of an engaged network of university teachers.

This course programme is suitable for students at MSc level (5th year) at universities in NW Russia and Ukraine, as well as for the third year of the BSc programme for forest engineers in Sweden. It can also be used for vocational training of professionals.

The next steps are to (1) get the course programme accepted by the committee responsible for forestry education in the Russian Federation, (2) to continue the process of editing the different chapters. For the Swedish partners funding has already been secured. Outlines of all 30 chapters are available from per.angelstam@smsk.slu.se, marine.elbakidze@smsk.slu.se or chumachenko-s@mail.ru. (2009-11-04)

