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Towards sustainable forest management in NW Russia:

supporting policy implementation and product development

- The sustainability concept encompasses ecological, economic and socio-cultural dimensions, all of which should be balanced by good governance.
- The Russian Federation is part of the international Montréal process on the development of Sustainable Forest Management (SFM).
- In response to the challenge to improve the role of forests for society a new Forest Code was issued in 2006.
- We interviewed a wide range of forest actors and stakeholders during winter 2006/2007 to evaluate existing systems for providing new knowledge and learning for SFM in Russia.
- There were considerable mismatches between the contents of the SFM concept, and the existing contents and forms of education at different levels.
- We present suggestions for (1) curriculum components at different levels from technicians to PhD level, (2) forms of education to create future professionals focused on SFM, including the role of Model Forests and other arenas for SFM innovation and dissemination, and (3) the development of education materials at multiple levels.

Russia's boreal forest in the Komi Republic has been an important source of knowledge and inspiration on how to balance forest production and nature conservation in Sweden and Finland. In the same way Russia can learn from Fennoscandian experiences on how to develop human welfare and quality of life based on forest wood and non-wood goods, services, and natural and cultural values. Photo Per Angelstam.

Education systems should mirror society's contemporary desires with a proactive perspective that takes future development scenarios into account. The present situation regarding forests and forest use in the NW part of the Russian Federation is very diverse. Since the end of the Soviet Union in 1991, the Russian Federation's forest sector has been in continuous development, a trend that will continue.

Forest education system challenges

The current forest development involves dramatic changes regarding the number and types of desired professionals in the forest sector. Ongoing forest policy and economic reforms are expected to reduce the number of employees considerably, and at the same time, new professionals with a wider range of skills at all levels are needed. The education system is not prepared for this. Economic curricula are often obsolete, and ecological and socio-cultural dimensions of sustainable forest management (SFM) are not well reflected in the present education system.

Forms for education need to be developed to encompass both practice and theory. There are both short-term and long-term needs. Existing exchange of teaching staff and students in Fennoscandia and Russia, including participation in courses and field excursions, is a good beginning, and needs to be developed further. To recruit future teachers at universities and other education institutions there is an urgent need to focus on encouraging suitable students to embark on graduate courses and PhD programmes covering different dimensions of SFM. This is the only way that SFM could be developed in an organic manner in the long term, thus supporting capacity-building and institutional development within Russia's own education system.

Learning for SFM

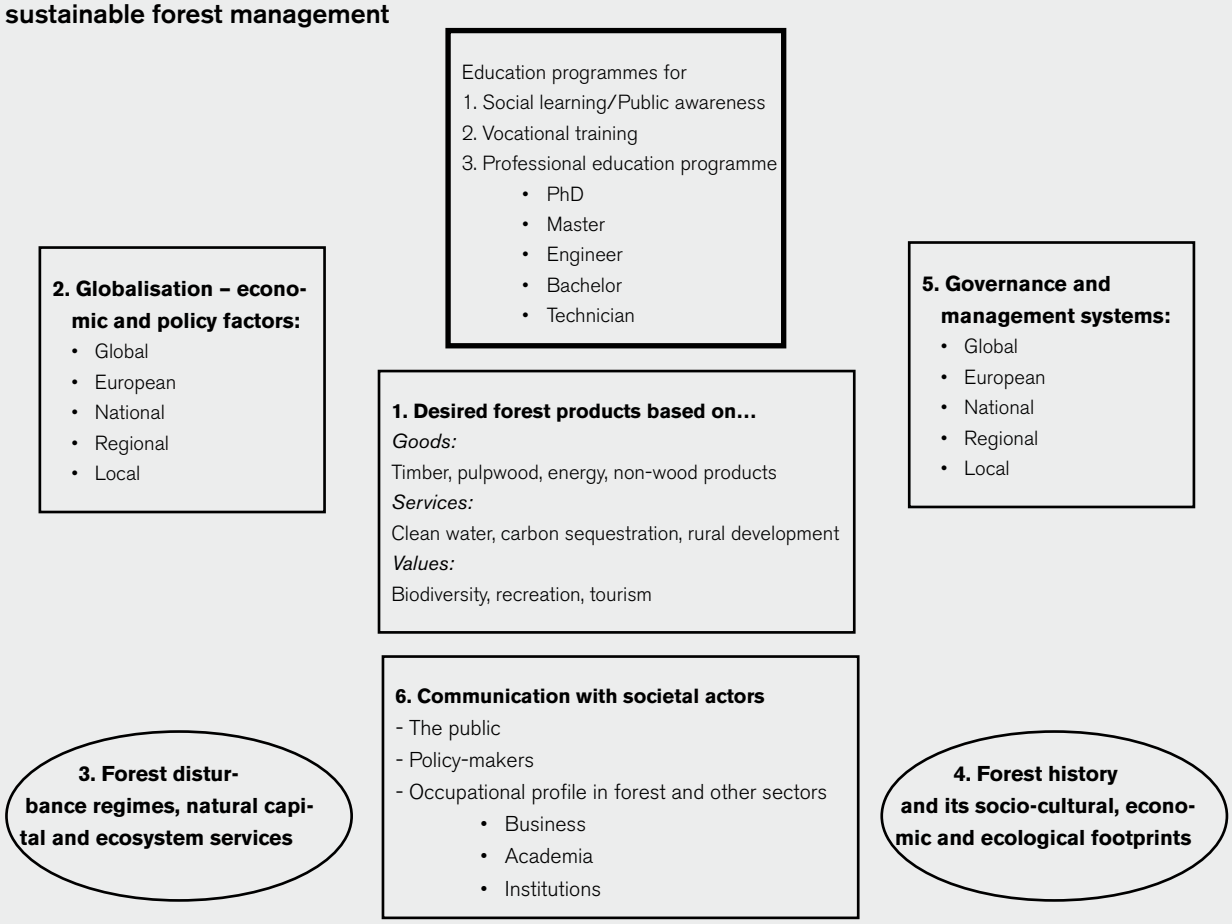
The transition from socialist planned economy towards market economy can be characterised by the challenge to consider six groups of main topics (see Box 1). Any education programme should reflect all these dimensions of SFM.

Debates and conflicts around forests can be interpreted as opposing views clashing when trying to satisfy ecological, economical, social and cultural dimensions of SFM. There is thus an urgent need for the development of modern education materials for policy makers, the general public, planners, managers and technicians, and academic studies. The contents of education materials should be balanced both with respect to different dimensions of SFM, and be based on combining the best experiences from Europe's East and West.

The six main topics listed in Box 1 can be translated into learning outcomes (Table 1) that should be satisfied by future education programmes. Three broad levels of audiences are

1. social learning in society at large that supports public awareness about SFM.
2. vocational training.
3. professional education programmes.

Box 1. Groups of main topics to be included in the development of education programmes for sustainable forest management



Twinning between case studies

Learning for SFM requires

1. revised education programmes at multiple levels.
2. bridging of cultural barriers by connecting forests, people and markets.
3. future development regarding forest legislation and the role of multi-level governance.
4. cross-sectoral integration.

Table 2. Transdisciplinary knowledge production is located at the interface between applied research and implementation, and requires close collaboration between different types of actors.

Academic actors			**Non-academic actors**	
Basic research	Applied research	Education	Extension	Implementation
Disciplinary	**Transdisciplinary knowledge production**			Management

To meet current challenges there is a need to encourage new forms of knowledge production based on improved collaboration among sectors using landscape goods, services and values.

We promote the idea to establish multi-level partnerships for sustainable landscapes by encouraging networking between academic and non-academic actors. We conclude that outcomes of the wide range of new factors at multiple levels for the forest sector and forest landscapes remain unclear for many SFM dimensions. This applies to both Europe's West and the East.

This stresses the need for international sharing of knowledge about SFM relevant for the European forests, and co-operation to produce new. Multi-level networking and in-depth exchange to bridge sectors and cultures using forest goods, services and values is the only solution for long-term success.

There is good opportunity for twinning between Model Forests and other practical attempts to develop SFM on the ground in Sweden and Russia. Comparisons of solutions to make the transition from socialist planned to market economy are useful also for a range of other countries such as eastern EU, Ukraine, Moldova, the Caucasus region, and China.

Transdisciplinary knowledge

Adaptation and learning requires an iterated procedure involving multi-level co-operation among disciplines, sectors and actors. How can this be achieved? We argue for reforming education and research so that the gap between science and practice can be bridged. To realise the vision of sustainability a societal "learning process" needs to be developed. This requires:

1. successful communication between science and the real world.
2. use of real landscapes as "laboratories".
3. combination of natural and social science methods.

We argue for the need to use and develop:

1. accounting systems as a "map and a compass" that tells natural resource managers, policy-makers, media, authorities exercising governance, students and the general public how different SFM dimensions develop.
2. ways of establishing societal platforms for local and regional governance as a "gyroscope".

This would contribute to make informed decisions based on knowledge. Societal actors would thus both get information from and inform actors and stakeholders, regardless of scale and ecosystem context. This approach to "transdisciplinary" knowledge production (Table 2) is a framework to support problem solving efforts. The focus is on achieving holistic understanding.

Unlike the disciplinary sciences where results are communicated through academic education, the results of transdisciplinary knowledge production are communicated by those (practitioners and scientists) who have participated in the work. It is about problem solving on the move. Thus, communication to connect forests, actors and markets in ever new configurations is crucial.

Table 1. List of topics that ought to be included, in addition to state-of-the-art operational forestry education, to support learning for sustainable forest management (see Box 1). For each topic the learning outcome (i.e. a statement of what a learner is expected to know, understand and be able to do at the end of a period of learning) is summarised.

Main topic	Learning outcome (what the learner is expected to know)
Desired forest products	Be aware of the range of forest products based on wood and non-wood goods, services and other values that different forest landscape actors use, and how the use is related both to biophysical conditions, landscape history and market access.
Globalisation: economic and policy factors	Understand the need to connect forests, people and markets by exchange of knowledge and experiences of governing factors at multiple levels that range from local and regional to national and international.
Forest eco-systems and disturbance regimes	Recognize that different site types host forest ecosystems with different kinds of dynamic and tree species. Identify the biophysical characteristics that affect the production capacity for different goods and services.
Forest history and its footprints	Understand that there are at the same time landscapes and forest management units that are located in different forest history phases, and that intensive management leads to ecological, economical and socio-cultural footprints.
Governance and management systems	Understand the distribution of benefits among different actors and scales from the use of natural resources of forests, and potential conflicts, in relation to the structure of tenure and ownership of land and wood, the governance system; and the types of goods, services and values, and the level of value-added production.
Learning societal actors	Be able to communicate with all relevant actors representing business, public institutions and academia, and at local, regional, national and international levels.

There is a long tradition of forest sector education in Russia to build on. For example, the St. Petersburg Forest Technical Academy (www.ftacademy.ru) was founded in 1803. There about 8000 students take part in continuing professional education programs and do advanced studies for specialists in all branches of forestry, forest, woodprocessing, pulp and paper and forest chemical industries. The Academy offers several educational levels and terms of study. Photo Per Angelstam.

Keywords

Forest policy, education, international co-operation, landscape, natural resource management

Read more

Angelstam, P. & Elbakidze, M. 2007. Learning for Sustainable Forest Management: actors' perceptions and regional needs in the Russian Federation's northwest. Report for Swedish International Development Cooperation Agency (SIDA) and the Swedish Forest Agency. 107 pp.

Angelstam, P., Kopylova, E., Korn, H., Lazdinis, M., Sayer, J.A., Teplyakov, V. & Törnblom, J. 2005. Changing forest values in Europe. In: Sayer, J.A., Maginnis, S. (eds) Forests in landscapes. Ecosystem approaches to sustainability. Earthscan, pp. 59-74.

Angelstam, P., Anufriev, V., Balciauskas, L., Blagovidov, A., Borgegård, S-O., Hodge, S., Majewski, P., Ponomarenko, S., Shvarts, E., Tishkov, A., Tomialojc, L. & Wesolowski, T. 1997. Biodiversity and sustainable forestry in European forests – how west and east can learn from each other. – Wildlife Society Bulletin 25(1): 38-48.

Elbakidze, M., Angelstam, P. & Axelsson, R. In press. Sustainable forest management as an approach to regional development in the Russian Federation: state and trends in Kovdozersky Model Forest in the Barents region. Scandinavian Journal of Forest Research.

Elbakidze, M., Angelstam, P., Axelsson, R., Blicharska, M. & Mikusinski, G. In press. Towards sustainable landscapes: the need for evaluation and syntheses of experiences from transboundary co-operation along EU's eastern border. Catholic University, Lublin.

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