EUROPEAN FOREST INSTITUTE

Sustainability Impact Assessments for Europe

– a new way to quantify how alternative strategies for the use of forest resources and products would affect the environment, the economy and society

Making a Difference

Making a Difference – from Science to Policy

A new decision-support software tool, known as ToSIA, will help policy-makers, business planners and other stakeholders to make decisions on issues related to the use of forest resources and wood products, by providing wide-ranging quantifiable assessments of the ecological, economic and social impacts of alternative policies. This will make it easier to ensure that forests and forest products are managed and used in truly sustainable ways.

Sustainability Impact Assessments for Europe – a new way to quantify how alternative strategies for the use of forest resources and products would affect the environment, the economy and society

Sustainability is a well-established concept in the context of the use of natural resources such as forests. In recent years it has also become a mainstream concept outside the forest-wood sector, and its scope has been expanded to encompass economic and social issues as well as ecological concerns.

Current global concerns related to declining biodiversity, climate change and the urgent need for renewable energy sources all emphasise the importance of sustainability.

"Today it's vital to consider all aspects of sustainability, including economic feasibility and social acceptability as well as environmental sustainability, since there's no use in concentrating on a single aspect, if a development fails on another aspect," says Dr. Diana Vötter, a senior researcher at the European Forest Institute who specialises in sustainability issues. "Sustainability Impact Assessments (SIAs) aim to provide a much wider view than economic cost-benefit analyses or ecological life cycle analyses," she explains.

Vötter has been actively involved in the EU-funded EFORWOOD project, whose outcomes include a new software tool designed to facilitate stakeholders' decisions on resource use by producing quantifiable measures that express the various environmental, economic and social impacts of projected developments. This Tool for Sustainability Impact Assessments is known as ToSIA for short.

jazzid / www.fotolia.com

Sustainability impact assessments with a wide focus often incorporate financial and material flows related to the international timber trade.

Looking at the big picture

ToSIA assessments analyse complex sets of carefully selected indicators related to all the relevant aspects of sustainability for alternative future scenarios. Economic factors under consideration may include investments, resource use and production costs; social indicators may address issues such as employment, safety at work and public amenity values; and environmental considerations may relate to issues including biodiversity, pollution and greenhouse gas emissions.

ToSIA has particularly been developed to assess impacts all the way along "Forest Wood Chains" from forest management through the supply of wood for industry and the subsequent manufacturing processes to consumers' use of products and their final disposal.

ToSIA assessments link selected indicator values to changing material flows which are all traceable back to the fundamental carbon cycle. Indicators must be carefully selected and weighted to enable the issues at stake to be duly considered. ToSIA assessments use data from officially compiled statistics, models and in some cases expert guesstimates.

John McFarlane

Forests' recreational amenity value is an important social aspect in sustainability assessments.

Flexibility and applicability

"ToSIA is a flexible tool that can be adapted to address different issues and indicators, depending on users' needs," says Dr. Vötter. "ToSIA is most useful when the idea is to compare different development scenarios together with stakeholders who may have differing or conflicting opinions, because its quantitative results clearly illustrate the scales of different impacts."

During the testing of ToSIA within the EFORWOOD project, Dr. Vötter led a sustainability impact assessment examining how the increased protection of forests in Natura 2000 sites across the EU would affect the production and raw material sourcing of Europe's forest industries. "The results indicated that in the future, particularly with more forests under protection, the usage of timber would have to become more efficient. Additionally either timber imports from outside the EU would have to increase considerably, or a decline in industrial production would follow," she says.

Vötter emphasises that ToSIA assessments do not produce recommendations concerning "right" and "wrong" policy options. But they do help decision-makers to understand the wider consequences of their choices.

Testing ToSIA in the North

ToSIA is now being further tested in the Northern ToSIA Project, which is assessing the sustainability of forest-based activities in various northerly regions as part of the EU's Northern Periphery

Antti Saraja / www.iuku.fi

Overall sustainability is a crucial goal for forestry planning. In some regions the demand for timber may conflict with indigenous Sámi reindeer-herders' needs.

Programme. The region's forests are used in many ways, and resource planners have to perform a tricky balancing act to ensure economic, social and environmental sustainability.

One case study in Sweden is addressing the potential conflict between the demand for timber and local indigenous Sámi reindeer-herders' need for mature forests as winter lichen grazing pastures for their animals.

A study in Scotland is examining the impacts of alternative development strategies for the region around the Cairngorms National Park, where forests are particularly valuable as amenities for recreational activities and as habitat for rare birds.

Another study is looking at the wider impacts of projected increases in the use of wood for bioenergy in the North Karelia region of Eastern Finland. The regional authorities have been pleased to discover a tool like ToSIA which can teach them about the implications of differently scaled bioenergy strategies.

Vötter is convinced that ToSIA's application and development through the Northern ToSIA project will make it even more user-friendly. "ToSIA is already well established as a research tool, and we hope it will soon also be used by regional planners, policy-makers, and industry," she says.

Comprehensive sustainability impact assessments could eventually become routinely used alternatives to narrower environmental impact assessments or life cycle analyses.

A wide-ranging report on the outcome of the EU-funded EFORWOOD project can be downloaded at www.eforwood.org.

The ToSIA Programme itself is publicly available, but expert help may be needed to run assessments. The ToSIA Management and User Group (TMUG) is coordinated at the European Forest Institute (contact tosia@efi.int).

For more information:
contact Dr. Diana Vötter
tel: +358 10 773 4320; e-mail: diana.votter@efi.int

For more information about the Northern Tosia Project:
see www.northerntosia.org

The European Forest Institute (EFI) is an international organisation established by European States. EFI conducts research and provides policy advice on forest related issues. It facilitates and stimulates forest related networking as well as promotes the supply of unbiased and policy relevant information on forests and forestry. It also advocates for forest research and for scientifically sound information as a basis for policy-making on forests.

EUROPEAN FOREST INSTITUTE
Torikatu 34 | FI-80100 Joensuu | Finland
Tel. +358 10 773 4300 | Fax. +358 10 773 4377
www.efi.int