



Report of the Northern ToSIA workshop in Umeå, 13-14 August, 2009



**Northern
Periphery
Programme**
2007–2013

Innovatively investing
in Europe's Northern
Periphery for a sustainable
and prosperous future



European Union
European Regional Development Fund

Contents

Contents.....	2
Northern ToSIA briefly	3
Aim of the workshop.....	3
Participants	4
Programme	5
Presentations	6
Sustainability of forest resource use in the Northern Periphery.....	6
Sustainability impact assessment using indicators of sustainability	7
Demo of ToSIA and plans for case studies in Northern ToSIA	8
Case studies of Northern ToSIA	8
Discussions.....	10
Economic indicators.....	10
Social indicators	11
Ecological indicators	12
Possible indicators of case studies.....	13
Final discussion about indicators and key issues.....	14
Conclusion of the workshop	15

Northern ToSIA briefly

Forest-based sector activities play a crucial role in sustainable development of natural and community resources of the Northern Periphery (NP) region. Recently, there has been a strong increase in demand for various goods and services which forest resources offer. While traditional forest-based sector activities continue to provide an important economic basis for many communities, new demands for the use of forest resources as a source of bioenergy have emerged. In addition, societal demands for the enhanced protection of forests for biodiversity and recreational activities are creating conflicts as not all of the demands on the forest resources can be fulfilled simultaneously. Forest resource management and regional development are thus facing great challenges with finding a sustainable balance between competing demands, especially in the remote conditions of the NP territory.

The Northern ToSIA project will address this challenge by adapting a decision support tool to assist sustainable development. The ToSIA tool (Tool for Sustainability Impact Assessment) will have economic, social and environmental dimensions and will be able to adjust to specific regional requirements. The project will encourage a multi-stakeholder dialogue throughout the life-time of the project in order to: identify and address sustainability issues in the NP region; to direct the tool development activities; to explore alternative regional development strategies with a range of key stakeholders; and to create a quantitative basis for open discussion. The Northern ToSIA applications are developed based on a multi-stakeholder approach utilising feedback from the end users. The regional development dialogue between research, public administration, business sector and other stakeholders in analysing possible future scenarios contributes to efficient sustainable management and utilization of resources in the Northern Periphery.

Aim of the workshop

Northern ToSIA applies the ToSIA tool in two real-world settings: public organizations test the tool using their regional development strategies, and companies utilising forest resources test the tool for their sustainability assessment and reporting routines. Case studies are implemented in Sweden, Finland, Scotland and Norway. Topics of the case studies are related to bioenergy use, reindeer herding, recreation and nature conservation. Different attributes and indicators of sustainability will be assessed in each case study. The first workshop of the Northern ToSIA project offered a possibility to discuss these issues and to learn about different aspects connected to the sustainable use of forest resources. As a result the workshop aimed to produce a comprehensive pool of indicators to be used in the case studies in the Northern Periphery.

Participants

There were twenty participants in the workshop; four from Scotland, four from Norway, seven from Sweden and five from Finland.

Name	Organization	Role in the project or workshop
David Edwards	Forest Research / Forestry Commission Scotland Highland Conservancy FR	partner
Stefania Pizzirani	Forest Research / Forestry Commission Scotland Highland Conservancy FR	partner
Barry Gardiner	Forest Research / Forestry Commission Scotland Highland Conservancy FR	partner
Steve Smith	Forest Research / Forestry Commission Scotland Highland Conservancy FR	stakeholder
Peter Wilson	UK WAS	speaker
Birger Vennesland	Norwegian Forest & Landscape Institute	associated partner
Tare Steiro	Statskog	stakeholder
Tove Nordås	Destination Helgeland	stakeholder
Hanne Østerdal	County Governor of Nordland	partner
Hans Winsa	Sveaskog	associated partner
Torgny Lind	SLU	partner
Staffan Berg	SLU	partner
Ann-Kathrin Persson	SLU	partner
Erik Valinger	SLU	partner
Martin Lundgren	Norra Skogsägarna	associated partner
Hans Djurberg	SCA	associated partner
Marcus Linder	EFI	partner
Diana Vötter	EFI	partner
Marja Kolström	EFI	partner
Paula Mikkola	Regional Contact Point for Finland, Regional Council of Lapland	speaker
Heikki Karppinen	Forestry Centre	partner

Programme

Programme of open workshop, 13th - 14th August 2009, Umeå, Sweden

Thursday 13th August

13.00-13.30 Welcome; Purpose of workshop; Introduction of participants

13.30-15.00 Sustainability of forest resource use in the NPP (*Chair: Marcus Lindner*)

- Sustainability of forest resource use – regional context
Paula Mikkola, Regional Contact Point for Finland, Regional Council of Lapland
- Overview of regional development planning practices, *Marja Kolström, EFI*
- Overview of CSR reporting practices, *Diana Vötter, EFI*
- Promoting sustainable forest management through certification standards, *Peter Wilson, The UK Woodland Assurance Standard*
- Discussion: Current Sustainability Issues in the NPP

15.00-15.30 Break (coffee)

15.30-18.00 Sustainability impact assessment using indicators of sustainability (*Chair: Erik Valinger*)

- Introduction of ToSIA tool, *Marcus Lindner, EFI*
- Introduction of indicators of sustainability (ecological, economical and social) *Diana Vötter, EFI*
- Introduction to workshop, *David Edwards, FR*
60 min guided discussion in small groups, taking the economic, social and environmental perspective on sustainability (three groups mediated by Staffan Berg, David Edwards & Marcus Lindner)

Lead Questions to each group:
 - How can forest-based activities support the sustainability of local communities/of the environment/economic viability of the region?
 - What are the issues that matter – who is interested in what and why?
 - How do you measure sustainability – what measures do you/could you use?
- Report back in plenary (5 + 5 min report plus discussion) and Conclusion

18.00 End of Session

19:00 Departure to Dinner at Baggböle mansion

22:00 Departure back from Baggböle by bus

Friday 14th August

8.30-10.30 Demo of ToSIA and plans for case studies in Northern ToSIA (*Chair: Staffan Berg*)

- ToSIA demonstration using a case from North Sweden, *Diana Vötter, EFI*
- Presentations of case studies in Northern ToSIA;
Scotland, Sweden, Finland and Norway, *speaker from each case*

10.30-11.00 break (coffee)

11.00-12.30 Case study specific indicators (*Chair: Barry Gardiner*)

- Discussion about cases Scotland, Sweden, Finland and Norway: which aspects of sustainability, lead questions and specific indicators are important in each case

12.30 – 13.00 Workshop conclusions (*Chair: Marcus Lindner*)

- Conclusions about indicators and outlook on next steps in Northern ToSIA

13:00 Lunch and departure



Presentations

Sustainability of forest resource use in the Northern Periphery

The first four presentations of the workshop described the current situation of sustainable forest resource use in the Northern Periphery from different perspectives.

Paula Mikkola is the Regional Contact Point for Finland of NPP and in her presentation “Sustainability of forest resource use – regional context, especially focusing on the Region of Lapland” she introduced recently published Natural Resource Strategy for Finland. A vision for the year 2030 is that natural resources can be utilized as a source of well-being and a basis for sustainable economic activities that also safeguard the environment and its biodiversity. Forest resources are important for Finland and Lapland, because the economy is firmly based on added value obtained from natural resources.

Guidelines for the use of natural resources are included in the Forest Act, the National Forest Programme, the Regional Forest Programmes and the Regional Natural Resource Plans. The role of Regional Councils was described with their responsibility for overall regional development, including forest resources.

Marja Kolström, senior researcher at the European Forest Institute, gave a presentation titled "Regional development and sustainability impact assessment in Northern Periphery, Focus on use of forest resources". The concept of sustainable development has been used since the mid-1980s in Northern Europe and after that there has been shift in regional policy from classic to modern. Policies of Scotland and Nordic countries contain elements of both. Sustainable development is one of the "horizontal priorities" in regional policy. Forest Policy actions towards sustainable forest management happen in three levels: global, national and local. Marja gave an example about regional development and forests from Finland. Some sustainability assessments are already established, but a better balance between different sustainability aspects, more discussion among Regional Forestry Council and stakeholders about sustainability issues and clearer measures and responsibilities are needed.

Diana Vötter, senior researcher at the European Forest Institute, presented an overview over Corporate Social Responsibility (CSR) reporting practices in the industry. CSR is a part of sustainable development and it has been used during the last two decades. There is a wide variation on how to implement CSR. Diana gave examples of three forestry companies: Holmen, Sveaskog and Metsäliitto. CSR reports include a lot of numbers, but it is difficult to find sources and background information for the numbers and why these numbers are used. It seems that a more systematic framework would be beneficial. During the post-presentation discussion, the question arose as to whether CSR really has an impact on business? At least CSRs give some figures to compare different companies. There are no legal requirements to prepare CSR reports, but the reports help the public image which is important for the companies. It is appreciated that the ISO for CSR reporting will be supportive.

Peter Wilson is the Executive Chairman of the UK Woodland Assurance Standard (UKWAS) partnership and he introduced the UK experience of Promoting Sustainable Forest Management through Certification Standards. As a background, Peter introduced the history, processes and governance of UKWAS. UKWAS is the only standard that is recognised by both FSC and PEFC, which gives greater flexibility in international markets. The UKWAS standard could benefit from improved documentation of management planning and evidence that woodland management takes full account of environmental, social and economic impacts. In addition, it requires a better rationale for management prescriptions and for operational techniques. A tool such as ToSIA might help with these, but it is important to remember that this tool would need to be made for practitioners not only for academics. So involve real, practical forest managers at the heart of the process and test it in real life as you go.

Sustainability impact assessment using indicators of sustainability

Marcus Lindner, the coordinator of Northern ToSIA project from the European Forest Institute, introduced the tool for sustainability impact assessment (ToSIA). He started defining sustainability in the

ToSIA context and stated that the tool is suitable for identifying hot-spots in value chains that can contribute to improved sustainability. He reminded everyone that ToSIA is primarily designed to give answers to WHAT IF-questions. Marcus introduced the approach of the tool and showed with some examples that ToSIA is very scalable and can operate at different levels, within defined system boundaries. Different forest-wood-chains can be evaluated with multi-criteria-analysis (MCA) or cost-benefit-analysis (CBA), but it is always important to remember that the quality of the sustainability impact assessment depends on the quality of the data used.

Diana Vötter started her presentation about “Introduction of indicators of sustainability” with defining a forest-wood chain structure with processes and products. Then she showed some general ecological, economical and social indicators, which are currently being used in ToSIA applications within the EFORWOOD project. Indicators have sub-indicators and one important thing is to specify a unit for each indicator. ToSIA requires that the data are balanced, complete and reliable.



Demo of ToSIA and plans for case studies in Northern ToSIA

Diana Vötter gave a ToSIA demonstration of the EFORWOOD Scandinavian case study with some adaptation to Malå, Sweden. She gave some background information about the area, its forests and used management treatments. She demonstrated the timber flows, solidwood chains and flow of bioenergy. Diana presented the preliminary results from the Scandinavian case study. There have been some discussions about scope, boundaries and possible indicators to adapt the previous experiences to the Malå case.

Case studies of Northern ToSIA

The case study in Scotland was presented by Steven Smith. This case will be implemented in the Cairngorms National Park. The park is Britain’s largest national park, with 3800 km² of varied landscapes. The objective is to develop methods for understanding the impact of changes to forest management on the sustainability of forest based activities. Furthermore, the case study will also address the need to protect and improve biodiversity interests, as well as the need for recreation and timber production to create a diverse, high quality forest. In the Scottish case study, ToSIA will be used as a tool to allow stakeholders to evaluate potential changes within the forests, and the impacts on a selected range of dependant enterprises.

Erik Valinger presented the Swedish case. The case study in Sweden will be implemented in the region where the Malå Sami village has its activities. The village is Sweden's most southern forest Sami village and the only one in Västerbotten. The Sami village moves to different places within the region during the year. In 2006 there were approximately 11 reindeer husbandry companies in the Malå Sami village. Competing land uses in the area include forestry, tourism, industries, water power plants, wind power, mining, peat digging, gravel pits, farming and other Sami villages. In this case, to apply the ToSIA tool, it will be necessary to design new chain with new processes reflecting reindeer husbandry. ToSIA will be used to study different options of land use in the Sami village.



Marja Kolström introduced the case study in Finland.

The main issue of the case study is how increasing production and use of forest wood chips will affect regional development. The case study will be implemented at two levels: for the whole region of North Karelia, and in at smaller scale in the districts of Tuupovaara and Outokumpu. The first district has a small-scale heating plant and the second district has a medium-scale heating plant. With these cases it is possible to make a sustainability impact assessment of forest-wood-chains in centralized and distributed forest bioenergy utilization. The North Karelia assessment relates to the process of preparing the Regional Forestry Programme with the Regional Forestry Council. The programme is mostly for the commercial use of forests, but it should also consider the need to maintain biodiversity and recreational issues in the region. The North Karelia region is a pioneer in forest bioenergy utilization in Finland.



The case study in Norway was presented by Birger Vennesland. This case study is located in the county Helgeland. There are three national parks in the area and all desire to increase recreational tourism in protected areas. Forests are in the interior valleys which presents the challenge of attracting visitors into the interior region, especially since tourism is predominantly

based in coastal areas. ToSIA will be used to find out, how the timber industry will be influenced by the closing and possible reopening of a large sawmill, and how the timber industry and the tourism industry may react to an increase in the protection of forested land.

Discussions

On Thursday afternoon the participants split into three groups to discuss economic, social and ecological indicators. The following summaries are the main topics which came up in discussions. An underlying theme for this discussion was that environmental performance can be evaluated with the aid of indicators. In order to be functional there must be data of sufficient quality in order to make an indicator function able. Then there is quite a risk that indicators that reflect economic, social and ecological values can be contra dictionary to each other. The ToSIA tool might be a mean to evaluate the impact of conflicting environmental services.

Economic indicators

Three main matters of economical indicators came up during the discussion: jobs, products and prosperity, and attraction of the region.

The indicator of employment is currently measured as the number of full time equivalent (FTE) jobs, and refer to harvest and timber transport. The impact of employment on the region is obvious as salaries feed the local economy and secure demand for infrastructure and services In connection to havest and transport activities, an increase in demand for wood chain services may be created. Furthermore, it was discussed whether it is possible to find out more about the structure of employment in the region (not only based on forestry, but on the region), the indicator could be better divided into sub-indicators. Possible sub-indicators could include the range of jobs inside and outside the forest-based sector that are available (unskilled – skilled – executive – etc) or the share of young people employed. The employee's point of view is different, (s)he might have a job portfolio with different types of e.g. seasonal occupations in the region; diversity of opportunities (not putting all eggs into one basket, i.e. not only occupations in forest-based activities but rather integrated in the local community which is influenced by the area of protected forest and other infrastructural changes, such as level of recreation and tourism related activities) and several small



jobs, because (s)he may not want to give up independence to work full-time. At the regional level this kind of job portfolio approach has several factors, like direct/indirect jobs, seasonal jobs and flexibility for the individuals. The job portfolio approach is suitable for example in forest management co-operations which can offer services for non-residential owners.

Indicators of products can be related to wood or non-wood products and services. For timber there are some factors, like volume and value/quality, increment/sustainable volumes, transport costs and access to markets and efficiency which can be reflected by indicators. When wood is used for energy, interesting factors are the access to it and associated costs. Willingness of owners to sell timber on steady basis and access to SFM (sustainable forest management) certification may have an effect on timber markets. Mushrooms, berries and other non-wood products should be connected to supply chains. With all products, important factors are the productive potential of forest, access to markets and the right quality/quantity of raw material. Regions can offer recreational services. One indicator for recreational use is the number of visitors to a target area.

Economic sustainability of the region depends on the activity of the community. Why are people in that region? Usually they are there for job-reasons, so there should be increased options for economic activity in the region. For any economic activity a source of capital is needed. How does such a community attract capital? Possible factors are grants, tax incentives and processing facilities. In general, good business plan development shows activity of the region. Indicators of the prosperity of the region are population number and age profile, primary school children, tax intake of the region, business start-ups/failures and number of businesses, household incomes (range, mean) and health indices. Regional support may increase the attractiveness of the region. The support might come from a cluster and, in this case, the strength of cluster linkages is important. Financial support is also very important. Good regional infrastructures (roads, power and communication services) attract employees and enterprises.

Social indicators

Social sustainability was approached from the question, how can forest-based activities support the sustainability of local communities? One factor is the stability of communities which, for example, is reducing migration to cities. Community stability is based on rural employment and local value added, which brings money to local communities and increases the economic viability of the region. One example is how to use forest resources such as using wood for bioenergy. This activity may add more value locally than using wood for timber, which is exported out from the region. Forests themselves cannot be exported, so forest-based tourism and



recreation increase local employment which in turn helps the local economy. Many activities, like education and life-long learning about nature, have indirect and induced economic benefits to the local economy. Forests have a role for promoting the attractiveness of local places which means a higher quality of life for local people. They also offer rural activities for local livelihoods, like hunting, fishing and non-timber forest products. The environmental aspect of forests are also important for the local community including, for example, an increasing range of habitats (biodiversity), improving water quality, soil management or mitigation of climate change via decreasing greenhouse gases.

Another question discussed was who is interested in what indicators and why. The group selected the topic of tourism and recreation, which is interesting for all countries in the Northern Periphery. Indicators for these could be changes in visitor numbers, spending by visitors in areas surrounding forests, increased attractiveness of forests which may increase visits, number of facilities (e.g. length of trails) and number of conflicts (recreation vs. production). It is important to develop a way of monitoring changes as well as more comprehensive indicators by which to measure.

Ecological indicators

The Northern Periphery is a region with abundant natural resources. Forest resources can be managed so that production of economic values causes low load on environment. Wood production is important for CO₂ sequestration, producing renewable raw-material, etc. Conservation management can be more efficient to restore ecological values than no management at all. The share of protected area increases from south to north, but diversity declines from south to north. It is better to use land area as reference for the sustainability assessment instead of forest area because for example tourism and reindeer herding utilize also other land areas.

It is necessary to attach value to social benefits. The National Park concept in Norway does not support tourism because there is no chance to develop infrastructure in the protected area. Infrastructure is a key for creating employment and generating income to the region. During the discussion there were two examples about significance of infrastructure. Helgeland needs an airfield to bring in tourists. Laponia World Heritage area in North Sweden attracts the tourists, but they do not go beyond the hotels.

The ecological qualities of forests are reflected in many processes in an international to local scales. Properties and qualities can be evaluated with the aid of Indicator values that are on the whole agreed upon among different parties. There are, however, variations between regions and also between perspectives concerning which indicators are relevant. There are also examples of trade-offs between ecological indicators e.g. between the quantity of deadwood in the forests and the amount of renewable energy produced from forest residues.

Multiple land uses are critical. For example, the cutting of forests and picking berries with 5000 foreign berry pickers takes place in the same area.

Knowledge is a key issue to improve sustainable use of forests. Can we use ToSIA to document the broader sustainability impacts of the resource use?

Possible indicators of case studies

Case study in	Scotland	Sweden	Finland	Norway
Region	The Cairngorms National Park	Malå Sami village	North Karelia	Helgeland
Topic	Changing forest management	Reindeer husbandry	Increasing use of bioenergy	Protection vs. timber and tourism industries
Economic indicators	Gross value added	Gross value added	Local value added	
	Production costs	Production cost		Production cost
		Total production		
			Subsidies on forest fuel production	
			Trade balance	
			Enterprise structure	
			Prices paid by heating and power plants using solid wood fuels	
				Revenue
				Transport
			Recreational use	
Environmental indicators	Greenhouse gas emissions and carbon stocks	Greenhouse gas emissions	GHG emission and carbon stock	
	Forest biodiversity	Biodiversity	Biodiversity	Forest Biodiversity
	Forest resources	Forest resources		Forest resources
		Energy use	Energy generation and use in the forest fuel supply chain	Energy use
		Water use		
		Generation of waste		
Social indicators	Employment	Employment		Employment
	Recreation		Recreational use of forests	
		Wages and salaries		
		Occupational safety and health		Occupational health and safety
		Consumer behaviour and attitudes		
		Provision of public forest services		
			Activity of regional development	
				Marketing and PR
				Education and training

Final discussion about indicators and key issues

Within the definition of a forest or a productive forest, it is important to set boundaries for the case studies. For the assessment of sustainability impacts we need to know what the reference area is. For example, the forest area might be a reference for activities and processes, like for reindeer husbandry and recreation. Since different cases use different boundaries they do not need to be uniform. The similarity between cases may not be so important. The recommendation was given by the project coordinator that the area should be big enough (land area, not only forest). In this way the data is not too detailed. Data collection must be relevant and well done, because the meaningful results are dependent on accurate data. It was also discussed whether it is possible to obtain data from the private companies. Some economic indicators might be available from open reports but what is the real value of a m³ of wood? For example, SCA is willing to provide data, but their own value added is more sensitive and also very variable (shadow price discussion).

It seems that economic indicators come first and the other indicators reflect on these, like the land value shows the importance of the area. Economic data are easier to be quantified and perhaps less affected by value judgments compared to environmental indicators, which are opposingly weighted by different stakeholders. Multi-functional forests are increasing, thus indicators for other functions are needed. Often, infrastructure is built mainly because of forestry, so without forestry, what will the impact be on other uses, like hunting and berry picking? Recreation is one topic where different case studies can learn from each other as there are a lot of specific indicators in each case. Possible indicators might be willingness to pay or number of hikers. The willingness to pay is challenging as, for example, Sweden forestry makes 10-30 EUR per ha profit, but tourism might pay a similar price but only for very small areas. Quantifying the recreational value of different forests depends on many factors such as age and management of forests, tracks, visitors centre, weather and access. The other challenge is to find out the catchment areas for recreation. Recreation is significant for the region, but a forest company may not be interested in how many hikers there are in the area. However, it is beneficial for a company if a region is in balance with its inhabitants and employees. Other interesting issues are land use (industry or community driven) and structure of forest owners and size of forests owned by small forest owners.

Involvement of stakeholders and future users of the tool is necessary during the project. We have to recognise them and find out their aspects. One main task during the project is to convince the NPP that the tool is applicable in all countries. The variability of different case studies can be a strong point for this. The consistency between cases may not be so important for the dissemination. Interest in commercial business is not very big but, for example, SCA is willing to contribute to the process to support other decision making processes. The effects of forest resource use on other societal benefits can be shown in a better way (for external communications), and perhaps this can also support the general direction of resource management.

In the case studies, ToSIA is used as a tool for the regional development planning of the regional councils and municipalities. It is a good tool for regional development because it can assess different land use

issues. The aspect of using ToSIA in the business sector is more challenging, for example, for CSR purpose. The applicability of ToSIA improves when we are aware that objects are not too scientific and results should help regions. Incorporation of regional industries and infrastructure might improve the approach. Clear guidelines for ToSIA's use and application are important and the approach of the tool should be marketed.

Conclusion of the workshop

This workshop was one of three general workshops in Northern ToSIA , so each workshop has high importance. The next workshop will be in Scotland in May 2010 and the final seminar in the beginning of 2011. Some associate partners and stakeholders were interested to participate the next workshop. This kind of meeting can help give the big picture with regards to sustainability in Northern Periphery, and they are also a good way to disseminate what is happening in the project. There was a suggestion that someone from political parties at a regional level would add an interesting perspective as they are one of the potential end-users, e.g. regional council. All case studies will have proceeded by next spring, so it will be a good chance to learn from each other.

Several local meetings in case study regions at the regional level are coming up in the next months. The local workshops are very important in the region and case studies.

