

1 **Micropaper** for the conference “The Spirit of Place” August 1-3, 2009, at the Sami cultural  
2 heritage center – Arran – in Tysfjord community, Nordland, Norway

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4 **Title:**

5 Sustainability in Northern forests-related livelihood (Northern ToSIA)

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9 **Storyline:**

10 Forests cover 74.3% of the land in the Northern Periphery region of Norway, Sweden and  
11 Finland, but only 44.8% of the land area is covered by forest available for wood supply  
12 (Eurostat, 2009). Forests provide wood, which is one of the most fundamental requirements  
13 of human survival and civilization. Wood is a material of exceptional versatility of usage for  
14 heating, building, paper, other uses. It also has high aesthetical value. Timber has a wide  
15 range of colours, characteristics and sentiments, and is usually associated with a homely,  
16 warm and relaxing sentiment. Forests bear ancient and modern, protective functions as  
17 defence against intruders, erosion control, providing access to water and space for recreation  
18 and outdoor activities (“friluftsliv”), hunting and extensive herding of cattle and reindeers.  
19 Recently, the importance of forests for global and local climate has been recognized. Forest  
20 management strategies have been refined and adapted to achieve economical viable mixes  
21 of forest products and ecosystem services. The choice between management strategies and  
22 production chains of processes and products can be a tricky one because of often conflicting  
23 interests of various stakeholders. Consequences have social impacts, environmental loads  
24 and aspects, as well as economic bearing. Decision makers should make decisions founded

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1 on the best possible background material, and good practice is to transparently document  
2 how and why they arrived at that particular decision.

3 To make these decisions more transparent and to provide a means of quantifying economic,  
4 environmental and social impacts of alternative forest-wood-chains (FWCs) and to make them  
5 comparable, an ex-ante sustainability impact assessment tool, called ToSIA (Tool for  
6 Sustainability Impact Assessment) was developed. In the most recent development, ToSIA  
7 analyses not only the sustainability of production processes in the Forest-Wood Chain (FWC),  
8 but also in processes interacting with the FWC like reindeer husbandry, in terms of social,  
9 economic and environmental sustainability indicators. The ToSIA concept has been  
10 developed in the EFORWOOD<sup>3</sup> project financed by the EU Framework Programme for R&D  
11 FP6. The NPP<sup>4</sup>-project “Northern ToSIA”<sup>5</sup> investigates options for improving the sustainable  
12 use of forest resources in selected regions of the Northern Periphery in Finland, Sweden,  
13 Scotland and Norway. The project applies the ToSIA tool in two real-world settings in the  
14 Northern Periphery:

- 15 • public organisations test the tool for regional development strategies, such as  
16 reindeer husbandry, forestry and nature conservation, bio-energy production, and
- 17 • companies using forest resources test the tool for their sustainability assessment and  
18 reporting routines, in settings such as an increase in the protection of forested land  
19 and its impacts on timber production and on the tourist industry.

20 The Northern ToSIA applications are developed with multi-stakeholder interactions utilising  
21 feedback from the end-users.

22 This concept is in the following concisely introduced by a description of the case study in  
23 Swedish Västerbotten: here Sami reindeer herding chain of Malå Sami village and local  
24 forest-wood-chains are assessed. First each on their own (status quo) and then in interaction  
25 with each other by adaptive management (adapted forest utilisation in terms of forest type  
26 and migration requirements).

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<sup>3</sup> [www.eforewood.org](http://www.eforewood.org)

<sup>4</sup> NPP = Northern Periphery Programme, [www.northernperiphery.eu](http://www.northernperiphery.eu)

<sup>5</sup> [www.northerntosia.org](http://www.northerntosia.org)

1 The Province of Västerbotten in Swedish Lapland is a region with vast forest lands. Municipal  
2 settlements, industries and power plants are concentrated along the coast line of the Gulf of  
3 Bothnia. Mining, farming, forestry and tourism are present and have at least partly competing  
4 and overlapping resource and landuse interests.

5 **Forestry** is a major employer in the region which holds a considerable share of the economic  
6 production and enables local employment to sustain the region (i.e. avoid migration of  
7 inhabitants to the coast or to Southern Sweden), while taking care of the sustainable use  
8 forest resources and timber production. Activities around forestry include silvicultural  
9 measures in the forest like planting, cleaning and ensuring the growth of regenerated, young  
10 and medium-aged forests, the supervision and protection of medium-aged to adult forests  
11 against natural biotic and abiotic hazards, harvesting operations in thinning and final cuts,  
12 including hauling and transport operations to the industry. These activities are either carried  
13 out by large private or state-owned companies like SCA and Sveaskog respectively,  
14 (particularly in the inland regions around Malå), or family owned forests and their associations  
15 (particularly in this case in the coastal regions around Skellefteå).

16 **Reindeer husbandry** is inseparable linked with the Sami population and management and  
17 migration of the herds between the summer herding grounds up inland and the winter herding  
18 areas at the coast. The Forest Sami village of Malå covers the region from Sorsele  
19 municipality (Fjällnäs) to Skellefteå and Robertsfors at the coast. Reindeer herding is  
20 characterised by an annual circle of eight seasons: winter, late winter, spring, early summer,  
21 summer, late summer, autumn and early winter. Each season is represented by an activity  
22 that might include migration to other areas. In principle, in spring calves are born in inland  
23 calving areas and after feeding, mating and autumn slaughter, the migration to winter lands  
24 close to the coast takes place. During late winter the migration is North West, back to calving  
25 and summer lands. Natural conditions as length and harshness of winter, availability of fodder  
26 (lichen), predators (particularly wolverines, eagles and wolves, also bears) as well as  
27 infrastructure (e.g. road kills) have a strong influence on the herds and number of surviving  
28 reindeers. Particularly calves are vulnerable to the above mentioned factors. Thus each of the  
29 eight seasons and their linked activities have special requirements to the forests: winter  
30 grounds should be old and open forests with high biodiversity and lots of lichen to provide

1 sufficient fodder also in harsh and long winters. In summer grounds, dense and young to  
2 medium forests are preferred, from the reindeer point of view, which provide enough shelter  
3 as the variation of close vegetation (hiding) and open land (wind blows mosquitoes away) for  
4 the newly-born calves and fodder after the winter hunger. As a result of this study, the  
5 benefits of employment provided by reindeer husbandry in the inland is higher than it is  
6 largely assumed and this does not show in the statistics as it is run as a family owned  
7 business. Reindeer husbandry is adding value to the region as a direct economic factor (ie  
8 business of production of reindeer meat) and as an indirect factor in tourism aspects of  
9 cultural heritage, which enabling sales of reindeer skins and Sami art objects and handicrafts.  
10 The interests of forestry and Sami reindeer herding often clash at present and in the past.  
11 This is mainly due to real differences in interests but also to uninformed disputes, which did  
12 not aim at finding possible interactions, synergies or a balance of necessary requirements for  
13 both interest groups. In order to create a common platform or theatre for the dialog between  
14 representatives for forestry and reindeer husbandry, with Northern ToSIA we are assessing  
15 the status quo (situation as it is now), as well as different scenarios which aim to combine the  
16 interests and find an alternative solution suitable for both, covering all three dimensions of  
17 economic, environmental and social sustainability. Further results are expected by the end of  
18 2011. The regional development dialogue between research, public administration, business  
19 sector and other stakeholders in analysing the possible future scenarios will contribute to  
20 efficient and sustainable management and utilization of resources in the Northern Europe.

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23 **Keywords:** Northern Periphery, ToSIA, Forest Wood Chains, sustainability impact  
24 assessment, Northern ToSIA, reindeer herding, decision support tool, regional development  
25 strategies

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