Forestry in the European Union Part of the Baltic Sea Region

14

Ingrid Karlsson
Uppsala University, Uppsala, Sweden

Sweden, Norway, Finland and Denmark

A History of Forestry

Soils in Sweden, Norway and Finland were shaped by the glaciers that receded only 10,000 years ago. This short geological history and the fact that the countries are located so far north in Europe are the reasons why land, which is not agricultural land, has a low productive capacity, with a predominance of coniferous forest and relatively slow vegetation growth. However, there is a considerable variation in climate due to the large north-south extent of the countries (from 55°N to 69°N). Forest land in Sweden and Finland in particular is characterised by a high abundance of lakes and wetland areas.

Sweden has about 22 million ha of forest land and Finland about 20 million ha. Denmark is small in comparison, with only 0.5 million ha forestry land. The trend for the standing volume of forest cubic metres is positive: in Sweden alone, the increment is close to 120 million forest cubic metres each year.

All Fenno-Scandinavian countries have a strong history of privately owned forest land. This started back in the 19th century, when industrialisation in England generated a demand for timber imports. Timber enterprises in England, France, the Netherlands, Norway and later also firms established in Sweden and Finland could buy the right to cut old timber wood (often 200-400 years old and very high quality for construction purposes) for low prices from private farmers who saw very little value in their forests.

By the beginning of 1900, most parts of southern and central Sweden were deforested and large parts of northern Sweden as well. Laws were then enforced to stop the buying of land and cutting without replanting. This led to the aggressive lumber companies moving east and south, to Finland, Russia and the Baltic states, where his-

Figure 14.1. Spruce forest. Photo: M. Gerentz. Source: SLU

tory partly repeated itself. In Russia, the cutting was not as successful as in Scandinavia and in the Baltic States. The transportation of timber to the coast was much more problematic in Russia, since many rivers had their outlets to the north, where harbours were clogged by ice for large parts of the year (Perlinge, 1992). Since that time, in Sweden and Finland, forests have been highly valued natural resource assets.

Access Rights

In Norway access rights are different depending on how far away the land is situated from the farmhouse. At a distance from the farmhouse there are no limitations on access, but public access is only permitted close to houses during times when the soil is frozen or has a snow cover. All mushrooms and berries except for the cloudberry (which is considered to have a very high economic value) are allowed to be picked by the public.

Sweden and Finland have more production forest than any other country in the Baltic Sea Region, but they also have a long tradition of general access to all forestry land. Thus, even if Table 13.2 in Chapter 13 does not reflect this fact, all forests are in reality multipurpose forests, since all people have the right to pick e.g. mushrooms, berries and flowers in forested areas. For this reason protected forests are not specified. Private owners cannot prevent the general public trespassing on their property and everyone also has the right to camp for one night on private property (outside the house areas). However, the public are not allowed to walk in growing crops and can be fined for littering. In Sweden the most recent Forestry Act was passed in 1994. It contains several multipurpose considerations and states that environmental values have the same status as meeting production goals.

The laws in Denmark are somewhat different. In Denmark there is free access to public forests (36% of all forests) and only limited access to private forests. Forest properties smaller than 5 ha are allowed to be closed entirely and the larger ones can only be accessed via roads and paths and only during daytime (Saastamoinen, 1999).

Production Forests

Sweden and Finland are today (2007) the most active countries in Europe in producing and trading forest products in Europe (Swedish Forest Industries, 2008). In a global perspective, Sweden and Finland are also the second and third largest overall exporters of paper, pulp and sawn timber (next to Canada). New developments are mainly found in fuelwood production, mainly in the manufacturing of wood pellets. Sweden is the world leader in wood pellet production and also in consumption. In 2005, Sweden used more than 1.6 million metric tons of wood pellets for heating and for the production of electricity. On the global scale too, there is a fast growing market demand for wood pellets (FAO, 2009).

Large companies own about 25% of forest land in Sweden (Swedish Forest Agency, 2009) and about 9% of forest land in Finland. In both Sweden and Finland

Figure 14.2. Planting of tree seedlings on clear-felled area. Photo: M. Gerentz. Source: SLU.

Figure 14.3. Land cover in the Baltic Sea region. Source: GRID/Arendal.

private owners are mainly farmers or small family enterprises. This means forestry is very important for rural employment and also for the rural identity. Most farms combine agricultural and forestry production. In Finland, the background to the high percentage of small forestry-dominated farms is very special. Many of the combined agriculture/forestry farms were created after 1945, when about 400,000 Finnish refugees came from Karelia after the war against the Soviet Union. The refugees were mainly small-scale farmers and were given land by the government in a forced land reform, as a way to solve the acute food shortage problem.

For both Sweden and Finland, a production goal ensures that the majority of forest land is used cost-effectively and with responsibility for efficient regeneration and productivity. However, equal weight is being given to ecological considerations. Safeguarding of biodiversity is for instance the responsibility of all landowners and is also protected through different special regulations and through creation of national reserves (Royal Swedish Academy of Agriculture and Forestry (KSLA), 2009).

In order to keep up with the recent developments concerning production and ecological considerations, education, training and information are needed. Many such programmes are carried out in Scandinavia. In recent years, more than 100,000 woodlot owners and other foresters have been reached by these programmes (Borealforest, 2009).

Sweden and Finland have signed and ratified about 25 different international conventions having impacts on forests and forestry, and they are also very often in the lead in terms of processes, especially concerning biodiversity and climate issues with implication for forestry.

The main stipulations of the current Swedish Forestry Act, in many ways similar to the Finnish, are:

- Mandatory reforestation after final felling (within three years in Sweden, within two to seven years, depending on regeneration methods and other relevant circumstances in Finland)
- A ban on the felling of young stands
- An obligation on forest owners to carry out preventive control of insect pests
- Special management regimes for valuable hardwood forests and upland forests
- A general duty of care for objects or sites of natural, historical or heritage value in the forests.

Regulations are controlled by the National Forest Authority through regular satellite imagery and fines can be levied on those not complying with the rules, which have legal status.

In Scandinavia, representatives from forestry, authorities, environmental and employees' organisations are also involved in the creation of forest certification systems on the same lines as the principles laid down by the Forest Stewardship Council (FSC). Sweden was the first country to work out a national standard approved by the FSC (Borealforest, 2009).

Estonia, Latvia and Lithuania

Forestry Cover After Soviet Occupation

All three of the Baltic states have a forest cover similar to that of the Scandinavian countries with a species composition mainly consisting of Scots pine, Norway spruce and birch, and comprising between 30-50% of land area (Estonia being the most forested, see Figure 13.3).

After World War II, all the Baltic states eventually became part of the Soviet Union, having been occupied first by Soviet Union, then by Germany, then by the Soviet Union again. Rural areas and their inhabitants were severely damaged by the war and by the occupation. More or less all educated people and people in leading positions, including the Jewish minority (during the German occupation), were reported to have been killed or deported for different reasons.

Of course these experiences resulted in forests and forest management that were completely different after World War II than before. Large areas of forests were damaged by warfare. People with knowledge about management of forests were no longer in place. In many cases Russian-speaking people, including those in the military forces, replaced the people who had been displaced or killed and all agricultural and forest land was nationalised. A period of planned economy with centralised decision-making started, with guidelines being set by the state. According to Lazdinis et al. (2009), the Soviet forestry of Lithuania was characterised by lack of economic incentives, entrepreneurship and managerial skills and top-down decision making.

Since 1990, all three Baltic countries have had a period of restitution of private forest land to its former owners, a privatisation process that is not yet finished. The average private forest holdings are quite small, in Lithuania somewhat less than 5 ha, and in comparison with those in the Scandinavian neighbouring countries are sub-optimal and difficult to manage, since essential forest operations are fragmentised.

In Estonia and Lithuania the Ministry of Environment is responsible for forestry affairs, while in Latvia the responsibility lies with the Ministry of Agriculture and Forestry.

Access Rights

The Baltic states have similar traditions to the Scandi navian countries concerning access rights to forests. Local people as well as tourists have free access to Baltic forests, including the right to pick berries, mushrooms and medicinal plants.

According to the Estonian Forest Act, camping in the forest as well as picking berries, mushrooms and other non-wood products in state, municipal and private forests without bound or mark is the right of every citizen.

Production Forests

State forest enterprises have been restructured and the number of staff has been sharply reduced. New knowledge and skills are needed in both private and state businesses. The ways in which forest resources are governed have been significantly modified – for instance, accountability in state forestry has become an important issue. This means for instance that annual reporting and auditing of accounts have become the norm. Illegal logging, which was quite a widespread practice in the beginning of the 1990s, has drastically declined. New state forest laws and forestry strategies are in place.

All three Baltic States joined the European Union in 2004, and this led to regulations on European and international levels concerning forestry having to be complied with in their national legislation. Export values of wood products, paper, furniture and assembled wooden constructions are on the increase, along with increasing imports of roundwood and sawn wood for further processing. The Baltic States can compete with Sweden and Finland in these industries, since wages are still much lower. Of the three Baltic countries, Latvia has most export income and is also the country in which the forest sector has the greatest importance, comprising 10-14% of GDP. Growing stock and protected areas have also increased in the past 10 years (1997-2007; Lazdinis et al., 2009).

Almost 4 million hectares of FSC-certified forest can be found in the Baltic Sates (UPM Forest AS, 2006)

Figure 14.4. Forest in Poland. Photo: Lars Rydén.

Southern Baltic Sea region

Germany

The total forested area in Germany was about 11 million ha in 2000 (see Table 13.1), about 31% of the total land area. Forests were of course destroyed and damaged during World War II and reforestation took place. Since then, forest area has increased by around 6%. Consumption of wood by the wood working industry exceeds the fellings inside Germany. Germany is also the fifth largest exporter of pulp, paper and sawn timber (after Canada, Sweden, Finland and Russia), which means that this country processes more wood than it produces within its borders. Thus, Germany imports large quantities of wood, both as raw materials for its industries and as processed wood products.

Large parts of German forest land are protected. Public access to the forests is restricted, but access through roads and paths is guaranteed by law and regulations.

Poland

Forests cover close to 30% of Poland's land area (see Figure 13.3) and coniferous forests, mainly Scots pine, dominate. Forest production does not contribute to export income to a great extent and although there is a slow trend towards increasing privately owned forest areas, the employment provided by the forest sector is shrinking. Protected forests constitute a large proportion of the state forest area, about 21% of the total forested area (Table 13.2).

Wood resources in Poland have been growing for the past 20 years, for instance in 2006 the harvested volume made up 56% of the growth (MoE Poland, 2009).

In comparison to the post-Soviet countries, changes in forest ownership were not as drastic in Poland. The large and medium-sized private forest estates were nationalised after World War II but small forest plots remained private. Those private plots were mainly located in the south. Private forest land currently constitutes about 17% of the total forest land and generally has lower quality than the state-owned forest. The total number of private forest holdings (owned by individuals) is 900,000 and the average size of these private forest plots is only 1.43 ha (MoE Poland, 2009). However, this is due in part to Polish tax policies: forest land has lower tax than agricultural land, so some agricultural land is allowed to naturally regenerate into forests, a rather slow process. Private owners did not have the right to manage their own forest land during the communist times and only recently received this right.

One other reason for the poor condition of the private forests may be that there has been very little or no possibilities for education and training of private forest owners. In contrast, the state forest sector has been reasonably well-managed by professionals with high standards.

The state plans to increase private forest land areas from today's 17% to 23% by 2015. Some agricultural co-operatives, which have not been cultivated for years, are also expected to be converted to forests through natural succession. These lands may be privatised, too.

In south-west Poland, the health of the forests is rather poor due to industrial and other pollution, while in north-east Poland the forests are in better health. Nitrogen deposition is generally higher in central Europe than in the north. Sulphur deposition is still too high, so soils have become more acidic in Central Europe. Pollutant deposition has dropped, but crown condition surveys indicate vulnerability (UNECE and FAO, 2007). The deterioration of tree health is more often seen in spruce trees. When there are high N levels in soil and water, trees may become more susceptible to pathogenic fungi, insects, frost and collapse under wind or snow (MoE Poland, 2009).

Since 2004, 80% government subsidies with support from the European Union are available for farmland afforestation. These subsidies not only apply for replanting but also for tree maintenance for the first five years, along with an afforestation premium to compensate for the loss of income from farming (MoE Poland, 2009).

Czech and Slovak Republics

A third of the land area of the Czech Republic is covered by semi-natural and production forests (Figure 13.3). Most of this, about 60%, is managed by the state and the remainder belongs to municipalities and regions (15%), forest co-operatives (1%), and private owners (23%). Protected areas have expanded to a great degree recently.

Article 19 of the Forest Act of 1995 states that individuals are entitled to enter forests at their own risk to collect any forest berries and dry waste wood for their own needs, but they may not damage the forest or interfere with the forest environment. Instructions of the owner or tenant and the staff of the forest must be followed. The regulation is interpreted as being valid for picking mushrooms too.

Norberg, P., Nilsson, A., Westfjord, P., Malmquist, Y. and Rydén, L. 2000. Shipping – boats, harbours and people. In: Lundin, L-C. River Basin Management. Sustainable Water Management, Volume III. pp. 243. Uppsala: Baltic University Press.

Rydén, L., Brinkman, I. and Malmquist, YB. 2000. *Water regulation and water infrastructure*. In: Lundin, L-C. (Ed.) River Basin Management. Sustainable Water Management, Volume III. pp. 243. Uppsala: Baltic University Press.

Rydén, L., Migula, P. and Andersson, M. (Editors). 2003. *Environmental Science – understanding, protecting, and managing the environment in the Baltic Sea region*. pp. 823. Uppsala: Baltic University Press.

Chapter 13

Baltic 21. 2005. *Action plan for the Baltic 21 forest sector 2005-2008*. Baltic 21 Publication Series 1/2005. http://www.baltic21.org/?sasp,6#action (retrieved 20120917).

European Forest Institute (EFI). 2009. *Report of the Mid-term evaluation of the implementation of the EU Forest Action Plan*. Service Contract No. 30-CE-0227729/00-59. Joensuu, Finland. http://ec.europa.eu/agriculture/eval/reports/euforest/synthetic_sum_en.pdf (retrieved 20120917)

Diamond, J. 2005. *Collapse – How societies choose to fail or to succeed*, Viking Penguin, USA.

Food and Agricultural Organisation (FAO). 2005. *Global forest resources assessment 2005. Progress towards sustainable forest management*. FAO Forestry Paper 147. ftp://ftp.fao.org/docrep/fao/008/A0400E/A0400E00.pdf (retrieved 20120917)

Food and Agricultural Organisation (FAO). 2009. *State of the World's forests 2009*. FAO, Rome.

Forest.fi. 2009. *Finnish forests owned by Finns*. http://www.forest.fi/smyforest/foresteng.nsf/allbyid/438DBC6361C9EB75C2256F34004154D8?Opendocument (retrieved 20120917)

Forest.fi. 2006. Forest sector produces and employs. http://www.forest.fi/smyforest/foresteng.nsf/allbyid/197B4F3FC67881E2C225783300415716?OpenDocument (retrieved 20120917)

Grober, U. 1990. *Deep roots: a brief conceptual history of sustainable development* – nachhaltigkeit http://skylla.wzb.eu/pdf/2007/p07-002.pdf (retrieved 20120917)

Lazdinis, M., Carver, A.D., Lazdinis, I. and Paulikas, V.K. 2009. From union to union: forest governance in a post-Soviet political system. In. *Env. Sci. & Policy 12 (2009),* pp. 309-320.

The Ministerial Conference on the Protection of Forests (MCPFE). 2010. *The MCPFE press kit*. http://5th.mcpfe.org/foresteurope.org/filestore/foresteurope/Press_material/FOREST_EUROPE_Press_Kit.pdf (retrieved 20120917)

Olmos et al. 1999. Non-wood forest products: utililzation and income generation in the Czech Republic, Finland and Lithuania. In: Dembner, S.A. and Perlis, A. *Non-wood forest products and income generation*. Unasylva – No. 198. FAO Corporate Document Repository. www.fao.org/DOCREP/X2450E/x2450e07.htm (retrieved 20120917)

Paul, K.I., Polglase, P.J., Nyakuengama, J.G. and Khanna, P.K. 2002. Changes in soil carbon following afforestation. In: *Forest Ecology and Management* 168:241-257.

United Nations (UN). 2007. *Non-legally binding instrument on all types of forests adopted by the UN General Assembly on 22 October 2007*. http://www.un.org/esa/forests/pdf/ERes2007_40E.pdf (retrieved 20120917)

United Nations Economic Commission for Europe (UNECE) and Food and Agricultural Organization of the UN (FAO). 2007. *State of Europe's forests 2007. The MCPFE report on sustainable forest management in Europe*. http://timber.unece.org/fileadmin/DAM/publications/State_of_europes_forests_2007.pdf (retrieved 20120917)

United Nations REDD Programme, http://www.un-redd.org (retrieved 20120917)

Chapter 14

Borealforest. 2009. *Management & Sustainability – Scandinavia*. www.borealforest.org/world/scan_mgmt.htm (retrieved 20120917)

Food and Agricultural Organisation (FAO). 2009. *State of the World's forests 2009*. FAO, Rome.

Lazdinis, M., Carver, A.D., Lazdinis, I. and Paulikas, V.K. 2009. From union to union: forest governance in a post-Soviet political system. In. *Env. Sci. & Policy 12 (2009),* pp. 309-320.

Ministry of Environment (MoE), Poland. 2009. *Fourth national report on the implementation of the Convention on Biological Diversity*. Warsaw, Poland. http://www.cbd.int/doc/world/pl/pl-nr-04-p1-en.pdf (retrieved 20120917)

Perlinge, A. (ed.). 1992. *Skogsbrukets tekniska utveckling under 100 år*. Stockholm: Nordiska museets förlag 119 pp (in Swedish)

Royal Swedish Academy of Agriculture and Forestry (KSLA). 2009. *The Swedish forestry model*. 15 pp. Stockholm

Saastamoinen, O. 1999. Forest policies, access rights and non-wood forest products in northern Europe. In: Dembner, S.A. and Perlis, A. *Non-wood forest products and income generation*. Unasylva – No. 198 . FAO Corporate Document Repository http://www.fao.org/DOCREP/X2450E/x2450e06.htm (retrieved 20120917)

The Swedish Forest Agency, 2009.

The Swedish Forest Industries. 2008. *The Swedish forest industries. Fact and figures 2008*.

UPM Forest AS. 2006. *Baltic states. Strict government regulation allows traceability of all timber*.

United Nations Economic Commission for Europe (UNECE) and Food and Agricultural Organization of the UN (FAO). 2007. *State of Europe's forests 2007. The MCPFE report on sustainable forest management in Europe*. Warsaw.

Chapter 15

Angelstam, P., Kapylova, E., Korn, H., Lazdinis, M., Sayer, J.A., Teplyakov, V. and Törnblom, J. 2005. Changing forest values in Europe. In: Sayer, J.A. and Maginnis, S. (eds.), *Forests in land-*