

Future of the Finnish forest sector: Implications to small-scale forestry and forest owners' associations

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Abstract

Futures research was introduced in Finland in 2003 as a new instrument to identify challenges and opportunities facing the forest sector in the next 10–20 years, and to identify the necessary political decision making for the viability of the sector also in the future. Futures analyses were carried out in five working groups: forest industry, forest technology, silviculture, social sustainability and environment.

Results indicate that the forest sector in Finland will face severe challenges during the next decades due to globalization, constant increase in society's demands for sustainable development, and aging of the baby-boom generation. Almost without doubt, globalization will increase the movement of investments of Finnish-based forest industries to countries with better comparative advantage – in Asia, South-America, and Russia. Increasing demands for sustainable development will challenge the wood production traditions in forestry, potentially decreasing the supply of wood for the forest industries, but also providing new opportunities for forestry and forest owners. The aging population will increase the pressure for the state to decrease publicly funded services for forestry.

The paper presents results of the mentioned futures analyses and discusses the implications of these results to small-scale forestry and to private forest owners' associations in Finland. Two futures scenarios are presented to illustrate the necessity to maintain the global competitiveness of the Finnish forest industries, and at the same, invest in finding new ways to use wood and forests.

Keywords: Forest sector, foresight, globalization, innovations, non-industrial forestry

1. FUTURES RESEARCH IN THE FINNISH FOREST SECTOR

In futures research, a shift of emphasize has occurred from predictive approaches to exploratory studies (e.g. Mannermaa 1999, Godet 2001). In predictive approaches, it is assumed that the future development can be predicted on the basis of the past. In reality this is seldom the case especially if the prediction is made far to the future. The predictions of statistical analyses, for example, have often failed, especially if large shifts in social or technological development have occurred during the period of prediction.

The exploratory approach to futures research emphasize that the results of the futures studies are not predictions but alternatives that have a probability higher than zero to actually happen. Remarkably rise of the exploratory approach in futures studies occurred in the 1970s when the oil crisis, among other occasions, raised questions on the usefulness of forecasting in unstable and unpredictable economic and social environment. Since then, the exploratory approaches have been increasingly used in futures research (Mannermaa 1999).

Another shift in the futures research occurred in the 1990s when decision makers started to take part on the futures studies more than earlier. In modern futures research (Bell 2000, European Commission 2002, Mannermaa 1999) the inclusion of decision makers into the futures studies is emphasized.

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In the forest sector in Finland, research to support long-term planning has traditionally been based on statistical analyses. For example, assessment of the future consumption of wood products, like printing paper or coniferous sawn wood, has based often on the predictions of income – measured with gross domestic production, GDP – changes over time. It has been assumed that an increase in income results into higher consumption of wood products (for example Kangas and Baudin 2003), though the wood products consumption may even decline with the increase in income. This has happened in the USA, for example, where the consumption of newsprint paper has declined despite the increase in GDP (Hetemäki and Nilsson 2005).

One problem with predictive studies to support decision making is that they may not capture unexpected changes or breaking continuities in development. Another problem is that predictions based on the analyses of historical data cannot, by definition, be used for analyzing alternatives to existing production or services. This may lead to restricted thinking in looking future opportunities.

To look future development challenges and opportunities for the Finnish forest sector, the Ministry of Agriculture and Forestry of Finland initiated under the National Forest Program (Finland's National ... 1999) a futures work that was called "Future forum on forests". The aim of the work was to foresee the changes affecting the Finnish forest sector in 10-20 years time.

To involve decision makers for this futures work, the forum invited high-level experts from forest-based industries, research, education as well as forest sector administration. The participation was based on personnel expertise and skills, and over 70 experts from different organizations took part in the futures forum work and networks (Fig. 1).

In the futures analysis, the futures forum utilized scenario techniques, systems dynamics, simulations techniques and trend extrapolations. Main results of the futures analyses are published in Niskanen (2006), Kolström and Hastela (2005), Kellomäki and Laukkanen (2005), Kärkkäinen (2005), Koivula and Saastamoinen (2005), Saastamoinen et al. (2006) and Jaakko Pöyry

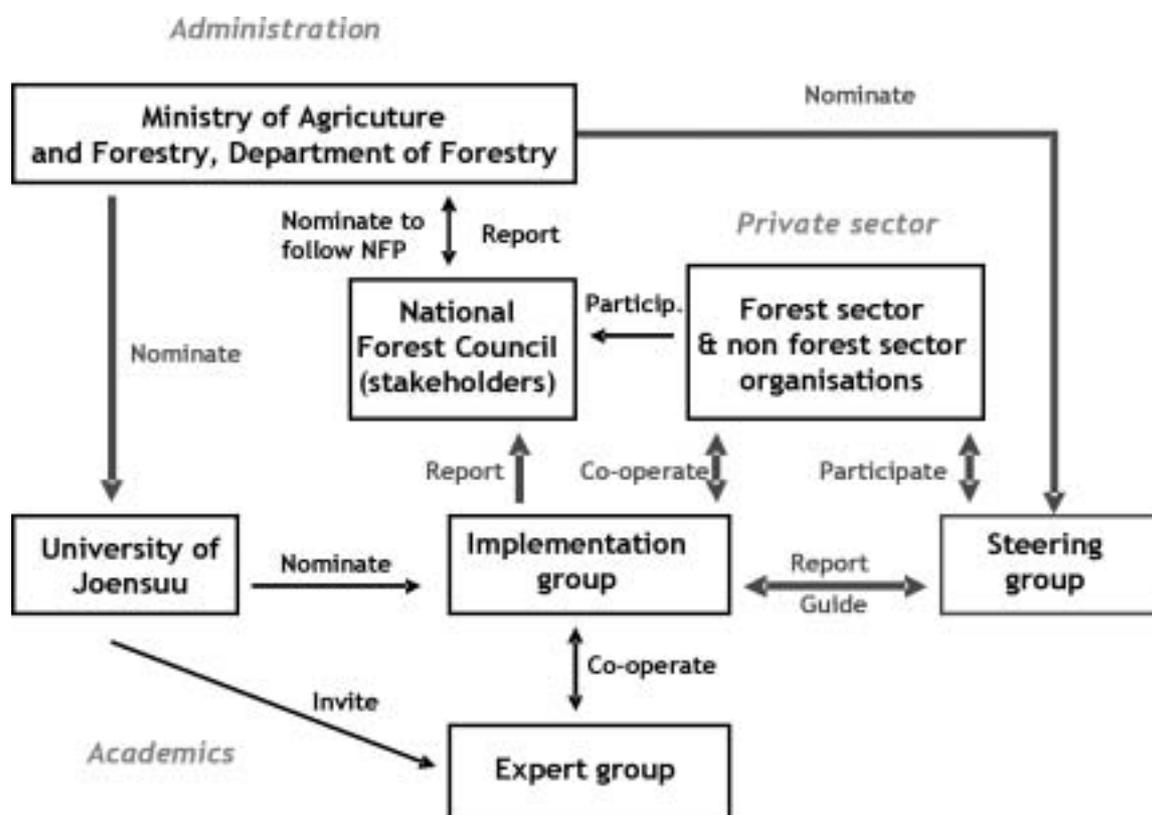


Figure 1. The organization of the future forum on forests of Finland.

Management Consulting (2004). This article provides summary and main findings of these futures studies with respect to three major driving forces for forest sector development in the future: ageing of population, globalization and increasing demands for sustainable development.

2. DRIVING FORCES FOR THE FUTURES CHANGE

2.1. Ageing of population

Total labor force (age 15-64) in Finland started to decline in 2005. The decline is estimated to fasten in the 2010s due to low birth rate and modest immigration of foreign citizens in comparison to the number people retiring. By the end of 2010s, the total labor force is estimated to be 150 000 - 200 000 employees (or 5-7%) smaller than in 2005 (Fig. 2).

The result of ageing will be severe throughout the Finnish society. Firstly, the availability of employees for manufacturing and services may decline. In private forestry, the shortage of labor may be especially severe as labor availability in silviculture, wood harvesting and timber

procurement is already limited and the number of graduated forest workers is constantly lower than the demand for new labor.

It has been estimated that by 2020, the demand for full-time employees in forestry would be 700-1600 higher than their supply. If the use of wood for energy will develop equally well as between 2000 and 2005, the demand for forestry workers could be even 3000 full-time employees higher than their supply by 2020 (Jaakko Pöyry Management Consulting 2004).

As the self-employment of forest owners is likely to decline during the same period, it is uncertain how private forests could be managed in the future. The number private enterprises providing services for forest owners and forest owners associations is likely to increase.

Secondly, due to growing costs in social security for elder people and decreasing amount of tax payers to support these social costs in the future, the government of Finland may face a problem of severe budget deficit already by 2010. In principle the government could raise taxes to compensate the increasing costs in social security. To succeed in international tax competition and to



Figure 2. Estimated number of employment and employees in Finland 1900-2050 (Ministry of Labor 2003).

attract high quality employees and growing businesses to Finland, this option is not however likely. Instead, the government can look for savings in public expenditures, including those paid for forestry as subsidies for silviculture, maintenance and administration. In March 2006, the government of Finland decided to reduce subsidies for private forestry by 15% for the period of 2008-2011.

Thirdly, the ageing of population is likely to lead for further decline in rural infrastructure (roads, information networks, services), as a large proportion of old people move from rural areas. For forestry, this could mean problems in timber transportation as the road network on large uninhabited rural areas may not be properly maintained.

Along the general trend that the population in Finland is rapidly ageing, also the private forest owners get older. It is possible that after 10-20 years, a large proportion of private forests are inherited by the heirs of current forest owners (Karppinen et al. 2002). These new forest owners are more seldom born in the countryside compared to the current forest owners. If the objectives of the new forest owners are less oriented to wood production, this could decrease the wood supply from the private forests in the future. Equally, it would mean a big challenge to the forest owners associations which still provide services to forest owners related to wood production and timber sales alone.

2.2. Globalization

Globalization is a threat to existing forest industries in Finland especially if the majority of new investments are constantly made abroad. With investments the latest technology, the skills to operate with this technology and the industrial competitiveness accumulates elsewhere. If, as a result of this change in the production, also the investments on technological research and development (R&D) decrease, this could break the superior competitiveness of forest industries in Finland in the long run.

For the forest sector in Finland, the threat of globalization is born from the concern that no new

green field investments in pulp-, paper- or board production are made in the country since 1998. Instead, the large-scale Finnish based forest industry companies have made investments in countries where the consumption of wood-based products grows fast (like China) or where the availability of wood from fast-growing plantations is increasing (like Uruguay and Brazil). Russia and Eastern European countries have been interesting for mechanical forest industries; especially in terms of new sawmill investments.

The growth in wood products consumption has rather well followed the increase in income, measured with annual change in GDP. Therefore, it is logical that those markets where the GDP growth is highest (Fig. 3) attract forest industry investments.

In countries where GDP growth is low, like in most of the Western European countries and the costs of production and raw material are high, like in Finland, the strategies to succeed in forest industries can base on capital intensive or diversified production. In capital intensive strategy, the costs of labor or raw material are compensated with the benefits from scale production, like has happened in pulp- and paper production in Finland. In diversified production strategy, the products are better in quality, they are more specialized (and produced in smaller quantities) or they are marketed only for certain segments of customers. It is also possible to apply both economics of scale and diversified production strategies at the same time.

The opportunity of globalization to forest sector in Finland is born from the decision on what products are produced in Finland in comparison to what are produced in other countries like in China, Brazil, Uruguay or Russia. The products where Finland can have competitive advantage, and where globalization can even enlarge the existing markets in the future, include high-quality writing and printing papers, mechanical pulp, high-quality lumber, high-quality veneer sheets and products made on these sheets. In other products the Finnish based companies can grow their production elsewhere, and if their R&D investments are still made in Finland, develop the latest production technologies and machinery there.

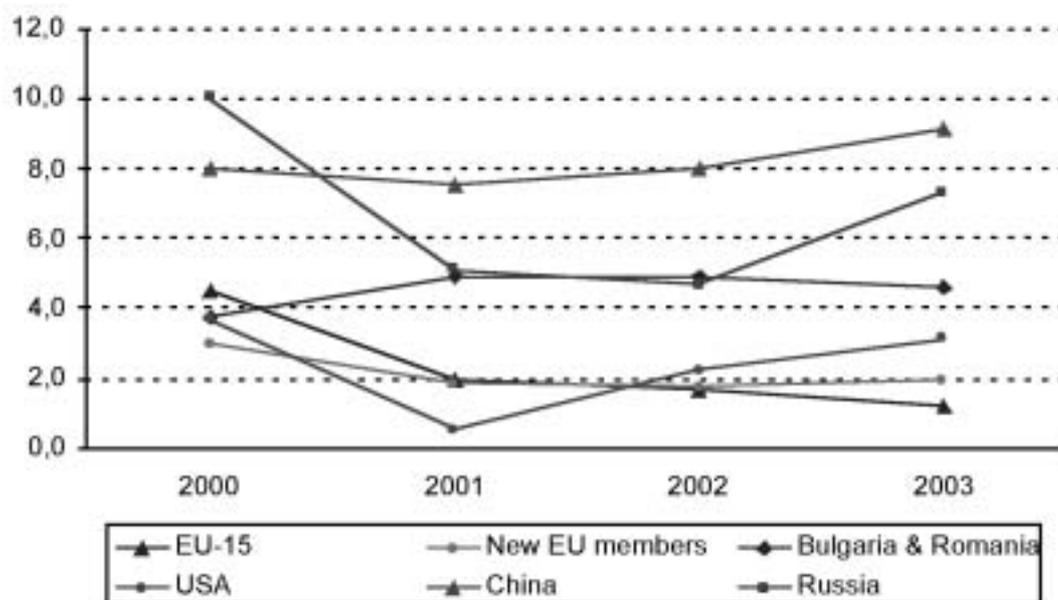


Figure 3. Annual gross domestic production growth rate 2000-2003 (Statistics Finland 2005).

All changes in the profile and success of forest industries have immediate impacts on the demand of roundwood from private forests for industrial processes. In the summer 2005, for example, all of the approximately 60 pulp-, paper-, and paperboard factories in Finland were closed for almost three months. Due to this, the net income of forestry dropped from approximately 100-105 Euro/ha/a in 2000-2004 to 86 Euro/ha/a in 2005. For Finnish private forest owners this meant approximately 210 million Euro losses in forestry income.

2.3. Demand for sustainable development

In the future, it is likely that society's need for forests in energy production and as a source of fibre and wood for 'green' manufacturing is greater than today. This would be the case especially if the role of bio-materials (materials made of renewable sources, such as wood) would increase and that of minerals and fossil fuels decrease in energy production and manufacturing. Increasing price of oil, policies developed to mitigate the impacts of global warming and increasing demand for sustainable development could be the driving forces for the change towards the higher use of bio-materials.

Forests can be one of the main sources of bio-materials particularly in energy production. Forest based fibres, on the other hand, can be applied in new composite materials in addition to their traditional uses in forest industries. It is possible, that wood as well as other bio-materials are chemically processed in bio-refineries with an aim to produce not only traditional pulp- and paper products, but also bio-fuels, bio-chemicals and energy in the future.

In the future, forests are increasingly important also for landscape, recreation and amenity for the well-being of modern urbanized society. Great majority of citizens live in towns or in suburbs already today. For them, forests form an important element in well being and physical health. This dimension covers a broad scale from recreational values to oxygen production and fresh water protection, but also to production of health and food related products.

It is likely that in the future, global warming is a more concrete and serious problem than what it is today. For this reason, the forest growth for binding carbon can be more common than today. The life cycle of the forest-based products can be developed for carbon sequestration in such a way, which supports bio-based energy production by substituting oil, carbon or other fossil fuels. This

means that in the future many wood-based products can be first cycled and when recycling is no longer sensible, these materials are used for energy production.

Global warming will affect on many aspects of life, determining climate and atmospheric inputs to ecosystems. In turn, these changes can affect the fundamental necessities for human existence such as biosphere ecosystem health and water. Natural catastrophes such as storms and floods may increase (Kellomäki and Laukkanen 2005). Knowledge on the interactions between biosphere climate and global warming could help to control the changes and to adapt on them. Forests, which are among the dominant biosphere components can be used to sustain and balance the coming changes. Forest interact with climate, they sustain the nutrient cycles, use CO₂ to store carbon and affect to the living surroundings by absorbing noises and dust on habituated areas.

On the basis of increasing recognition for sustainable development, many new opportunities for livelihoods on wood and forests can develop. For example, wood chemistry may provide new opportunities to use wood as fuel (bio-diesel or ethanol) or as health products in food industries (xylitol, benecol, lignan etc.). The role of forests for recreation, tourism and landscape is also likely to increase in the future, bringing new opportunities to forest owners, though the problem on how to internalize the benefits that forest provide to the various users of the forests is not solved yet.

Initially it may appear that the tightening demands for higher sustainability could be a threat for the Finnish private forest owners due to increasing restriction on forest use (for timber growing). Looking differently, sustainability could also provide a fundamentally important way to promote for the use of wood-based products in various purposes like construction, communication and energy, and therefore provide new opportunities for the use of wood and forests. The opportunities that the demand for higher sustainability can bring have been recognized for example in the so called Forest-based sector technology platform initiative. The initiative strongly emphasizes the competitive advantages of

wood over non-renewable materials (Forest-based sector... 2005).

3. TWO SCENARIOS FOR THE FUTURE

3.1. Development opportunities

Two scenarios to illustrate the opportunities of the future to the forest sector in Finland were drafted utilizing the conclusions from the main drivers for future development. The first scenario (below) emphasizes further investments on technology to maintain the competitiveness of existing forest industries in the long run. The second scenario illustrates the growing opportunities that forests provide outside the traditional forest sector. Both scenarios are based on the assumption that an intensive use of forests is an important objective for Finland, where more than three quarters of the land area is covered with forests.

Both scenarios call for great attention on R&D in order to maintain forest sector competitiveness and to develop new opportunities. It is important, in particular, to find enterprises that can use the accumulated knowledge on wood and forests for developing existing and creating new businesses.

3.2. Scenario 1: Forest industries have maintained global competitiveness

In 2020, Finland is still the leading forest industrial country in the world. The increase in production efficiency and greater value added to forest industry products were the key to compensate the disadvantages of high labor and timber costs. Mechanization of plantation establishment work and tending of young forests, on the other hand, were used to partially substitute manual work in forestry. With the increased use of private entrepreneurs, the administrative costs in forestry were reduced. In forest industries, process innovations gradually resulted to efficiency improvements, even in comparison to the most modern processes and machines abroad.

Improved efficiency in the forestry-wood chain helped to maintain the global competitiveness in the traditional forest sector. Despite the globally

declining wood products prices, return on invested capital in forest industries remained acceptable in international standards. Pulp-, paper-, board-, veneer- and sawn wood production form still the core of forest industries in Finland.

Private forests were actively used and managed for sustainable forestry and high timber production. Forest owners associations were able to serve different forest owners in a way that they became interested in wood production aside the environmental and recreational motives on forest use.

The technological development, which was of high importance to achieve this scenario, was possible because of the technology programs jointly initiated by the industry, National Technology Agency of Finland (TEKES), and different ministries at the early 2010s. Trust and willingness to keep the forest sector viable in Finland were the political motives behind investing on these programs.

3.3. Scenario 2: New ways to use wood and forests evolved

By 2020, the aims for sustainable development and increased environmental consciousness in the society created an attractive environment for research on new ways to use wood and forests in Finland. This research was followed by several development programs, which also contributed to the birth of new businesses on forests and wood.

One fundamental element in the success of these new industries in Finland was the availability of high-risk capital for new investments. By 2030 these new businesses grew especially in the fields of wood for edible and health products, green fuels and recreational and nature protection services.

The change in the ownership structure of private forest owners at the 2020s helped to create new business opportunities on wood and forests. With less restricted mind on pure timber economy, forest owners accepted new innovative ways to use their forests for different tests and trials. Forest owners associations were able to guide and advice forest owners in finding new opportunities for the use of their forests.

4. DISCUSSION

As the two scenarios above illustrate, despite the threats of globalization and aging of population, the forest sector in Finland has still good changes to succeed long to the future. The success may not continue, however, if decisions on active development of the sector in Finland are not made.

In the short- or medium term it is important to maintain the cost-competitiveness of the traditional forest sector. The aim should be to improve cost efficiency and value-added in pulp-, paper-, board, sawn wood- and veneer production as well as in forestry. This is possible only if the technological advantage of these industries is maintained.

Technological development in the traditional forest sector can be based on the born of process or product innovations. Examples of process innovations are the improvements in energy efficiency, pulping and paper making, improvement in the quality and durability of printing paper and higher power of absorption in tissue papers. Examples of potential product innovation include the development of so called wood-based intelligent packaging materials that contain electronic information for wide array of applications, as well as financial means to compensate carbon sequestration or voluntary nature protection to forest owners.

In the long run, it is necessary that the forest sector contribution to the welfare development and livelihood is searched also outside from the traditional forest sector. New livelihoods can develop especially in energy production, wood chemistry, tourism, environmental consulting or even in textile industries. With increasing knowledge on wood properties, the opportunities to utilize renewable forest resources are almost limitless.

Traditional forest industries concentrate on their core businesses. To create new production, one needs new entrepreneurship to realize the many opportunities that forests and wood provide. To support evolving entrepreneurship, risk capital is needed especially for product development and marketing.

The new opportunities that forests and wood can provide need to be considered more seriously the longer into the future we are looking at. This long term view may be limited because of the so called 'curse of a winner' (Hämäläinen and Heiskala 2004) visible in the forest sector (Hellström and Niskanen 2005). Though the need for coming changes is obvious, the forest sector appears paralyzed to implement necessary structural changes. We may look reasons for this from the history.

Forest sector has had strong position in the Finnish economy and society since the late 19th century. During the 20th century, forest sector development was accelerated by series of government decisions. One decision concerned the regular devaluation of Finnish currency (Finnish Markka) to improve the competitiveness of export oriented forest industries. The latest devaluation occurred as late as early 1990s. In forestry, government subsidies were used to support private investments for higher wood yield and growing stock. In principle, this support aimed to secure wood supply for forest industries, and it affected much the management of private and state forests in Finland since the 1960s (ditching, forest road building, reforestation of unproductive sites etc.).

Government support for the forest sector, together with strong forestry values in the society and deep societal networks with decision makers, build up high social capital for the forest sector. It may be that particularly because of the high social capital, forest sector development has been so strong in Finland. A threat is, however, that the high social capital turns into the 'course of a winner', where the success from the past leads to incapability to renew production, administration, research and extension structures according to the needs of the future (Hellström and Niskanen 2005).

To avoid the 'course of a winner' the suggested two-objective future strategy in this paper should be considered. In the short run, the main emphasize in forest sector policies could stay in further developing the (efficiency) of the current forest sector operations and production. The further to the future we go, however, the more emphasize should be put on the new uses of wood and forests for livelihood and welfare.

For private forest owners this two-objective future strategy could provide more opportunities for forest management, even from the economic point of view. Though timber production most likely would remain the main economic motive of forestry for most of the forest owners, some forest owners could prefer more diversified forest management strategies for non-timber – but still economic – uses of their forests. A major challenge in the future is to redefine the work in forest owners associations, to move the focus from timber production services towards the management of forests for multiple purposes.

REFERENCES

- Bell, W. 2000. Foundations of futures studies: History, purposes and knowledge. Transaction Publishers. New Brunswick, London. Vol. I. 317 p.
- Finland's National Forest Programme 2010. 1999. Ministry of Agriculture and Forestry. Publications 2/1999. 40 p.
- Forest-based sector technology platform. 2005. <http://www.forestplatform.org/>
- Godet, M. 2001. Creating futures: Scenario planning as a strategic management tool. Economica. London, Paris, Geneve. 265 p.
- European Commission. 2002. Practical guide to regional foresight in the United Kingdom. Directorate General for Research. 211 p.
- Hellström, E. and Niskanen, A. 2005. Suomen metsäsektori kärsii kyvyttömyydestä uudistua. Helsingin Sanomat. 27th May, 2005.
- Hetemäki, L. and Nilsson, S. (eds.). 2005. Information technology and the forest sector. IUFRO World Series. Volume 18. 235 p.
- Information Technology and the Forest Sector. IUFRO World Series, to be published August 2005.
- Hyttinen, P., Niskanen, A., Ottitsch, A., Tykkyläinen, M. and Väyrynen, J. 2002. Forest related perspectives for regional development in Europe. EFI Research Report 13. Brill: Leiden, Boston, Köln. 129 p.

- Hämäläinen, T.J. and Heiskala, R. 2004. Sosiaaliset innovaatiot ja yhteiskunnan uudistuminen. Edita. 171 p.
- Jaakko Pöyry Management Consulting. 2004. Työvoiman saatavuus metsätaloudessa 2020. <http://www.metsafoorumi.fi>
- Kangas, K. and Baudin, A. 2003. Modelling and projections of forest products demand, supply and trade in Europe. UNECE. Geneva Timber and Forest Discussion Paper 30. 193 p.
- Karppinen, H., Hänninen, H. ja Ripatti, P. 2002. Suomalainen metsänomistaja 2000. Metsäntutkimuslaitoksen tiedonantoja 852. 84 p.
- Kellomäki, S. and Leinonen, S. 2005. Ekologinen kestävyys, ympäristönmuutos ja metsätalous. Metsäalan tulevaisuusfoorumin ympäristöryhmän loppuraportti. Metsänhoidon ja metsäteknologian yhdistetty työryhmä. Joensuun yliopisto, metsätieteellinen tiedekunta. Tiedonantoja 164. 71 s.
- Koivula, E. ja Saastamoinen O. (ed.) 2005. Näkökulmia luontomatkailuun ja sen tulevaisuuteen. Metsäalan tulevaisuusfoorumin sosiaalisen kestävyden työryhmän raportti. Joensuun yliopisto, metsätieteellinen tiedekunta. Tiedonantoja 165. 80 p.
- Kolström, T. and Harstela, P. (ed.). 2005. Puuntuotannon ja –korjuun tulevaisuus. Metsäalan tulevaisuusfoorumi – työryhmäraportti. Metsänhoidon ja metsäteknologian yhdistetty työryhmä. Joensuun yliopisto, metsätieteellinen tiedekunta. Tiedonantoja 161. 97 s.
- Kärkkäinen, M. 2005. Maailman metsäteollisuus. Metsä kustannus. 355 p.
- Mannermaa, M. 1999. Tulevaisuuden hallinta: Skenaariot strategiatyöskentelyssä. Ekonomia. Werner Södeström osakeyhtiö. Porvoo, Helsinki, Juva. 223 p.
- Ministry of Labor. 2003. Työvoima 2020 loppuraportti.
- Niskanen, A. (ed.). 2005. Menestyvä metsäala ja tulevaisuuden haasteet. Metsälehti kustannus. 118 p.
- Saastamoinen, O., Donner-Amnell, J. and Rantala, T. (eds.) 2006. Näkökulmia sosiaaliseen kestävyteen ja sen tulevaisuuteen. Joensuun yliopisto, metsätieteellinen tiedekunta. Tiedonantoja 168. 139 p.
- Statistics Finland. 2005. <http://www.tilastokeskus.fi/>

Barriers to entrepreneurship in small-scale wood and non-wood production in Europe

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ABSTRACT

The aim of the paper is to outline some of the key research findings of COST Action E30 on forest sector entrepreneurship in Europe. Especially, the paper will focus on the barriers for entrepreneurship and problems for enterprise development in small-scale wood and non-wood production in Europe. The paper is based on country reports from 20 European countries, focusing on these same questions.

The paper concludes that the major barriers for entrepreneurship in small-scale wood and non-wood production include the lack of entrepreneurial thinking and market orientation in the management of private forest holdings. A large proportion of forest owners aim to gain recreational, environmental and aesthetic benefits from their forests rather than economic welfare. This is antagonistic to traditional production forestry and challenges the work in those forest owners' co-operatives and associations focusing on wood production services alone.

The main problems for enterprise development include poor access to especially international markets, poor understanding of consumer preferences and demand as well as difficulties to internalize the many public goods and services that forests provide. Markets for many non-wood goods and services could be found primarily in or near towns and cities, but these markets remain unknown to most of the forest owners.

Assumed increase in demand for more nature-based goods and green services could support the development of enterprises in small-scale wood and non-wood production in Europe. Critical will

be the understanding of the demand characteristics to gain access to the markets.

Keywords: urban, rural, small-scale forestry, economic, entrepreneurship, development

1. DRIVING FORCES FOR ENTREPRENEURSHIP IN RURAL EUROPE

Due to constantly diminishing prospects for viable agriculture in Europe, many rural areas have faced economic and socio-economic down-turns during the last two to three decades. Lack of supplementing sources of livelihood in these areas has resulted to increasing unemployment and emigration. Though some rural areas have been able to overcome the structural changes in agriculture and succeeded in developing new and viable sources of livelihood in services and manufacturing, more numerous areas have not. Especially many remote rural areas in Europe are not economically viable as today.

Despite some advantages of rural areas, like lower land price, attractive environment for living and housing, and sometimes lower labour costs, the prospects for economic development are generally better in urban or semi-urban areas. Though exceptions exist, like in recreational activities, which have to take place on a certain spot or an area, the disadvantage of especially remote rural areas to most economic activities is clear.

Economic development in Europe has recently been rather moderate. The Gross Domestic Production (GDP) growth, for example, has been round one or two percent at the early 2000 in most

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Western European countries (UNECE 2006). Europe is currently in the whirl of globalization, and especially many branches of manufacturing industries delocalize their production into countries where production costs are lower. Another major problem in European economy is the ageing of population which means fast increasing public expenditures in social services.

Globalization and the born and booming of so called information society have deepened the gap between rural and urban areas. Urban areas provide better facilities for especially global enterprises to succeed due to knowledge accumulation in large information agglomerations. Rural areas provide fewer opportunities not only for the global enterprises, but also for their laborers. Cities, towns and their close-by neighborhoods are more attractive for companies and for their personnel than rural areas with poor infrastructure in communication and transportation (Hytinen et al. 2002).

Because of this development where people are increasingly living in urban and semi-urban areas, also the highest purchasing power growth for products and services is fastest there. Meeting the demand of the urban and semi-urban population is a key challenge to rural areas. If the demand of urban and semi-urban residents can be transformed into demand of production and services, this would benefit employment, income and economic development in rural areas.

The role of enterprises and entrepreneurship in economic development is likely to increase in Europe in the future because of the limited possibilities to expand public sector activities in most countries. Due to the ageing of the population throughout Europe and fast growing budget deficits in especially some key European economies, sharp cuts in public expenditures are expectable in Europe. The result will be that many services provided by the public sector now are increasingly supplied by private sector in the future.

The described “megatrends” above; i.e., globalisation, ageing of population and increasing pressure on public expenditures together with the sharpening edge between urban and rural parts in Europe, call for a greater attention for enterprises

and entrepreneurship in rural economic development. With a profit motive, an entrepreneur can be more efficient and apply more flexible forms of production and services than a public actor.

Increasing role of enterprises in the future provides one additional advantage to economic development. When competing with other enterprises, firms displace less innovative firms in the markets, which lead to a higher degree of economic efficiency (Audretsch 2003).

The increasing role of enterprises and entrepreneurship is especially challenging to rural areas which are generally less attractive to entrepreneurial activities than urban or semi-urban areas in Europe.

2. COST E30 ON FOREST-BASED ENTREPRENEURSHIP AND ENTERPRISE DEVELOPMENT IN EUROPE

To study the entrepreneurship in the forest sector, a COST Action E30 was established for 2002-2006 with a rationale to gain better knowledge on the value added chains which link (especially urban) consumers’ demands and the supply of various and increasingly numerous forest products and services from rural areas. Enterprise development can be a mean to improve business opportunities, employment and income in rural areas, potentially utilizing already existing forests and forest resources.

The COST action E30 “Economic integration of urban consumers’ demand and rural forestry production” was implemented under the Forestry and Forest Products –domain. The action had 21 participating countries: Austria, Bulgaria, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, Switzerland and the United Kingdom. The Action had three working groups:

- small-scale forestry
- wood processing industries
- non-wood forest products and services

Under these working groups, the action focused on:

- competitiveness of forest – wood/non-wood/services – consumer chain
- barriers and prospects to entrepreneurship
- problems and opportunities for enterprise development

The action was implemented in two phases. Action phase one was aimed to build a strong state of the art on information relevant for action working groups and the action research questions. The state of the art information was used to determine key issues for in-depth analysis in action phase two. The country studies were published in two volumes of *Acta Silvatica & Lignaria Hungarica* (Forest sector entrepreneurship... 2005).

In this paper, some key research findings of the phase one of the COST Action E30 are outlined. Especially, the paper will focus on the barriers for entrepreneurship and problems for enterprise development in small-scale wood and non-wood production in Europe. The paper is based on above mentioned country reports from 20 European countries, focusing on these same questions.

3. PROSPECTS AND BARRIERS FOR ENTERPRISE DEVELOPMENT

3.1. Small-scale forestry

In small-scale (non-industrial private) forestry, it is obvious according to the country reports of the Action that the demand to satisfy multiple objectives on the same forest area is increasing throughout Europe. In some countries wood production is likely to remain dominant aim for forest use in the future, while in some other countries and areas the new roles of forests will emerge. Both provide basis for entrepreneurship.

Small-scale forest owners may not, however, easily benefit from the growing demand for entrepreneurship because of their weak entrepreneurial skills and non-entrepreneurial attitude on forests, poor economic result of forest use due to small property size and (in many countries) weak co-operation among the forest owners. Barriers to entrepreneurship in small-scale forestry include also low profitability, owners'

disinterest on forest economics, weak institutional support (especially on non-wood forest products and services), and inefficient means to internalize the public good delivery that forests provide.

It is obvious that often forest and other policies don't encourage forest owners to be more entrepreneurial. In order to do so, policies should acknowledge the diversity of forest owners, and by accepting variety in forest management, increase the options on how forests are used for wood and non-wood based entrepreneurship.

Two promising means to support entrepreneurship in private forestry include the increase of the size of forest holdings and the reduction of transaction costs of land transfer. Both support more active management of forests and higher efficiency in the operations needed for wood or non-wood production.

Forest owners associations can also reduce the transaction and operating costs to the forest owners. They may also provide other services to forest owners to help them to develop various forest uses. One way to support forest-based entrepreneurship is therefore to strengthen the capacity of forest owners associations, though it may not be an answer for all countries and for all circumstances. In some cases it is more important to develop market mechanisms on how public good are compensated for the forest owners, including the hold on negative externalities, than simply to strengthen the role of forest co-operatives and associations. Right balance between market and regulatory mechanisms could not only increase the efficiency in sustainable use of forests, but also provide higher economic welfare to the forest owners.

For the future, the interest of forest owners to actively manage their forests for wood or non-wood purposes is crucial. The growing market opportunities in many rural areas are probably based on forest services and non-wood production. Forest management should therefore better respect the various functions and production potentials forests have. The main challenge in the future is to develop these emerging opportunities in non-wood and forest services and, at the same, further develop existing and evolving market opportunities in wood production.

In some regions in Europe the indirect impacts of forests on general economic wellbeing and business life are clear. This can be seen as a “halo” effect of forests to other businesses in the regional economy, for example in cases where forests support the value of environment, tourism, housing or manufacturing. Often the problem is, however, that these indirect benefits cannot be transformed to direct benefits to the forest owners.

3.2. Non-wood forest products and services

Barriers for entrepreneurship or factors affecting the competitiveness of non-wood forest products and services (NWFP&S) industries are numerous. For example, low profit prospects, partly due to high labor costs in rather low value production, and low interest in marketing NWFP&S have been found to limit the enterprise development in Switzerland (Kilchling et al., forthcoming). The main barriers to entrepreneurship include the low market relevance of many NWFP&S and seasonality in production. Seasonality may be a major problem also for finding employees for many NWFP processing enterprises.

Despite the many current problems for entrepreneurship in NWFP&S, in general there exists high potential to develop this sector in Europe. This is due to rising demand for individual, ecologically friendly and quality products together with improvement in citizens’ welfare. Sports and games, adventures in the forests, camping, mushrooms and berries, nuts, oils, decorative goods, pharmaceutical goods etc. are examples of the services and goods that forests provide. They all have market potential but not without marketing efforts and developed access to the (urban) markets through existing distribution networks.

To develop innovations on different NWFP&S, network of actors should be achieved. It can be formed by actors within or outside forestry, though for example the recreational innovations are not probably best initiated by forestry actors. Collaboration between forestry actors and actors in recreational services could help the diffusion of information to the institutions in forest sector. Also new business models for the forest owners could support the innovations on different NWFP&S.

Factors affecting the competitiveness of NWFP&S production include the lack of entrepreneurial orientation of the forest owners and lack of institutional support in the forest or other sectors. Barriers to entrepreneurship include the poor openness to new products and services in the forest sector and lacking contacts to actors in other sectors.

Marketing of NWFP&S should be different to mass markets, specialized markets and markets where they are complementary to other goods or services. In mass markets, goods like Christmas trees or services like carbon sequestration are standard and price sensitive. Marketing should be based more on labeling or public intervention rather than on single company’s efforts. In specialized markets, goods like truffles or services like mountain biking can be differentiated and they are not as price sensitive as the products and services in the mass markets.

In marketing product or service differentiation or customer segmentation should be carefully considered. In complementary markets, products or services are associated to the marketed main product or service. An example of complementary NWFP&S includes tourism associated with different forest services like bird watching or mushroom picking. In marketing, the complementary products or services should add value to the main product or differentiate the main product or service from other similar products or services.

4. DISCUSSION

Forest ownership in Europe has been in a gradual shift for decades. Restitution and privatization in the Central and Eastern European countries since the 1990s, and fragmentation of forest properties through heritage in Western European countries for a much longer period of time, have both resulted into fragmented ownership structures. Fragmented and sometimes undefined forest ownership and diversified forest owners’ values may have been one reason why forest land ownership has not developed into entrepreneurship as has happened in agriculture, for example. An interesting topic for future research would be to estimate how private

forests can maintain their central role to support timber supply, or the supply of other products and services into the markets in Europe, if forest owners interests further disintegrate from their forest property.

One reason for poor enterprise development opportunities on private forests includes the difficulty to internalize the indirect benefits that forests provide. Many forest resources are unspecified in term of private ownership (biodiversity, carbon sequestration, protection effect, recreational effects, etc.), which does not allow forest owners to benefit on them. Often forests have an open access (game in some cases, berries, mushrooms, medicinal plants and herbs) or some of the forest products are difficult to secure from collective consumption. With an open access to the resource, they are used and harvested without compensation to the forest owner (Bouriaud, forthcoming).

On the basis of the experiences in COST Action E30, it is evident that consumer demand is not properly understood or instruments to follow the changes in demand developed for most NWFP&S. Market analyses, trade statistics and research on marketing are largely organized on ad hoc basis for most NWFP&S, except for truffles or other locally important goods. Similar systems to follow markets and market developments like in wood production sector do not exist for NWFP&S sectors.

It would be important to develop better market supporting instruments for NWFP&S especially because the market opportunities for these products and services are growing in most European countries. Due to high economic importance of timber production, however, traditional wood culture still dominates in the production, research and development as well as the extension services in the forest sector. Considering the gradual shift in the markets from timber demand to the demand of NWFP&S, shifts in market supporting instruments into this direction can be expected also.

Industries in non-wood forest products production and forest-based services are small and non-integrated in Europe. This has led to the lack of innovations, lack of marketing power and lack of focused development efforts compared to wood

industries, for example. Also many of the forest sector institutions are mainly oriented to increase the efficiency of forestry, wood contracting or wood processing, rather than on developing new product or service innovations based on NWFP&S. Although their efforts should not be ignored, niche market development – being typically the case in NWFP&S – could provide chances for growing business opportunities at the highly diversified consumer markets in Europe.

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REFERENCES

- Audretsch, D.B. 2003. Entrepreneurship: A survey of literature. European Commission. Enterprise Directorate-General. Enterprise Papers No 14. 70 p.
- Bouriaud, L. (forthcoming). Ownership and property rights (OPR) – related factors relevant for innovation and enterprise development in small-scale forestry.
- Hyttinen, P., Niskanen, A., Ottitsch, A., Tykkyläinen, M. and Väyrynen, J. 2002. Forest related perspectives for regional development in Europe. EFI Research Report 13. Brill: Leiden, Boston, Köln. 129 p.
- Kilchling, P., R. Hansmann, T. Berger, and K. Seeland (forthcoming), Analyse des Nachfragepotentials der schweizerischen urbanen Bevölkerung nach Nicht-Holz Waldprodukten.
- Forest sector entrepreneurship in Europe. 2005. Acta Silvatica & Lignaria Hungarica. Special Edition 2005. Volumes 1 and 2. 811 p.
- UNECE. 2006. http://www.unece.org/stats/stats_e.htm [6 May 2006].