

POTENTIAL MARKETS FOR CERTIFIED FOREST PRODUCTS IN EUROPE

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Edited by Brita Pajari, Tim Peck and Ewald Rametsteiner

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University of Agriculture, Vienna



University of Wales



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FOREWORD

These proceedings are an output of the Shared Cost project “Policy Analysis of ‘Timber Certification’ as a Market-based Instrument of Forest Policy to Promote Sustainable Multifunctional Management of Forests”, financed by DG XII of the European Commission (project FAIR-CT95-766).

The purpose of these proceedings is to present the results of two main project tasks. Both are related to the question: “Is there a market for certified forest products?”. Market research was done in two separate areas:

- Consumer surveys in five European countries should give insight into the potential importance of eco-labels as a purchasing motive, purchasing prevention factors and the willingness to pay for a “timber label” as well as into the attitudes of EU-citizens towards forests, forestry and towards wood in relation to substitution materials.
- Forestry-wood chain surveys were undertaken with forest owners, forest industry and forest product traders and study attitudes, expectations, preferences and behavioural intentions in connection with forest certification.

The proceedings are organised according to these two approaches. The results were presented at the conference: “Potential Markets for Certified Wood Products in Europe” on March 13, 1998 in Brussels, in which about 120 representatives of forestry, forest industry, environmental groups as well as forest scientists, governmental and EC officials from over 20 countries participated. A panel-discussion was held with a wide range of stakeholders in timber certification. The ten panellists represented very diverse views from forestry, forest industry, forest products trade, publishing, development, science and the Commission’s Services. Their statements are presented in a separate chapter of these proceedings.

As the project coordinator I would like to thank warmly all the project partners for their invaluable contributions. Heikki Juslin and Jari Kärnä (University of Helsinki, Finland) were the coordinators for the forest-wood chain surveys, Roger Cooper and John Samuel (University College of North Wales, Bangor, UK) were responsible for harmonising, comparing and summarising the results, including those of the German colleagues, Michel Becker and Tobias Kühn (Universität Freiburg, Germany). Last, but not least, Ewald Rametsteiner (Universität für Bodenkultur, Vienna, Austria) must be congratulated for successfully taking the lead in many scientific and organisational aspects of the project. Special thanks also go to the staff of EFI, especially to Brita Pajari and Minna Korhonen: EFI not only took the burden and the risk to organise the conference in Brussels but also made the production of these proceedings possible. We

would also like to thank the European Commission DG XII and DGVI.F.II in two ways: firstly, for financing the entire project and, secondly, for their financial support in publishing these proceedings.

Vienna, May 1998

*Peter Schwarzbauer
Project Coordinator*

PREFACE – AN INTERESTED OBSERVER’S APPROACH TO FOREST PRODUCTS CERTIFICATION

T. J. Peck

Chairman of the Board
European Forest Institute

It is with great pleasure that I welcome you all to this Conference on Potential Markets for Certified Forest Products in Europe. It is good to see people here from so many countries – 23 at the last count – and different parts of the forest and forest industries sector, including many associations and federations. I welcome you on behalf of the organisers, the Universität für Bodenkultur in Vienna, Austria and the European Forest Institute in Joensuu, Finland; also on behalf of the co-organisers, the Universities of Helsinki, Freiburg and North Wales. We shall be hearing from the representatives of these institutions later on. The one that I am representing, the European Forest Institute, is an international, independent, non-governmental research organisation, and as such is devoted to the generation and dissemination of scientifically- and objectively-based information on the forest and forest products sector. Consequently, it takes no specific position on the issues being debated at today’s Conference, except to try to ensure that it yields some useful and unbiased information on the complex problem of markets for certified forest products.

The issues are indeed complex as well as controversial. When reading up various studies and papers on the subject of certification I could see that, whatever the differences of opinion amongst the experts, all agree about its complexity. Not only is there a wide variety of issues, there are also numerous actors involved along the chain of custody between the forest owner and the final consumer, each with their own ideas of what certification should be for, about whether it is necessary or even desirable, and how to put it into effect. As an innocent but interested observer of the scene, I have found myself asking questions, no doubt naive ones, rather than finding definitive answers. So please bear with me today, if I act as a kind of devil’s advocate. I certainly do not pretend to be an expert when I am surrounded by a roomful of certification specialists.

Let me make one general suggestion. The scope of this Conference was deliberately limited to the market aspects of forest products certification. There is certainly not the time to get into a debate on the pros and cons of certification in its different forms and the different ways it is being developed and applied. We can all agree, I hope, that sustainability in general and sustainable forest management (SFM) in particular are

essential objectives, even if we do not yet have common definitions for them. We can also agree, I hope, that certification is intended as one tool, amongst many, to help to achieve the goals of SFM. Let us leave aside for the moment whether it is achieving that particular goal and assume that the need to reassure the consumer, whether through certification, labelling or some other means, is here to stay. We should then concentrate on whether the chosen means may have impacts on forest products markets, which markets, and how great an impact. In this discussion, we should limit ourselves to the European market, which is still an important component of the global one – between one fifth and one third according to product – and includes substantial volumes imported from other regions.

Another justification for certification is said to be that it will help to improve market access for forest products. To me it is rather saddening that so much of the discussion gives the impression that it is aimed at restricting the supply and use of forest products on environmental grounds. Yet these are products made from a raw material which probably has no equal in terms of environmental friendliness, not least in the relatively low use of energy in its transformation and use, is at worst neutral in the carbon cycle, and is recyclable, and biodegradable. Furthermore, it comes from a natural resource that, when properly treated, is indefinitely renewable and sustainable and which provides a host of other goods and services besides wood needed by society. We in this room are aware of these benefits, but we have not done a good enough job in spreading the good news and putting it to positive use. If certification is or can be used to highlight these positive features and as a tool to expand the use of forest products, then I am all for it. I hope to learn today whether that is the case. And if not, why not.

With regard to the resource base, much of the debate has been based on the deterioration and loss of tropical forests and to a lesser extent those in parts of the boreal and temperate regions, with particular concern over the loss of biodiversity. These are genuine concerns, which have led to a widely held belief, especially amongst consumers and sometimes fuelled by certain environmental groups, that this is happening in all parts of the world. This is manifestly not the case, notably in virtually all European countries and in North America, where successive resource assessments have shown the forest resource to be expanding over the long term in growing stock volume and increment, despite harvesting rates which are amongst the highest in the world. Perhaps instead of saying ‘despite’, I should say partly because of these high harvesting rates. In many European countries today, the policy concern is, not to restrict harvesting, but to expand the utilisation of wood with a view to reducing the backlog in thinnings and the build up of mature or overmature stands, the objective being to speed up the rejuvenation of the resource and, by doing so, to ensure that it continues to fulfil its environmental as well as economic and social functions. The European market may be illustrated in very general terms as in Table 1.

Taking Europe as a whole, i.e. all European countries with the exception of those that once formed part of the Soviet Union, it can be seen from Figure 1 that in 1995 the largest share of countries’ markets – between one half and two thirds according to product – was supplied from their own production. The second largest share came from intra-European trade, and the third part from non-European sources, notably North America, the former Soviet Union and tropical regions. Certification has therefore to be concerned both with products from domestic sources and with those entering

Table 1. Consumption of the main forest products in Europe in 1995 (million units).

	Total	Percent of world
Industrial wood raw material (m ³)	336	22
Sawnwood (m ³)	91	21
Sawn softwood	74	24
Sawn hardwood	17	14
Wood-based panels (m ³)	38	29
Woodpulp (m.t.)	44	28
Paper and paperboard (m.t.)	73	26

Sources: FAO, UN-ECE, EFI database

international trade. For some countries, notably those in north-west and parts of southern Europe, with their limited forest resources, imports account for the major part of the market. Conversely, countries such as Sweden, Finland and Austria export a major part of their production. For importers and exporters in these countries, the international aspect of certification is of particular concern.

Perhaps by the end of today we shall have a better idea of the size, actual and potential, of these markets for certified products. At the moment they are relatively limited, while opinions differ markedly as to how far and how fast they may grow.

As I said earlier, in playing the role of devil’s advocate I find myself asking questions about certification, and by way of winding up this introduction I will raise some of them now. No doubt some will be answered by the presentations this morning; others can perhaps be taken up during the panel discussions this afternoon.

1. Forest products are in an intensely competitive market, with substitution taking place all the time amongst these products and between them and alternative materials or services. What can be done to ensure that certification does not tilt the playing field unfairly in two ways: (i) by constraining the use of forest products by regulation or higher costs; and (ii) by changing the pattern of supply and possibly reducing consumers’ choice by favouring those suppliers best able to afford the costs of certification?
2. Certification should be a positive marketing and promotional tool, but there are risks that it may be used in a negative way; indeed there have been examples where this has happened. What can be done to ensure that advertising, for example, in which certification is cited, is not misleading; or that certification is not used as a technical barrier to trade?
3. Many certification schemes are based primarily on the principle of sustainable forest management. That is fine as far as it goes, but does it take sufficiently into account the whole life cycle of wood as well as all the elements involved in sustainability in the broad sense and not just the forestry part of it, especially when compared with those of other materials? Has enough attention been given to the certification of forest products’ competitors?

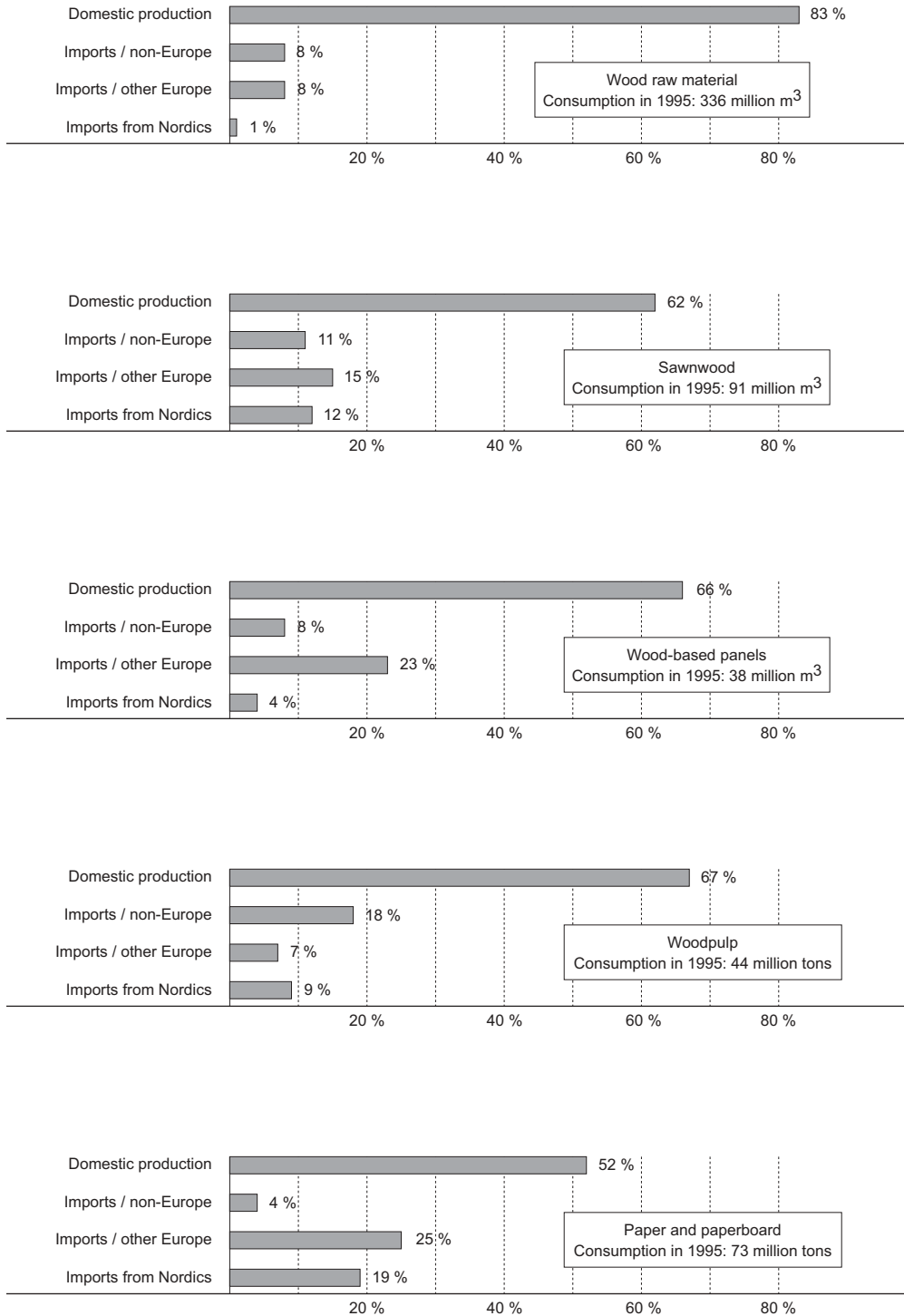


Figure 1. European market for the main forest products and the sources of supply. Sources: FAO, UN-ECE, EFI database.

4. To be successful, certification schemes must be based on credibility amongst all the market partners and actors: forest owners and managers, large and small, industries, exporters and importers, wholesalers and retailers, workers, specifiers and, above all, consumers. One should add to the list special interest groups, such as the environmental NGOs, which wield considerable influence as opinion-formers. How far are we from achieving the necessary degree of credibility amongst all these actors of the various certification schemes and what needs to be done to increase it?
5. Linked to the question of credibility is that of harmonisation. Maybe that is not vital in cases where the market is entirely or largely domestic, with little international trade involved, but given the complex trading conditions in Europe, how far can certification go in this region without the development of a widely accepted certification system; or failing that, harmonisation of the various schemes; or failing that, at least a method to allow comparison between schemes?
6. Still linked with credibility is the question of responsibility for certification. It is argued that certification is a matter for the market, and actors should be free to participate or not. However, even in open societies we are already over-encumbered with rules and regulations which limit our freedom of action and distort the functioning of the market. Market freedom may be fine as far as it goes, but even the most ferocious free marketeer should admit that the market cannot provide all the answers and that it may create social injustices and disequilibrium. It may be of relevance to mention here that, after the first two Ministerial Conferences on the Protection of Forests in Europe in Strasbourg and Helsinki, which concentrated on the environmental and productive aspects of sustainable forestry, the third one in Lisbon next June will try to redress the balance by emphasising the social aspects. How well do certification schemes address these aspects?
7. I could go on with more questions, but time has run out. However, there is one more that I will slip in, and that is who should certify the certifiers? And associated with that, what role should government agencies or third-party private bodies play in the process? Again this comes back to the question of credibility.

I am looking forward, as I am sure we all are, with keen anticipation to listening to this morning’s speakers and have much pleasure in handing over the microphone to them. Thank you very much for your attention.

I

INTRODUCTION

Ewald Rametsteiner and Peter Schwarzbauer

BACKGROUND

The relationship between humans and their environment has increasingly become the focus of global attention in recent decades. Both the level of resource use and the subsequent disposal of waste have changed the environment on a scale that has given rise to considerable concerns over associated problems, mainly in the so-called industrialised parts of the world.

One specific field that has gained prominent attention has been the fate of forests, originally mainly in the humid tropics of the world. The pace of depletion of these forest resources has increased considerably in the last decades. The concerns raised were mainly related to the destruction of biodiversity, the fate of indigenous people and forest dwellers, the role of forests in global warming and, not least, the future implication of unsustainable resource use. The attention to forests soon led to concerns not only in the tropics but also in the forests in temperate zones of the world, e.g. in Canada or Siberia.

The issues at stake have led to considerable political activity on various levels and by various actors. Several non-governmental groups in industrialised countries demanded a boycott of tropical timber. International governmental actors brought the concept of “sustainable development”, and “sustainable forest management” on the global political agenda.

Against this background “certification of sustainably managed forests” (SFM) was brought forward by some groups around the 1990’s as one potential market-based instrument that might act as a positive incentive for managing forests sustainably. This potential instrument soon attracted considerable interest. The investigation into the possibilities of certification focused primarily on the political and technical aspects such as the definition and operationalisation of “SFM”. However, little attention has been paid to what is probably the most crucial part of any market-based instrument: the existence of sufficiently big markets for certified forest products (CFP’s).

A European Community FAIR-shared cost research programme (FAIR-CT95-766) “*Policy Analysis of Timber Certification as a Market -based Instrument of Forest Policy to Promote Sustainable Multifunctional Management of Forests*” was launched by a team of four European universities to investigate the potential markets and potential market reactions to timber certification (Table 1). The analysis covers the main European consumer markets (on the basis of representative surveys) and also key national business markets (analysis of the whole forestry-wood chain within the countries) in Europe. The results of these extensive analyses were presented to and discussed with business people, policy makers, researchers, and others at a seminar held in Brussels, March 13, 1998. The results presented in these proceedings are, in condensed form, giving the main emphasis to key aspects of timber certification. It covers both the summary of the results of particular aspects of the survey, and the main aspects of timber certification and environmental issues in marketing management. The complete results with forest policy analysis will be published for the EC in 1999.

Table 1. Organisations and researchers on the project.

Organisations and Researchers	Task
Universität für Bodenkultur Institute of Forest Sector Policy and Economics (Prof. P. Schwarzbauer; Ewald Rametsteiner) (Project coordination)	Consumer survey
University of Helsinki Department of Forest Economics (Prof. H. Juslin; Jari Kärnä) (Forestry-wood chain survey coordination)	Forestry-wood chain survey Finland
Albert-Ludwig Universität Freiburg Institut für Forstwirtschaft – Arbeitsbereich Markt und Marketing (Prof. M. Becker; Tobias Kühn)	Forestry-wood chain survey Germany
University College of North Wales School of Agricultural and Forest Sciences (Dr. R. J. Cooper; John Samuel)	Forestry-wood chain survey UK Summary and comparisons of Forestry-wood chain surveys

THE EUROPEAN MARKETS FOR CERTIFIED FOREST PRODUCTS

The European market is undoubtedly one of the big global markets for forest products. Both the role in total consumption and in trade underline its dimension and importance. In Europe the apparent consumption of sawnwood and wood-based panels amounted to 131.8 mil. m³ and the consumption of paper and paperboard to 73.1 mil. tons in 1995 (UN/ECE-FAO 1996). Despite the vast forest resources in Europe, the region is a large net importer of forest products, accounting for about 27% of global inter-regional trade which means that Europe is the second largest destination for forest products globally (UN/ECE-FAO 1996a). The four main markets in Europe that are surveyed here (Germany, France, Italy, UK) show an apparent consumption of about 56.1 mil. m³ of sawnwood and wood-based panels (about 43% of total apparent consumption in Europe) and about 44.1 mil. tons of paper and paperboard (ca. 60% of total apparent consumption in Europe) in 1995 (UN/ECE-FAO 1997). The most important market segments where forest products are extensively used are construction, furniture, packaging and publishing as well as a big variety of other uses.

European business-to-business markets

Some empirical data can be found on the European business to business market for certified forest products. This is mostly based on data of buyers groups which are committed to buying products which have been certified under the system developed by the Forest Stewardship Council (FSC). Table 2 summarises the number and market share of these buyer's groups.

- a) **Market size.** The volume of FSC-certified timber bought in Europe in 1996 is estimated to have been less than 100 000 m³ of (mainly) sawnwood. However, this

Table 2. The number and market share of such buyers groups which are committed to buying FSC certified timber products.

WWF-Byers groups or similar	Founded	Members (1/98)	Market share of companies claimed or estimated
UK	1991	82	ca. 15% of wood usage in UK
NL	1992	401	
Belgium	1994	75	> 50% of wood trade
Austria	1996	25	ca. 4% share of wood market
Germany	1997	26	< 1%
Switzerland	1997	7	< 1%

is to some extent an effect of supply restraints, as the FSC trade mark itself was only launched in spring 1996. Current market size as represented by buyers group is estimated to be around 9 mil. m³ of round wood equivalent.

- b) Market growth.** As of September 1997, approximately 1 940 000 ha forests were certified in Europe (ca. 1.4% of the European forest area). More than 99% of this area is certified according to the FSC-system. Assuming annual removals to be of the order of the net annual increment, this would result in roughly 6 mil. m³ round wood potential supply from European forests. The total FSC-certified forest area globally was about 3.1 mil. ha in September 1997.

The volume of certified timber traded in Europe in 1998 is estimated by some experts to amount to 2 mil. m³ and optimistic estimations speak of about 15 mil. m³ of certified forest products demand in 1998¹.

The number of Buyers Groups and/or the number of members of the Buyers Groups are assumed to grow further in central Europe. The major potential business market outside these groups is the paper market where very little certified products are currently traded. The market potential in the paper market depends mainly on the market pull by European and especially German publishing companies and a market push through a ready supply of certified products by big suppliers in Scandinavia or Canada. Canadian companies for instance announced plans to certify about 20 mil. ha of forests that represent a joint output of about 25-30 mil. m³ of timber per year (Holzzentralblatt 1997).

European consumer markets

Little is known about the market behaviour of the private consumer. Although several private organisations have made some surveys or organised test markets for their specific purposes this data is in most cases not available to the public.

- a) Market location.** Private consumer markets with more than occasional market transactions/purchases of certified timber products can only be found in one European country, namely the UK, and to some extent also in the Netherlands. No, or at best low interest in certified wood products seems to prevail in southern Europe, although, again, hardly any data is available.
- b) Market size.** The size of the existing consumer market for certified timber products in Europe in 1997 was negligible – a fraction of a percent of the total European market. Certified timber products are hardly available even in the most advanced markets in the UK (a total of 600 products on the shelves as of 6/97) or the Netherlands. Other product eco-labelling/certification programmes usually cater for niche markets where total market share of the different product categories usually is well below 3% even in more attractive markets (see e.g. v. Alvensleben 1992).

¹ 55th Session of the Timber Committee: Markets for Certified Forest Products – C. Upton personal communication

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II

PURPOSE OF THE PROJECT

Ewald Rametsteiner and Peter Schwarzbauer

OBJECTIVES

1. OBJECTIVES OF THE CONSUMER SURVEY

The project involved detailed surveys of consumer, forest owners and companies in the forestry-wood chain. The objectives of the consumer survey were:

- to collect representative data on the potential importance of eco-labels as a purchasing motive, purchasing prevention factors and the willingness to pay for a “Timber Label” as seen by EU-consumers;
- to collect representative data on attitudes of EU-citizens towards forests and forestry as well as towards wood in relation to substitution materials in the four major markets of the EU (Germany, France, Italy, UK) and in Austria¹.

More specifically, the following questions were investigated:

- What does “sustainable forest management” (SFM) mean to the EU-consumers?
 - Are people familiar with the term “SFM”?
 - How do people evaluate the term “SFM” and how do they interpret it?
- How do EU-consumers use the information “SFM” in the purchasing process?
 - How important are the environmental product features in general?
 - What is the image of a product if it is made of wood from sustainably managed forests compared to an ordinary product?
 - How important is the origin of wood from “SFM” regarded in different product categories?
 - Are consumers willing to pay for SFM-wood?
- What is the attitude of EU-consumers towards eco-labels?
 - What is the attitude of EU-consumers to environmental product information in general?
 - Do consumers prefer a label of wood origin over an SFM-label?
 - Which organisations are seen as credible information sources for SFM-labels?
- What are the attitudes of EU-citizens towards forests, forestry and wood?
 - How do people regard the role of forests in society?
 - How do people judge the condition of forests and to what extent are they satisfied with that condition?
 - What is the perceived role of forestry regarding the condition of forests?

¹ The Austrian survey was jointly funded by the Federal Ministry of Environment, Youth and Family Affairs and the Federal Ministry of Agriculture and Forestry in Austria.

- How sustainably are forests managed according to the opinion of the people?
- How environmentally friendly do people judge wood to be in relation to substitute materials and how environmentally friendly do they regard the various stages in the life-cycle of wood products?
- What are the general attitudes of EU-citizens towards the environment and related political actors?

2. OBJECTIVES OF THE FOREST OWNER SURVEY

The forest owner survey concentrated on the private forest owners' attitudes, expectations, preferences and behavioural intentions in connection with forest certification. Forest product labelling-issues were excluded from this survey. The term "ecolabelling" was used as a synonym for the term "forest certification". This was done by using the following questions:

- What are forest owners' general values in connection with the use of forests?
- What are the forest owners' objectives for forest ownership?
- What are the forest owners' level of greenness or environmental values?
- What is the level of knowledge about certification issues?
- What are the forest owners' norms pertaining to forest certification?
- What are the general attitudes of private forest owners towards certification?
- What objectives do private forest owners have for certification?
- What kind of certification system would private forest owners prefer?
- Are forest owners willing to fulfil the requirements for certification?
- Are forest owners willing to participate in certification?
- How does the background of the forest owners (type of forest ownership, forest area of estate and the forest owners' level of greenness) affect their attitudes towards certification?

3. OBJECTIVES OF THE GERMAN FOREST EXPERT SURVEY

About 1 mil. individuals and organisations own forests in Germany. The majority of them own very small forest lots of less than one hectare. Address lists of the total population of forest owners are not available. Thus, a random sample cannot be computed. The well founded assumption was that the large majority of individual forest owners does not yet have a profound knowledge and opinion regarding forest management certification and timber labelling. These were the main reasons to survey forest management certification as seen by German foresters through an expert consultation.

Attitudes, expectations, preferences and behavioural intentions concerning forest certification and labelling of forest products were collected, based on the following questions:

- What are the basic conditions concerning the demand for environmentally friendly wood products?
- Are the basic attitudes regarding forest certification positive or negative or undecided?
- What are the attitudes of forest owners regarding certification schemes (FSC and ISO) and the German mark of origin?
- How do forest experts assess the prospects for certified forest enterprises in Germany regarding marketing and timber prices?
- Could the service functions of forest enterprises profit by forest certification?
- Which option is expected to be more successful for forest owners in Germany: to develop a certification scheme or to trust in the mark of origin's success?
- What level of costs for the initial certification and annual inspection is accepted?
- Are additional revenues for certified timber expected?
- Which management restrictions for certified forest enterprises are acceptable and which are not acceptable?

4. OBJECTIVES OF THE INDUSTRY AND TRADE SURVEY

The purpose of the industry and trade survey study was to evaluate the attitudes and intentions of wood using industry, marketing channels and industrial end-users towards forest certification. This was done by using the following questions:

- What are the environmental business values of the forestry-wood chain?
- How do companies expect the micro and macro environment and customer behaviour to develop when dealing with environmental issues?
- How are environmental issues and timber certification emphasised in the marketing planning, i.e. in strategies, structures and functions of the companies?
- What are the general attitudes and needs of the forestry-wood chain towards timber certification?
- What are the preferred bodies for planning, governing and implementing timber certification?
- How do companies in the forestry-wood chain emphasise the goals and criteria of certification?
- What are the intentions of the forestry-wood chain regarding the use of certified wood products in the future?
- Are there significant differences in the attitudes between different industry sectors, sizes of companies and their level of environmental activity / greenness?

III

METHODOLOGY

**Ewald Rametsteiner, Peter Schwarzbauer, Heikki Juslin, Jari Kärnä,
Roger Cooper, John Samuel, Michel Becker and Tobias Kühn**

FRAMES OF REFERENCES OF THE STUDIES

1. THEORETICAL FRAMEWORK OF THE CONSUMER SURVEY

The theoretical framework that serves as basis for the primary data collection for the consumer survey is a process model of consumer choice behaviour and an exploratory model of possible determinants for the answering behaviour.

The consumer behaviour model of the purchasing process (Figure 1) is designed to analyse core determinants of the decision taking behaviour of consumers in the purchasing situation and the influence of a “sustainability-label”. The basic model used is a structural partial model of consumer behaviour that focuses on the description of the phases of a purchasing process. The model as applied incorporates two major research traditions in consumer behaviour research. The first is attitude research¹ in the tradition of Fishbein (1957), Fishbein and Ajzen (1975) and Osgood (1957). The second branch of research applied is research on cognition, especially information uptake, -selection and -processing research. As eco-labelling as a specific form of information supply instrument is the key aspect in question, special emphasis is given to information seeking and information processing aspects during the purchasing process. The theoretical framework used combines the basis model of consumer purchasing behaviour with a process model on information uptake, selection and processing to form the Purchasing Process and Information Processing Model.

The Exploratory Determinants Model should explore potential central determinants of the behaviour of consumers in purchasing situations and also in relation to a “sustainability – label”. It is based on a set of hypotheses on correlations between the attitude towards the product feature in question, as measured by stated willingness to pay, and socio-demographic variables as well as attitudes towards related issues (see Figure 2).

Each of the stages of the information processing during a certain phase of the purchasing process, as shown in the theoretical framework, is operationalised with questions in the questionnaire (see Figure 3 and Appendix 2).

The Exploratory Determinants Model focuses on three main areas of interest to determine potential correlations with the stated willingness to pay for wood from sustainably managed forests:

- socio-demographic characteristics
- aspects of problem recognition
- attitude towards the instrument in question, namely environmental product information, or, more specifically, eco-labels

¹ An “attitude” is defined here as: “a learned disposition to respond in a consistently favourable or unfavourable manner with respect to a given attitude object”.

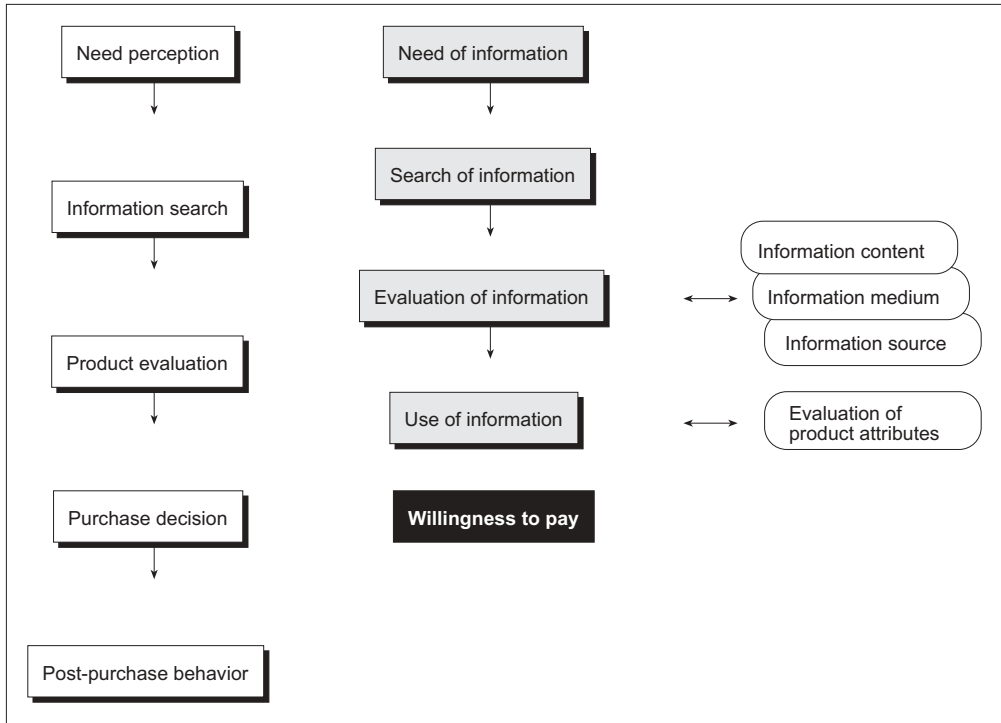


Figure 1. Purchasing process and information processing model.

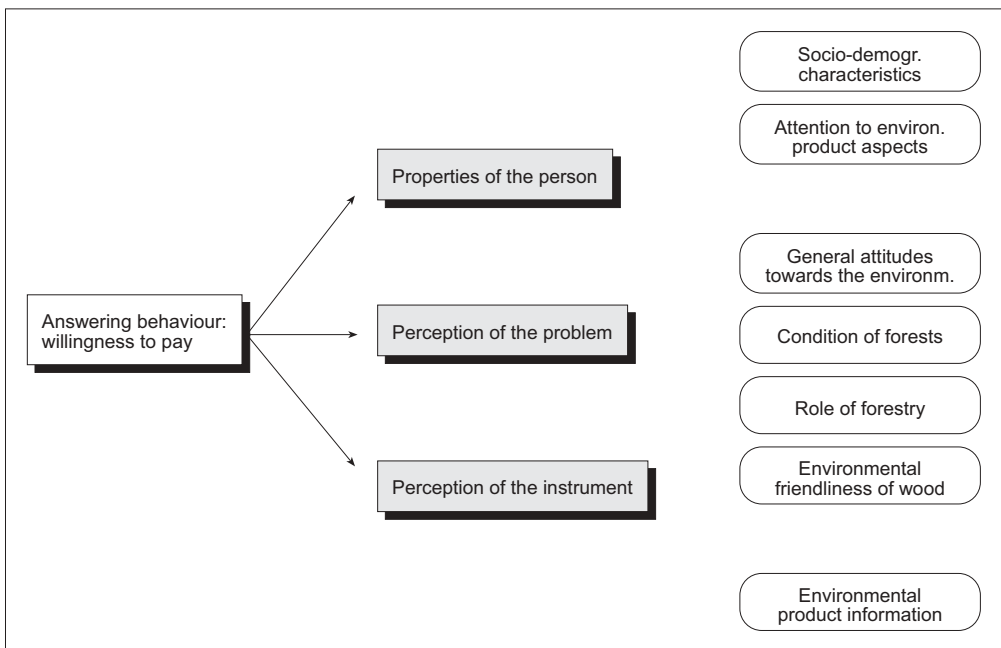


Figure 2. Exploratory Determinants – Model.

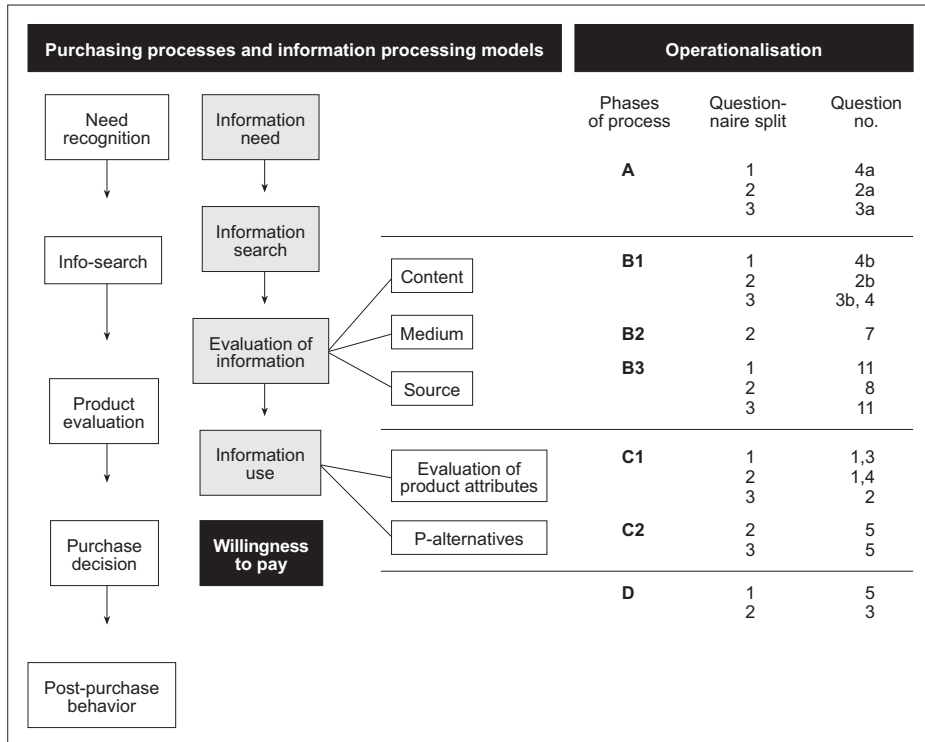


Figure 3. Operationalisation of purchasing and information processing model.

Each of these aspects is operationalised in the form of questions as shown in Figure 4. The consumer survey questionnaire was designed on the basis of the operationalised theoretical framework, refined in a review process that involved several rounds of comments by experts of different fields (market, social and policy research), and different countries in Europe (Austria, Germany, Italy, Switzerland, UK, Finland). Two international pre-tests were performed. For translation standard, the back-translation technique was used.

The questionnaire itself is split into three separate sub-samples of 330 respondents each. This approach allows to collect data on a much larger number of questions and to include control questions. In order to increase the statistical accuracy of the answers to central questions several questions were asked identically in all three or in two of the splits.

2. THEORETICAL FRAMEWORK FOR THE FOREST OWNER SURVEY

The theoretical framework illustrates the components of the study and guides its implementation. The framework of this part of the study is presented in Figure 5. It also

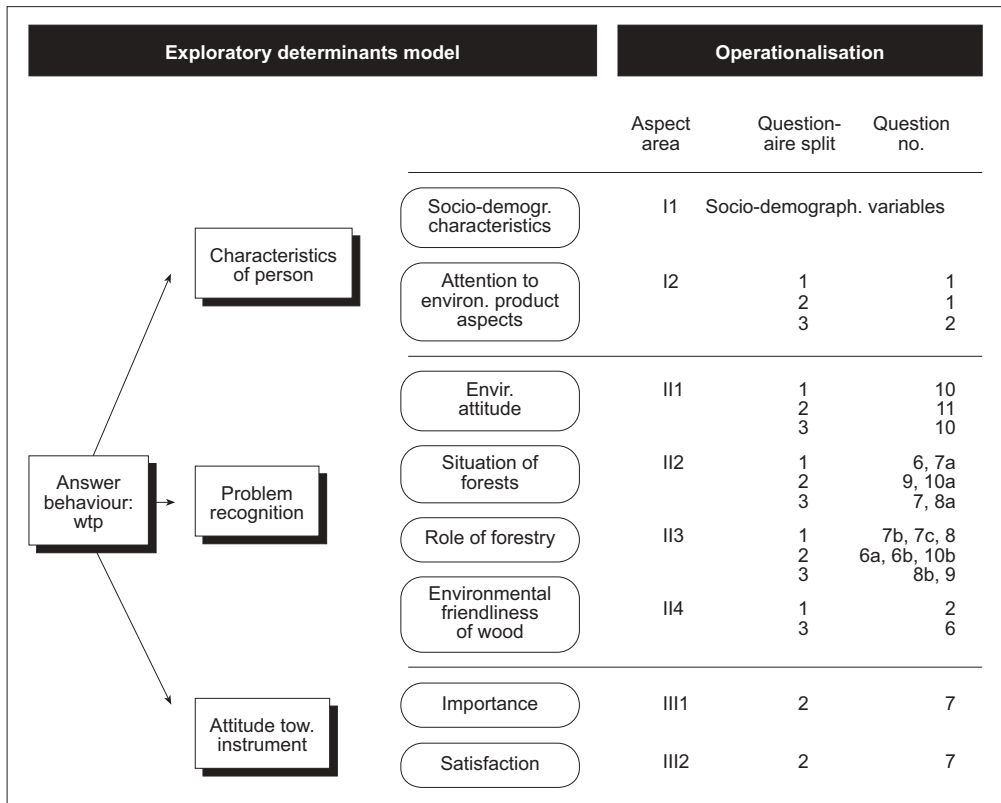


Figure 4. Operationalisation of the Exploratory Determinants Model.

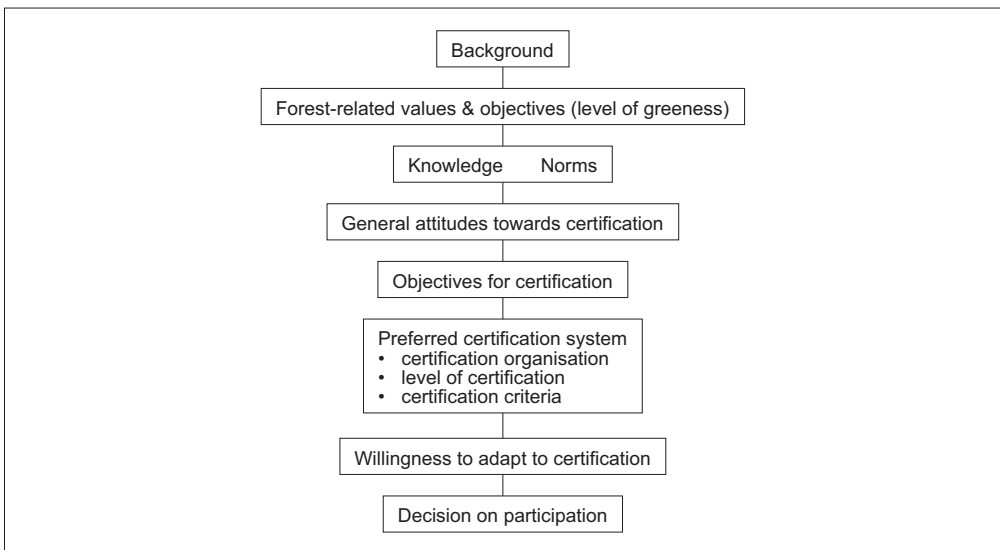


Figure 5. Theoretical framework of the forest owner survey in Finland and the UK.

forms the basis of the structure of presenting the results of the study, that is, the list of contents are largely structured according to this framework.

The framework is based on the model of consumer motivation and behaviour (Engel et al. 1968) which was modified to suit the needs of this study. The framework of the study comprises the personal characteristics affecting the forest owner's decision-making. In this study, these characteristics are the forest owner's socio-economic background and his/her forest-related values and objectives (level of greenness). These can be seen to have an impact on the forest owner's knowledge of certification and on the subjectively experienced norms. These characteristics also affect the general attitudes towards certification and the objectives of certification. Moreover, the preferences in connection with the certification system can also be seen to be influenced by the background and the level of greenness of the forest owner. Ultimately, these characteristics affect the forest owner's willingness to adapt to the requirements of certification and his/her decision of whether or not to participate in certification.

The operationalisation of the theoretical framework into Finnish and UK questionnaires was modified so that national differences in forestry in the two countries were considered.

Operationalisation of the framework

Socio-economic background (Questions 18-27). The aspects of socio-economic background studied covered both demographic factors and information on estates. This information enabled comparisons between the sample of this study and other studies to be made in order to determine if the sample of this study creates a representative picture of the population. The following formed the background variables of the study.

- Demographic factors
 - gender
 - age
 - level of professional qualification
 - level of forestry-related qualification
 - vocational status
 - place of residence
 - proportion of forest-related income in total income
- Information on estates
 - forest area of estate
 - agricultural area of estate
 - ownership of estate
 - existence of a valid forestry plan

Forest-related values and objectives (level of greenness) (Questions 1-2). The level of the forest owners' greenness was not measured directly, but composed from the values and objectives of the forest owners. The formulation of the variable measuring the forest owners level of greenness is explained in Chapter V, Section "Values,

Objectives and Level of Greenness". The general forest-related values of forest owners' were assessed by asking them how strongly they agreed or disagreed with the following statements:

Forest owners' forest-related values:

- the use of forests should be considerably reduced in order to preserve nature undamaged for the future generations
- forest management should be more natural, even though it would reduce the income of the forest owner
- forest owner may harvest timber only if the interests of other users of the forests (e.g. hikers) are also taken into consideration
- timber should be permitted to be harvested, even though it would harm forest nature
- forests should be used as much as needed in order to maintain and increase the economic well-being of forest owner
- old forests should be conserved, even though it would diminish the amount of forests in economic use

Forest owners' objectives for their ownership were studied by asking how important the following objectives were for them when they plan the use of their own forests:

- protection of forest nature and scenery
- recreational use
- acquisition of income by selling timber
- obtaining economic security
- emotional and traditional values of forest ownership
- investment opportunity

Knowledge of forest certification (Question 3).

- Their level of knowledge of forest certification were assessed by asking owners whether
- they had heard of forest certification / ecolabelling before this survey
- how much they believed they knew of forest certification

Subjective experiences of the norms pertaining to forest certification (Question 4).

Norms affect the way a person believes it is appropriate to behave. In this study, norms were examined by asking the forest owner's opinion on the following subjects:

- the tendency of the consumers to buy certified forest products
- use of a certificate as a competitive advantage for forest products
- forest owners' participation in certification
- the tendency of forest industry to buy timber from certified forests
- the tendency of Forestry Associations to promote certification

General attitudes towards forest certification (Question 8). The formation of attitudes is affected by a person's level of knowledge, his/her experiences and personality. Forest owners' general attitudes towards forest certification were evaluated by asking their opinion about the possible effects of certification on the use of their own forests:

- forest certification's effect on forestry
- forest certification's contribution to the forest owner
- timber buyers' readiness to pay a premium for certified timber
- forest certification's impact on health of forests
- forest certification's impact on biodiversity of forests
- consumers' interest in certified timber
- forest industry's interest in buying certified timber
- the viability of a forest owner to seek certification, if it does not increase income from timber sales
- the adequacy of legislation in ensuring good forest management

Objectives for certification (Question 9). Forest owners' objectives in certifying their forests were studied by asking their opinion on the importance of the following aspects in their decision-making if they were to seek certification:

- aspiration to better forest management
- securing the health and productivity of forests
- securing a demand for timber
- acquiring a better price from timber
- securing the biodiversity of forests
- enabling a better protection of endangered species
- improving the possibilities for the recreational use of forests

Preferred certification system (Questions 5-7, 10, 13, 15). Forest owners' preferences in relation to the certification system were studied by asking their opinion on the credibility of different parties for implementation of certification, the preferred level of certification, their preferences in relation to certification criteria, and the organisation that they would prefer to negotiate certification issues on their behalf.

- Credible party for implementation of certification
 - a private organisation
 - a governmental organisation
 - a scientific organisation
 - an environmental organisation
 - a consumer organisation
- Preferred level of certification
 - the certification of independent forest owners
 - the certification of small forest owner groups
 - the certification of the area of a Forestry Association
 - the certification of the area of a Forest Centre
- Preferred certification criteria
 - an increase in the amount and productivity of forests
 - an increase in biodiversity of nature
 - the protection of soil and water resources
 - an increase in beauty of forest scenery and recreational possibilities
 - securing the forest-related rights of local people

- Preferred negotiating party
 - an advisor of the Forestry Association
 - a representative of a governmental organisation
 - a representative of a private certifying company
 - a representative of an industrial timber buyer
 - a representative of an environmental organisation

Willingness to adapt to certification (Questions 11-12). Forest owners' willingness to adapt to certification was studied by evaluating their willingness to meet the costs of the general implementation of certification (direct costs) and arising from the need to adapt forest management practices to those required by certification standards (indirect costs).

- Requirements for the implementation of forest certification
 - commitment to develop forest management according to given requirements
 - allowing the certifying/auditing body to inspect the forests and forest-related documents
 - execution of changes in forest management according to the perceived defects
 - reporting in advance to the certifying body of the forest management practices (e.g. fellings) to be executed
 - allowing the inspection of the forests' ecological value before the execution of forest management practices.
- Requirements of forest management arising from forest certification
 - prohibition on the use of fertilisers
 - sustaining mixed forests
 - leaving 10% of the trees unharvested in regeneration fellings
 - maintaining a part of forests in old age class
 - regenerating the forests naturally whenever possible
 - minimising soil cultivation when regenerating the forests
 - leaving decaying wood in the forests
 - making man-made decaying trees when executing regeneration fellings
 - leaving buffer zones around the important biotopes
 - leaving a part of the forests in an unmanaged state

Decision on participation in certification (Questions 14, 16-17). The factors affecting forest owners' participation in certification were studied by asking the importance of the following issues when considering an application for a certificate:

- the participation of forest owners in the planning process of forest certification
- desired party as the certifying body
- the need for adjustments to forest management in order to acquire a certificate
- the participation of other local forest owners in certification
- economic benefit from the certificate
- the paperwork involved and the time required for participating in certification

3. THEORETICAL FRAMEWORK OF THE GERMAN FOREST EXPERT SURVEY

The framework illustrates the way this study was followed. It covers the background of the experts interviewed and their opinions regarding different aspects of timber certification.

Operationalisation of the framework

Forest experts' background (Question 5). Background variables include both demographic factors of experts and information on forest enterprises they manage. The following have been taken into consideration:

- Demographic factors
 - age
 - level of professional qualification
 - vocational status
- Forest enterprises
 - ownership
 - forest area
 - commercial timber quantity
 - in case of forest owners co-operatives: membership and forest area

General attitudes towards certification (Questions 2, 4.1, 4.4, 4.6)

- timber buyers' expected readiness to pay a premium for certified timber
- possibility for certified forest enterprises to step up the share of the market
- effects of certification on sale of services
- factors influencing environmental compatibility of wood products
- fundamental consent or refusal towards certification

Market expectations (Questions 1.1-1.3, 3.5, 4.4-4.5)

- Demand for environmentally friendly wood products: niche markets or mass markets.
- Expected demand for certified wood products.
- Who influences the demand for certified timber (forest owner associations, environmental groups, associations of forest industries, consumer councils, forest industry and forest enterprises)?
- In which branches (close to the ultimate consumer) is demand for certified wood expected to increase during the next five years by forest experts?
- German wood products and global competition.
- Credibility of foreign ecolabels.

Certification versus mark of origin (Questions 3.1-3.4)

- Applicability of certification and of mark of origin for small-scaled forest enterprises and for forest owners co-operatives.

- Possibility to combine the mark of origin with schemes of sustainable forest management.
- Is a mark of origin sufficient to convince customers.
- International dissemination of certification schemes and of mark of origin schemes.
- FSC versus ISO
- Economic effects of certification schemes.

Possible objectives of certification (Question 4.4)

- aspiration to better forest management
- securing the biodiversity of forests
- securing a demand for timber
- acquiring a price premium for certified timber
- securing the sale of timber
- advantages for the internal management of forest enterprises

Preferred certification system (Questions 3.4, 4.2-4.4, 4.6)

- Which scheme, mark of origin or certification systems will be put through?
- Acceptable criteria for sustainable forest management guidelines.
- Acceptable costs of initial certification and annual inspections.
- Expected additional revenues of certified wood products.

Participation in developing certification schemes (Question 3.6)

- Will German forestry lobbies participate in developing certification schemes?

Willingness to accept certification (Questions 3.2-3.3, 4.1)

- Are the forest experts in Germany ready to accept certification schemes?

Figure 6 shows the framework of the German forest expert survey.

4. THEORETICAL FRAMEWORK OF THE INDUSTRY AND TRADE SURVEY

The theoretical framework of the forestry-wood chain survey for the industry analysis used in this study is based partly on the integrated model of marketing planning (e.g. Juslin 1992), and partly on concepts needed to integrate timber certification into the strategic marketing planning model. The seven main areas which were studied through industry interviews were based on the objectives defined in the FAIR-shared cost project.

Business values and macro and micro environments each contain factors that affect marketing planning. According to Juslin's (1992) strategic marketing planning model, three elements are defined in marketing planning: strategies (products, customers, market area and competencies), structures (organisation, planning and information systems, contact channels and channels of physical distribution) and functions (personal

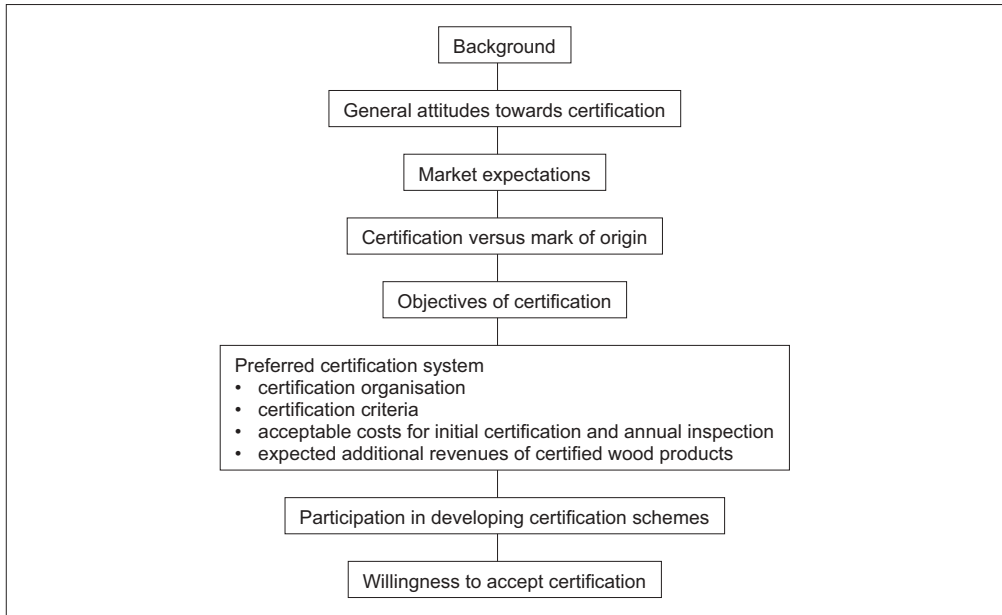


Figure 6. Framework of the German forest expert survey.

selling, marketing communication, market information, product planning, pricing, physical distribution). The relationships of each of these elements of marketing planning, as well as attitudes and preferences concerning timber certification, were analysed in the study and also their effect on the buying behaviour, i.e. intentions to buy certified wood products were measured (Figure 7).

Operationalisation of the theoretical framework

The task of operationalisation of a frame is to link the abstract to the concrete by finding and selecting appropriate instruments for observing and measuring the theoretical concepts in empirical data collection. The following headings show how this particular frame was converted into operational questions that were used in the personal interviews with forest industries.

Environmental Business Values:

- What are the opinions of forestry-wood chain about the social responsibility of companies?
- How desirable do they consider different measures in influencing the quality of the environment?
- Does the company have an interest in redirecting consumers' needs and wants towards a) less consumption, b) less environmentally harmful consumption?

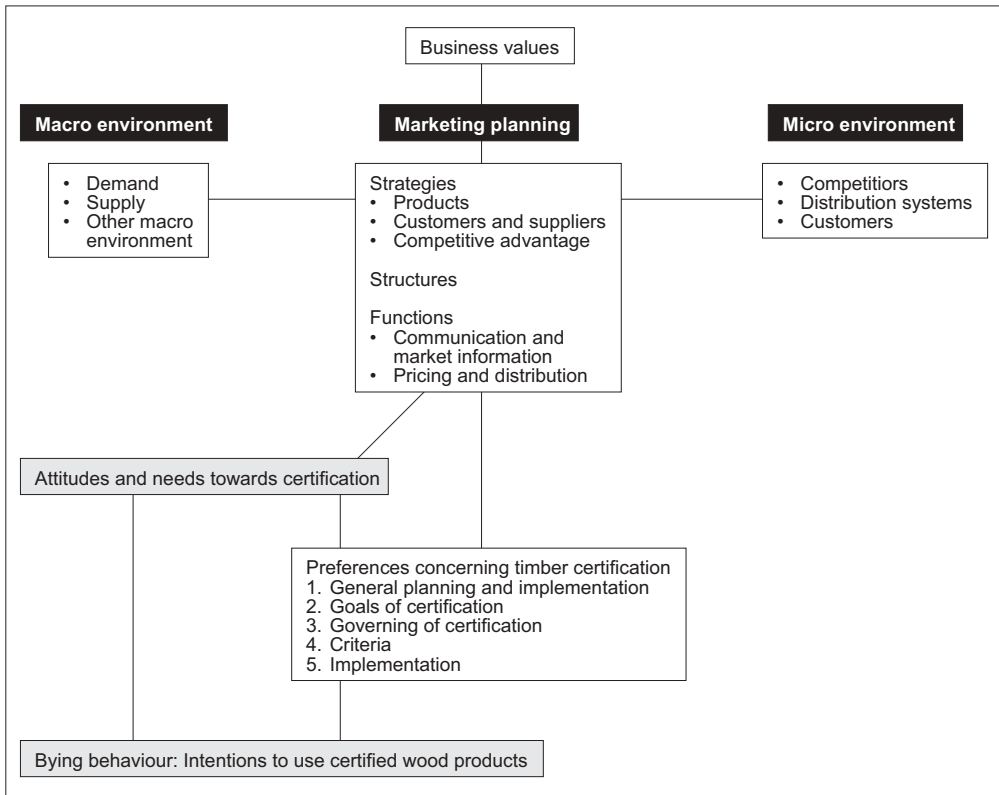


Figure 7. Theoretical Framework of the Industry and Trade Survey.

Micro and Macro Environment

- Expected development of certain environment related phenomena in the society.
- How does the company's main customer group(s) rate the importance of price, quality, delivery, specification and environmental friendliness of the products when buying their wood products?
- How environmentally aware are the most important customer group(s)?
- How important would the most important customer group(s) find the certification system?
- Have the customers shown any interest in certified products?

Marketing Planning. Decisions for Product Strategies:

- In the strategic product decisions, how much is the environmental friendliness of the product emphasised?
- How important are raw materials used, production technologies, consumption of product and transport during the product's whole life to the overall environmental friendliness of the company's main product?
- Would the timber certification system support the company's strategic product decisions?

Decisions for Customer and Supplier Strategies:

- When selecting the most important customer group(s) how important is their level of environmental awareness in the decision making?
- How strong an impact would timber certification system have in deciding on the suppliers of the raw materials and products?

Decisions for Competitive Advantage Strategies:

- How important is environmental friendliness when planning the competitive emphasis for the most important products and markets?
- Possibility of good forest management to be regarded as a source of competitive advantage.
- Intentions of trying to use certified raw material as a source of competitive advantage.

Decisions for Marketing Structures:

- How strong an impact have environmental issues had in personal recruitment, training, planning and information systems and distribution channels?
- Which environmental or quality systems are used in the company?

Decisions for Marketing Functions, Communication and Market Information:

- How often does the company / business unit practice the following procedures:
 - Consider environmental concerns in strategic planning.
 - Carry out customer surveys for marketing plans.
 - Examine environmental information in business decision making.
 - Invite input from environmental groups when making environmental business decisions.
 - Invite input from consumers groups when environmental business decisions.
- What impact have environmental issues had on advertising, communication campaigns and personal contacts / selling?
- Intentions of trying to use timber certification in advertising.

Pricing and Distribution:

- Up to now how strong an impact have environmental issues had on the pricing of the products (e.g. green premium)?
- Expectations on how timber certification system would influence the pricing of products.
- What percentage price rise do companies expect to have to pay for certified products they purchase?
- How far do they expect to be able to pass on these cost increases to the customers in the price they charge?
- Possibility and cost effect of segregation of certified products from non-certified products down the whole supply chain.

Attitudes and Needs towards Certification:

- Is a widely used timber certification system for good forest management needed?
- Opinions concerning other dimensions of timber certification, e.g. for what other reasons is certification needed?

Preferences concerning Timber Certification. General Planning and Implementation:

- What influence should the following have in implementing certification: Environmental groups, Scientists, Forest industry, Forest owners, Forestry and environmental authorities and Consumer organisations?

Goals of Certification:

- What would be the goals of timber certification for the company?

Governing of Certification:

- What kind of international governing body, e.g. FSC, ISO or EU, would the company prefer in an international certification system?

Criteria for Certification:

- Importance of the following criteria for sustainable forest management: wood production potential, biodiversity of nature, protective role of the forests, landscape and recreational values and local people's forest-based means of livelihood.

Implementation of Certification:

- Preferences concerning the following types of organisations for auditing forest management: private certifying company, certifying organisation supported by ENGOs, governmental organisation, certifying organisation of forest industry, certifying organisation affiliated with universities or research institutes.

Intentions to use certified wood products:

- Has the company made decisions concerning the use of certified wood and how important role do they expect certified products to have in they future purchases?
- What percentage of timber purchases would certified wood products account for first year / after second year / after fifth year?

DATA AND ANALYSES

1. DATA COLLECTION AND ANALYSIS OF THE CONSUMER SURVEY

Type of survey: Representative surveys in each country. Representative for age, gender, occupation, size of household, region and resident size.

Countries surveyed: FAIR-project: Germany, France, Italy, UK (the four major EU-markets). The survey was also conducted in Austria, which was gratefully enabled through joint funds from the Austrian Federal Ministry for Environment, Youth and Family Affairs as well as the Austrian Federal Ministry for Agriculture and Forestry.

Survey method: personal interviews face-to-face; in-home.

Sample design: multistage, stratified, clustered, random sampling or similar standard procedures as applied in common nation-wide representative opinion surveys by the national organisations of GfK-Europe, one of the major European opinion research institutes.

Sample size: n = 1000 persons > 14 years of age per country (Germany: n = 2.400)

Field dates: Dec. 1996 to Jan. 1997

Fieldwork Institute: GfK Europe through GfK-Eurobus[®] Omnibus system

Total EU-population covered: approx. 70%

Data input and data editing was carried out by the Austrian branch of GfK, Fessler&GfK Austria, who delivered an edited data set together with a code book.

The data sets contain an optional weighting variable based on the demographic statistics provided by the national statistical offices. In multistage stratified clustered random sampling weighting often already takes place as “design weighting” in the process of selecting the investigation units. Nation-wide population samples in survey research are therefore weighted.

Table 3. Sample sizes delivered.

Country	Total Sample (n)	Sample Split 1	Sample Split 2	Sample Split 3
Germany	2426	822	802	801
France	1063	286	398	379
Italy	967	351	297	319
UK	1004	326	352	326
Austria	937	306	348	283

Table 4. Sociodemographic variables – categories.

Variable	No. of Groups	
Age	4 groups	< 29 years 30-44 years 45-59 years 60 < years
	3 groups	< 30 years 31-50 years 50 < years
Education	3 groups	Primary education Secondary education Graduate education
Social class	3 groups	A (high), B (middle), C (low)
Size of residence	3 groups	< 20 000 inhabitants (Italy: < 30 000) 20 000-99 000 inhabitants 99 000 < inhabitants

Several of the socio-demographic variables are differently coded in the various countries surveyed. Recording and grouping is presented in Table 4.

Data analysis was carried out both on the level of the combined main markets (Germany, France, Italy, UK) and for each of the single countries using standard uni-, bi- and multivariate data analysis methods. Details on data analysis can be found in Table 5. The data analysis software used was SPSS 7.5.

2. DATA COLLECTION AND ANALYSIS OF THE FINNISH AND UK FOREST OWNER SURVEY

Population and sample of the Finnish forest owner survey. The population of this study was formed by the Finnish private forest owners. Enterprises and public institutions (church, municipalities) owning forests were excluded from this survey. The address register of Service Company of Agricultural Producers Ltd. which contains mailing addresses of 275 000 Finnish forest owners, was used to obtain randomly the mailing addresses for the mail survey. The primary data used in the study was gathered by mailing to 1064 private forest owners a four-page questionnaire with an additional letter explaining the purpose and background of the study. After removing e.g. deceased persons or non-forest owners the final sample size was 966 persons. A total of 593 forest owners returned their questionnaires by February 7, 1997. Thus, the rate of response was 61%. Out of the returned questionnaires 10% (61 pcs.) were rejected because they had not been filled in properly. Therefore, the primary data used in the analysis consists of 532 observations and the completed response rate was 55%.

Table 5. Details on Data Analysis of Consumer Survey Data.

Analysis	Methodical details
Frequency analysis	Frequency distributions were computed using weighting variables. For frequency distribution for the main market a combined weight was used. ¹ The mean was frequently used as additional descriptive measure of ordinal data, where the ordinal scales were constructed as quasi-metric scales.
Crosstabulation and Contingency analysis	Chi ² - Test: The guideline that no cell shall have an expected value < 1 and not more than 20% of the cells have expected values less than 5 have been followed except otherwise stated. Fisher's exact test was used for 2x2 crosstabulations Significance levels used: p ≤ 0.0005 *** = highly significant p = 0.001 ** = very significant p = 0.05 * = significant p ≥ 0.05 n.s. = not significant
Variance analysis	Post hoc tests: Bonferroni and Tukey (equal variances) Tamhane T2 and Dunnett T3 (non-equal variances) Significance level: 0.05
Correlation analysis	Bivariate Spearman ordinal correlation was used for ordinal data and Pearson correlation was used for metrical data / 2-tailed test of significance 0 < r ≤ 0.2 very weak correlation 0.2 < r ≤ 0.5 weak correlation 0.5 < r ≤ 0.7 medium correlation 0.7 < r ≤ 0.9 strong correlation 0.9 ≤ r ≤ 1 very strong correlation
Factor analysis	Principal components analysis Varimax rotation listwise exclusion of cases
Cluster analysis	Hierarchical cluster analysis with 10% random sample as input of cluster number for subsequent K-means cluster analysis listwise exclusion of cases
Discriminant analysis	Independents entered together Prior probability: all cases equal

¹The main market weight was computed according to standard procedures as follows: $(n_{tot.sample} / n_{country.sample}) \times (n_{population.country} / n_{population.total.main.market})$; see e.g. Siegfried Gabler (Hrsg.) (1994): *Gewichtung in der Umfragepraxis*; ZUMA-Publikationen; Opladen: Westdt. Verl.

Population and sample of the UK forest owner survey. The sample for the UK forest owner survey was formed from private forest owners belonging to the Timber Growers Association (TGA). 1000 members were chosen randomly by TGA staff to retain the anonymity their members and the confidentiality of their addresses. The number of

respondents was 263. No follow up mailing was carried out. The project would like to thank the TGA staff particularly the Technical Director, Ben Gunnenberg, and the Chief Executive, Peter Wilson, and also the secretarial staff and TGA members in making this study possible in the short time available.

Data Analysis of the forest owner surveys. Figure 8 illustrates the data analysis framework. When analysing the effect of the personal characteristics on the forest owners' attitudes and preferences, the characteristics considered were 1) the type of forest ownership, 2) the forest area of the estate and 3) the level of the forest owner's greenness / environmental values (see A and C in Table 6).

The type of forest ownership was defined from the vocational status. Wage-earners, other entrepreneurs and unemployed were merged into one class. This class was named forest estate owners. Farmers formed the second class, named farmer forest owners. In previous studies it has been noted, that the attitudes and preferences of pensioners are in many cases very distinctive from those of other forest estate owners. Due to this, pensioners were treated as a class of their own in this study, and called pensioner forest owners.

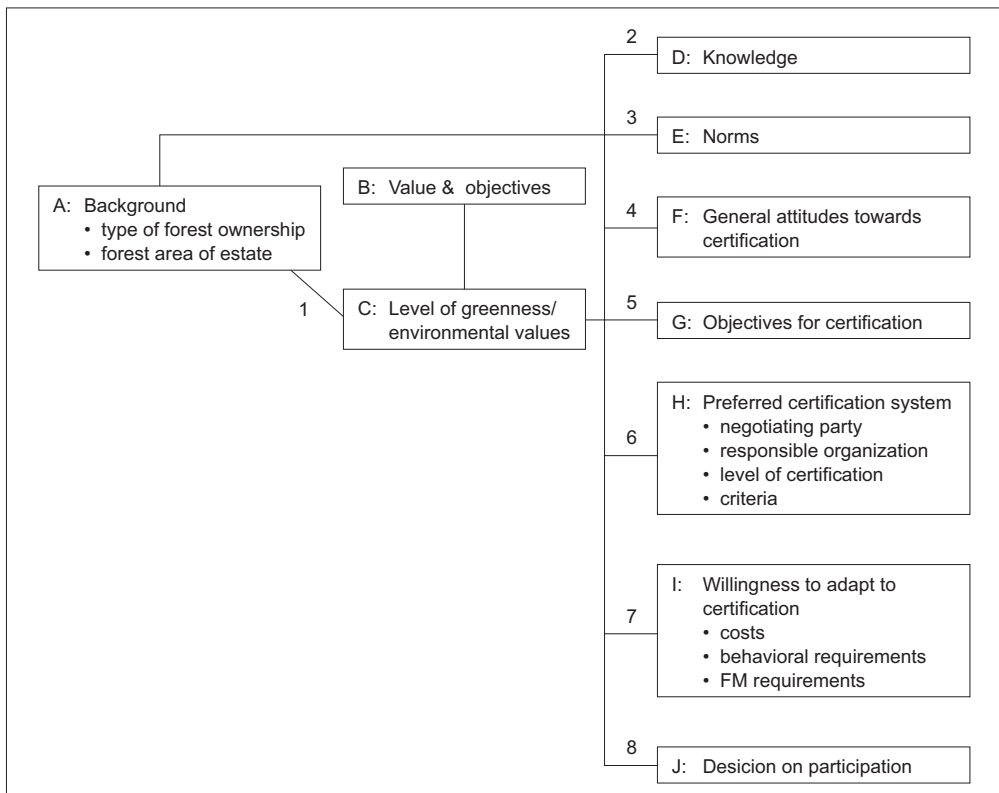


Figure 8. Framework for data analysis of forest owner survey in Finland and the UK.

Table 6a. Summary of the systems of data analysis used in the forest owners study; description of variables.

Letter	Area of analysis	Method of analysis
A	PFOs' socio-economic background	Means and distributions
B	PFOs' values and objectives	Means and distributions
C	PFOs' level of greenness / environmental values analysis, sum-variable	Distributions, factor
D	PFOs' knowledge of certification	Means and distributions
E	PFOs' subjective norms pertaining to certification	Means and distributions
F	PFOs' general attitudes towards certification	Means and distributions
G	PFOs' objectives for certification	Means and distributions
H	PFOs' preferred certification system	Means and distributions
I	PFOs' willingness to adapt to certification	Means and distributions
J	PFOs' decision on participation	Means and distributions

Table 6b. Summary of the systems of data analysis used in the forest owners study; description of variables and the connections between variables.

Arrow	Area of analysis	Method of analysis
1	Connection between socio-economic background and level of greenness /environmental values	Cross tabulation & chi-square test
2	Connection between background & level of greenness /environmental values and knowledge of certification	Cross tabulation & chi-square test
3	Connection between background & level of greenness / environmental values and subjectively experienced norms	Cross tabulation & chi-square test
4	Connection between background & level of greenness / environmental values and general attitudes towards certification	Cross tabulation & chi-square test
5	Connection between background & level of greenness / environmental values and objectives for certification	Cross tabulation & chi-square test
6	Connection between background & level of greenness / environmental values and preferred certification system	Cross tabulation & chi-square test
7	Connection between background & level of greenness / environmental values and willingness to adapt to certification	Cross tabulation & chi-square test
8	Connection between background & level of greenness / environmental values and decision on participation	Cross tabulation & chi-square test

The level of greenness of forest owners was measured by using data obtained from owners on 1) the forest owners' general forest-related values and 2) their objectives for the use of their forests. A factor analysis of all the questions covering these two aspects was conducted to identify those factors with the highest factor loadings. After this, these variables were merged, so that a sum-variable was created. In this way the sum-variable

contains those original value and objective variables which are connected to the same ecological dimension, which is based on the factor analysis. Thus the sum-variable illustrates the level of the forest owners' greenness.

The analysis of differences in the attitudes and preferences of forest owners was conducted by using cross tabulation. The cross tabulations are analysed by using chi-square test to find out if there are significant differences in the distributions of frequencies in a cross tabulation. In the analysis of the differences of distributions a significance level of 10% was used for rejection of the null hypothesis.

3. DATA COLLECTION AND ANALYSIS OF THE GERMAN FOREST EXPERT SURVEY

Forestry experts, as understood for the survey, include representatives of five groups:

1. Owners or managers of all private forest enterprises > 1000 hectares forest area.
2. Persons responsible for the management of communal forests of all municipalities which own > 1000 hectares forest area. This group includes mayors and municipality administration officers as well as foresters employed by the municipality and state forest officers involved in the management of communal forests, depending on decisions of the municipality administration about who should answer the questionnaire.
3. Managers of all forest owners co-operatives in the Federal State of Bavaria.
4. Managers or Presidents of all forest owners associations on federal and federal state level.
5. Officers of all Forestry Administrations and Chambers of Agriculture in the Federal States.

Out of groups 1 to 3, the private forest enterprises, municipalities, and forest owner co-operatives to be included in the survey were selected by random sampling. Out of groups 4 and 5 all organisations listed were included. Altogether, the sample covered 288 organisations representing forestry experts.

The data were gathered by a mailed questionnaire, following Dillman's Total Design Method. The survey was conducted between October 1997 and January 1998. 192 questionnaires (67% of the number mailed) could be evaluated.

Table 7. Survey sample of German forest experts.

Expert group	Questionnaires mailed	Questionnaires evaluated
1. Private forests	54	43 = 80%
2. Communal forests	133	88 = 66%
3. Forest owners coop.	58	32 = 55%
4. Forest owners assoc.	23	13 = 57%
5. State forest administr.	20	16 = 80%
Total	288	192 = 67%

For data analysis, SPSS 6.1 statistical software was used. At the time of preparing this report, means and distributions have been computed, whereas only part of the cross tabulations have been evaluated. It is possible, therefore, that not all relevant divergences between expert groups are mentioned in the text.

4. DATA COLLECTION AND ANALYSIS OF THE INDUSTRY AND TRADE SURVEY

The industry and trade survey was conducted in Finland, Germany and in the UK. Regarding data collection, standardised personal interviews with a sample size of 100-150 in each country were used. The sampling method was quota sampling with the objective of representative data for each group surveyed – preferably 70% or more of the production / wood use in each industry sector. In Finland the sampling emphasis was on the beginning of the forestry-wood chain (primary industry) and in Germany and the UK it was on the end part of the forestry-wood chain. The industries / marketing channels surveyed were the following:

1. Pulp, paper and paperboard manufacturers
2. Sawmills
3. Plywood, particleboard, fibreboard and veneer mills
4. Joinery, furniture and secondary wood products manufacturers
5. Timber merchants / agents
6. Do-It-Yourself (DIY) retailers
7. Printing houses / publishers / paper wholesalers

Table 8. Number of interviews and estimated coverage.

Industry sector	Interviewed			Estimated Coverage	
	FIN	GER	UK	FIN	UK
Pulp, paper and paperboard	34	13	8	100% of the production	70% of the production
Sawmills and wood based panels	45	3	18	70% of the production (sawmills), 100% (panels)	60% of the production (sawmills), 100% (panels)
Secondary wood processing	20	58	43	20-80% depending on the defined branch	20-80% depending on the defined branch
Marketing channel intermediaries	11	23	23	70% of the volume traded	80% of the volume traded, 100% of the DIY retail
Paper and paper-board buyers	4	48	7	40% of the industrial paper purchases	50% of the industrial paper purchases
Total	114	145	99		

Especially the joinery, furniture and secondary wood products manufacturers are a very heterogenic group including furniture, windows, doors, prefabricated timber houses, glue-laminated beams and boards, wooden components, flooring and pallets. However, most of the analyses have been done grouping these companies into larger samples since the number of samples in some branches was too small (Table 8).

The data collection was gathered mainly through personal interviews. The interviews were based on a standardised questionnaire format and were conducted between December 1996 and May 1997. However, due to time constraints and requests of some respondents part of the interviews were performed by mail / telephone interviews. In Finland the share of this method of the interviews was 17%, in Germany 30% and in the UK 43%. In these cases the respondents were interviewed by telephone after the return of the questionnaire in order to check the answers and note qualitative information.

The person with highest responsibility in marketing planning within a unit was targeted for an interview. Especially among paper buyers, however, most of the respondents were responsible for the paper purchasing in the company. Table 8 shows the number of interviews in each sector and the estimated coverage of production or wood / paper use in each country. The number of targeted companies refusing to participate varied from 23 units in Finland to 43 in the UK and 55 in Germany. Reasons for refusing an interview were manifold: no interest in general, no time for the interview, attitudes against timber-certification, companies which belong to other branches, insolvent companies, companies changed program of production, etc.

Data Analysis

The framework for data analysis is illustrated in Figure 9. It is derived from the theoretical framework of the study. Each block describes a set of variables. The arrows between blocks describe the relationships which are of interest. Table 10 shows the areas of analysis according to the frame of analysis and the methods used to analyse each of these areas. The question numbers refer to the questionnaire used in the interviews (Chapter XI). Therefore, Table 10 defines also the operationalisation of the theoretical framework of the study. The results presented in these proceedings are in condensed form giving the main emphasis to potential markets of certified wood products.

The analyses were conducted using SPSS 6.1 statistical programme. Factor analysis was implemented using principal-axis factoring and varimax-rotation of factors. Indicative significance testing was used, although the sampling was not pure random sampling, but closer to total population. Divergence between background variables was analysed either by cc^2 -test or by comparing the means by one-way ANOVA. The defined pairwise test method in ANOVA was Bonferroni t-test (modified LSD) with a significance level of 0.10. The results analysed with factor analysis, one-way ANOVA, Bonferroni-test and cc^2 -test require careful interpretation because the companies were chosen partly by random sampling and partly by systematic sampling. So, testing methods that need a pure random sampling must be used cautiously.

The sum variables were created from original variables according to the results of factor analyses. The problem with this was that the factor structures between the three countries were often different. Therefore, in order to harmonise the analyses of three

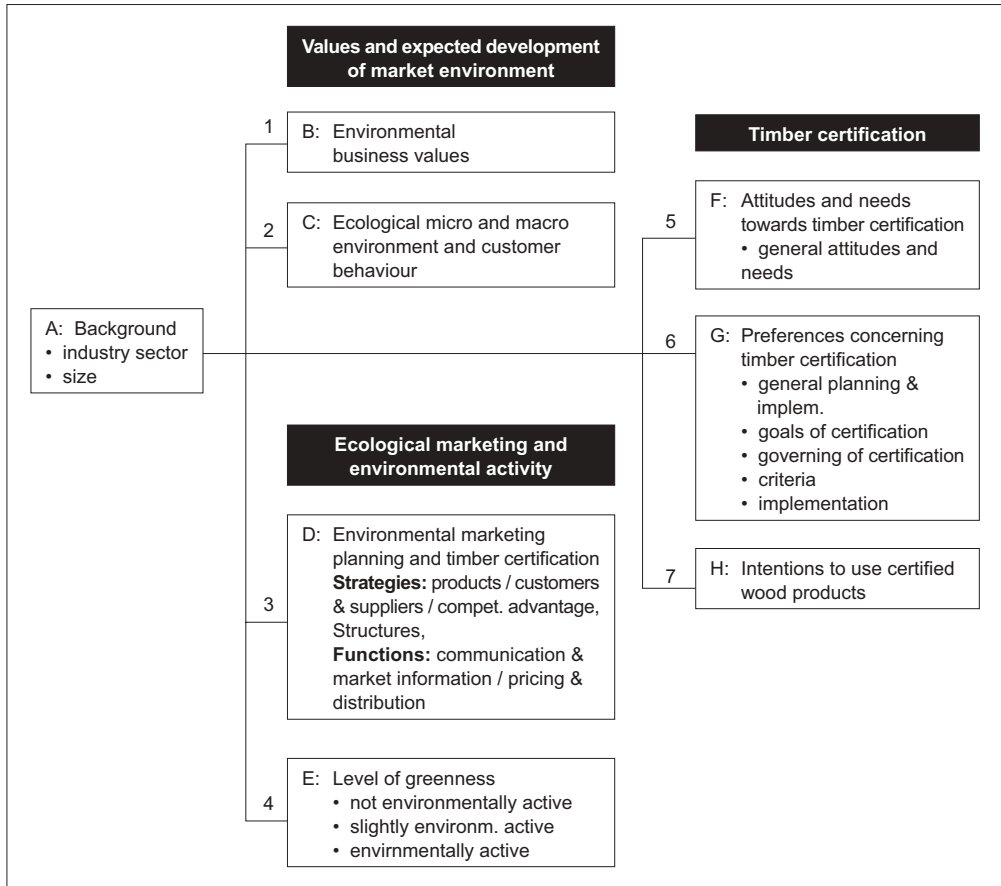


Figure 9. Framework for Data Analysis.

countries, a sum variable was created for those factors only where the same variables loaded similarly in all countries. The reliability of sum variables was tested using Cronbach Alpha. If a sum variable could not be created, an original variable based on factor loadings was chosen to represent each factor in the further analysis.

The background variables used in crosstabulations were i) Industry sector (Table 8), ii) Company size and iii) Environmental activity (greenness).

The size of the companies was classified into three groups: 1) Small, 2) Medium and 3) Large. The primary criterion for classification was the use of wood raw material. This was calculated by using Wood Raw Material Equivalent (WRME). The conversion factors used were the following:

$$\text{Logs} = 1.0 \times \text{m}^3$$

$$\text{Sawn wood} = 2.0 - 2.5 \times \text{m}^3$$

$$\text{Chips} = 1.2 \times \text{m}^3$$

$$\text{Panels} = 2.5 \times \text{m}^3$$

$$\text{Pulp} = 2.5 - 6.0 \times \text{t}$$

$$\text{Writing \& printing paper} = 2.8 - 3.5 \times \text{t}$$

These conversion factors were based on those used by the ECE/FAO as well as national agencies. In cases where a company used several types of wood raw material the proportions of WRME conversion factors were estimated. Where wood use

Table 9. Classification for the size of companies.

Classification (WRME * 1000)	Number of interviewed units		
	FIN	GER	UK
Small companies (under 70)	19	74	51
Middle-sized companies (70-249)	26	30	25
Large companies (over 250)	69	21	23
Total	114	125	99
Missing information	0	20	0

Table 10a. The methods of analysis; description of variables.

Letter	Area of analysis	Method of analysis	Question no.
A	Description of the background: • Industry sector, • Size by WRME	Means & Distributions	34
B	Environmental business values Factor Analysis	Means & Distributions,	2, 3, 20
C	Ecological micro and macro environment & customer behaviour	Means & Distributions, Factor Analysis	4, 9b, 9c, 10, 32
D	Environmental marketing planning and timber certification: Strategies: Products / Customers & suppliers / Competitive advantage; Structures; Functions: Communication & market information / Pricing & distribution	Means & Distributions	Strategies: 5, 6, 8 / 9a 11 / 12, 13, 14 Structures: 15, 16 Functions: 17, 18 19 / 21, 22, 23, 24
E	Environmental activity in marketing management (greenness)	Factor Analysis, Means & Distributions,	12, 15, 17, 18, 20
F	Attitudes and needs towards timber certification: General attitudes and needs	Means & Distributions, Factor Analysis	7, 25
G	Preferences concerning timber certification: General planning & implementation, Goals of certification, Governing of certification, Criteria, Implementation	Means & Distributions, Factor Analysis	26 27 28 30 29
H	Intentions to use certified wood products	Means & Distributions	31, 33

Table 10b. The methods of analysis; connections between variables.

Arrow	Area of analysis	Method of analysis
1	Connection between background (industry sector & size) and environmental business values	Means of (sum) variables by classes
2	Connection between background and ecological micro and macro environment & customer behaviour	Means of (sum) variables by classes, Cross tabulation
3	Connection between background and environmental marketing planning	Means of variables by classes, Cross tabulation
4	Connection between background and the level of environmental activity (greenness)	Means of sum variable by classes
5	Connection between background & greenness and general attitudes towards timber certification	Means of (sum) variables by classes, Cross tabulation
6	Connection between background & greenness and preferences concerning timber certification	Means of (sum) variables by classes, Cross tabulation
7	Connection between background & greenness and intentions to use certified wood products	Means of variables by classes, Cross tabulation

information for companies was missing, this was estimated by using other information available: defined industry sector, annual production and sales, number of employees.

The level of environmental activity (greenness) among the companies was also classified into three classes: 1) Not environmentally active, 2) Slightly environmentally active and 3) Environmentally active. The construction of this measure instrument is explained in Chapter V, Section "Level of Environmental Activity".

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IV

RESULTS OF THE CONSUMER SURVEY

Ewald Rametsteiner

EU-CONSUMERS AND SFM-CERTIFICATION

1. WHAT DOES 'SUSTAINABLE FOREST MANAGEMENT' MEAN TO EU-CONSUMERS?

Are European consumers familiar with the term 'sustainable forest management'?

The core of certification initiatives regarding SFM is the improvement of forest management by informing consumers on a specific non-tangible product feature: that the wood a product is made of originates from sustainably managed forests. The key term used to signal improved product quality is therefore 'sustainable forest management'. The following question assesses the familiarity of consumers with this term.

Question: Suppose you are in a furniture store. You find a label on a piece of wooden furniture with the text "wood from sustainably managed forests". Have you already heard of this term, or not yet heard of it? (main market: n = 3.634 respondents; country markets: ca. 660 resp. / Germany: 1600 resp.)

The majority, about 80%, of the respondents in the main EU-markets have not yet heard the key term of all certification efforts: 'Sustainable forest management'. This result coincides with the result of a representative survey in Germany in 1996 where

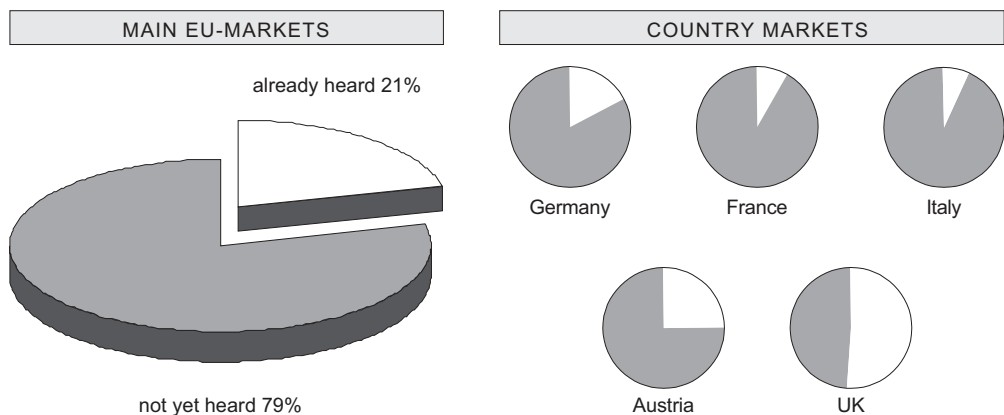


Figure 10. Familiarity with the term 'sustainable forest management'. Note that the results of Austria are not included in the main market results.

Table 11. Familiarity with the term “SFM”: socio-demographic differences (*** $p \leq 0.0005$; ** $p = 0.01$; * $p = 0.05$).

Significant differences	Country	Gender	Age	Education	Social class
Total market	***	***	n.s.	n.s.	***
Germany		***	**	***	***
France		***	n.s.	n.s.	n.s.
Italy		***	**	***	***
UK		***	n.s.	–	***

about 80% stated that they have never heard the term “sustainable development” (Preisendörfer 1996). Figure 10 shows the individual country results. Only the UK respondents appear to differ from the general situation. Slightly more than half of the respondents in the UK stated that they have already heard the term, compared to 18% in Germany, about 8% in France and Italy and 24% in Austria.

The UK figures indicate a more wide-spread use of the word “sustainable” in the present-day language.

In general the European male population, higher social classes and people with better education are rather more familiar with the term SFM (Table 11). However, this is not the case in all of the European countries surveyed. Persons in the age groups of 30-50 years tend to be more familiar with the expression than other age groups.

The results indicate that the concept of sustainability is rather unknown to society in the EU. Given the potential competitive advantage of renewable resources in the context of the on-going political programmes to build sustainable societies, this fact constitutes one of the major limiting factors for profiting from the general political climate.

How do people in Europe evaluate and interpret the term SFM?

Two aspects were investigated:

- whether the respondents associate something positive or something negative with the expression “sustainable forest management” (main market: $n = 3.634$ respondents; country markets: ca. 660 resp. / Germany: 1600 resp.).
- whether the respondents associate something environmentally friendly or something environmentally harmful with the expression (main mkt: 1.825 resp.; country mkts: ca. 330 resp. / Ger.: 800 resp.).

Figure 11 presents the results of the question regarding the environmental friendliness. The majority of respondents think the term 'SFM' denotes something very or rather environmentally friendly (72%) and something very or rather positive (71%). About one quarter of respondents, however, answered “don't know”. The country results show a

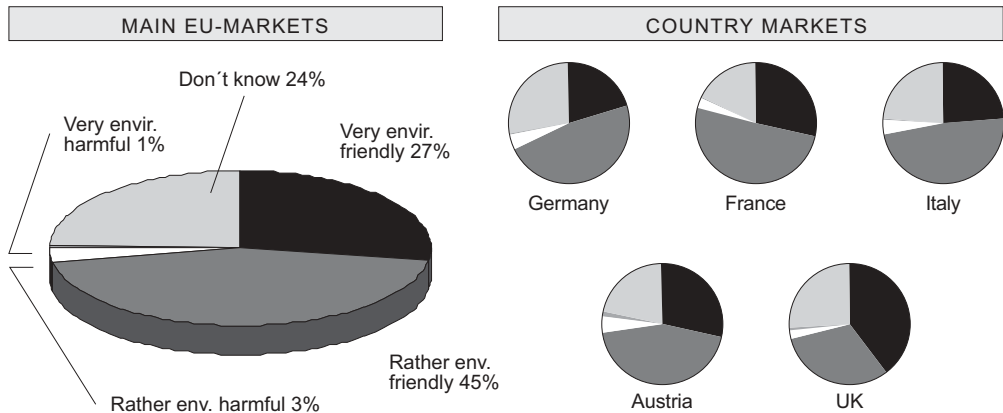


Figure 11. Environmental friendliness of the term 'sustainable forest management'. Note that the results of Austria are not included in the main market results.

generally identical evaluation in the single countries. In the UK, almost 40% regard “sustainable forest management” to mean something very environmentally friendly, compared to ca. 20% in Germany and Italy and ca. 30% in France and Austria.

People who have already heard the term SFM evaluate it significantly more positively (56.7% of respondents who have heard the term associate it with something very positive compared to 15.4% who have not) and state significantly less often that they do not know whether to evaluate the term positively or negatively (2.7% of those who have heard the term compared to 31.6% who have not).

Those who associate something positive and environmentally friendly with the term “sustainable forest management” tend to be male, better educated, and higher social classes with higher income and better positions.

A separate group of respondents was given a list of potential interpretations of the meaning of the term “sustainable forest management” in order to get further information as to what it actually means to people. The interpretations offered were structured to cover economic, ecological and social aspects. The economic and ecological aspects were asked both with a positive and a negative meaning.

Question: In the following question number “1” means yes, “2” rather yes, “3” rather not and “4” not at all . Do you consider “sustainable forest management” to mean that : (category don't know listed)

- a less wood is cut than regrows in the forest/trees are replanted
 - b the forest is exploited
 - c the diversity of animal and plant species in forests is taken care of
 - d forest ecosystems are being destroyed
 - e the interest of the people living in the surrounding of the forest are recognised (protection from negative natural effects, recreation)
- (main mkt: 1.825 resp.; country mkts: ca. 330 resp. / Ger. 800 resp.)

The results for the main EU-markets are as follows (Fig. 12). The majority of people in the EU regard “sustainable forest management” mainly as a term that means balanced wood removal in relation to growth – a rather economic aspect – but regard ecological and social aspects as part of the meaning. The interpretation of the meaning does not, in general, vary significantly between gender, age or education of the respondents.

The answers to all statements were significantly different in respect to respondents’ familiarity with the term SFM ($p \leq 0.0005$ / $df = 4$). Respondents who had heard the term SFM were particularly convinced that it means that less wood is cut than what regrows and in general chose the “don’t know” category less often.

The results in the individual countries show a similar picture as the main market (Table 12). The balance between wood growth and removal is most often seen as the meaning of SFM, followed by ecological and/or social responsibility. About $\frac{3}{4}$ of the respondents in each of the surveyed countries (France: 60%) agree to the statement that SFM means “less wood is cut than regrows”. About 65% of respondents in the countries (France and Austria about 60%) agree to the statement: the diversity of animal and plant species in forests is taken care of and about 60% or respondents in each country agree that SFM means social responsibility. In all countries respondents think that SFM does not mean that the forest is exploited or the ecosystem destroyed. The data of France shows that people are not as distinct in their evaluation as the respondents in the other countries surveyed.

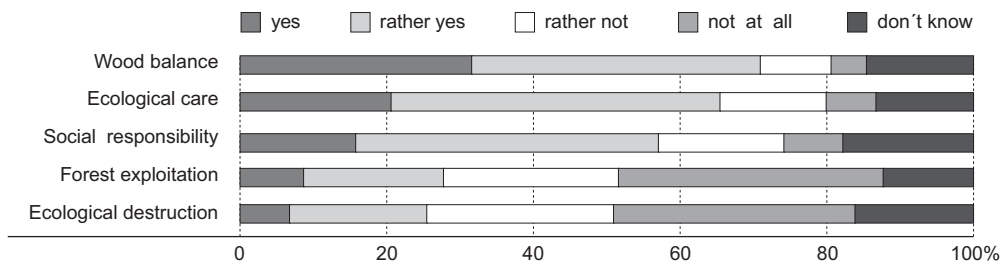


Figure 12. Interpretation of sustainable forest management (main EU-markets).

2. THE USE OF THE INFORMATION OF SFM IN THE PURCHASING PROCESS

The importance of “green” product features

The respondents were asked to tell the interviewer how much they pay attention to a list of product attributes in order to determine the importance of various product features; general and environmental attributes in particular (Fig. 13). This question was asked in relation to two product groups: furniture and fixtures.

Table 12. Interpretation of “sustainable forest management” (country markets).

Results in %		Germany	France	Italy	UK	Austria
less wood is cut than regrows	yes	38.1	23.4	16.5	44.8	52.9
	rather yes	35.3	38.9	54.4	31.2	28.4
	rather not	9.3	18.7	3.0	7.3	10.0
	not at all	2.2	8.4	3.9	5.8	4.4
	don't know	14.4	10.7	22.2	10.9	0.9
	n.a.	0.7				1.4
	Total %	100.0	100.0	100.0	100.0	100.0
	Mean (1-4)	1.71	2.13	1.93	1.71	1.64
Median	2	2	2	2	1	
biodiversity is taken care of	yes	16.6	18.6	20.0	27.4	24.1
	rather yes	46.8	41.6	47.5	42.2	33.3
	rather not	15.5	22.4	5.8	13.6	26.2
	not at all	5.0	10.3	7.3	4.8	10.0
	don't know	13.4	7.1	19.4	12.0	3.8
	n.a.	2.9				2.6
	Total %	100.0	100.0	100.0	100.0	100.0
	Mean (1-4)	2.11	2.26	2.01	1.95	2.23
Median	2	2	2	2	2	
interests of people are recognised	yes	16.3	9.4	16.8	19.5	25.5
	rather yes	42.3	42.1	39.0	41.7	35.7
	rather not	17.9	26.0	10.1	13.1	23.4
	not at all	4.7	11.3	6.4	11.6	9.4
	don't know	17.7	11.2	27.7	14.2	3.3
	n.a.	1.1				2.8
	Total %	100.0	100.0	100.0	100.0	100.0
	Mean (1-4)	2.14	2.44	2.08	2.20	2.18
Median	2	2	2	2	2	
forest is exploited	yes	4.7	13.9	7.0	11.1	2.8
	rather yes	12.0	28.6	14.6	22.1	3.3
	rather not	28.4	21.0	25.4	19.1	14.5
	not at all	43.3	29.4	31.0	38.4	43.5
	don't know	10.5	7.1	22.0	9.3	32.6
	n.a.	1.1				3.3
	Total %	100.0	100.0	100.0	100.0	100.0
	Mean (1-4)	3.25	2.71	3.03	2.94	3.54
Median	4	3	4	3	4	
ecosystem is destroyed	yes	3.8	9.6	3.6	10.7	3.9
	rather yes	15.0	30.4	7.3	23.3	6.2
	rather not	29.7	22.6	25.2	22.7	20.5
	not at all	36.9	23.6	38.5	30.1	37.3
	don't know	13.1	13.8	25.4	13.1	27.8
	n.a.	1.6				4.2
	Total %	100.0	100.0	100.0	100.0	100.0
	Mean (1-4)	3.17	2.70	3.32	2.83	3.34
Median	4	3	4	3	4	

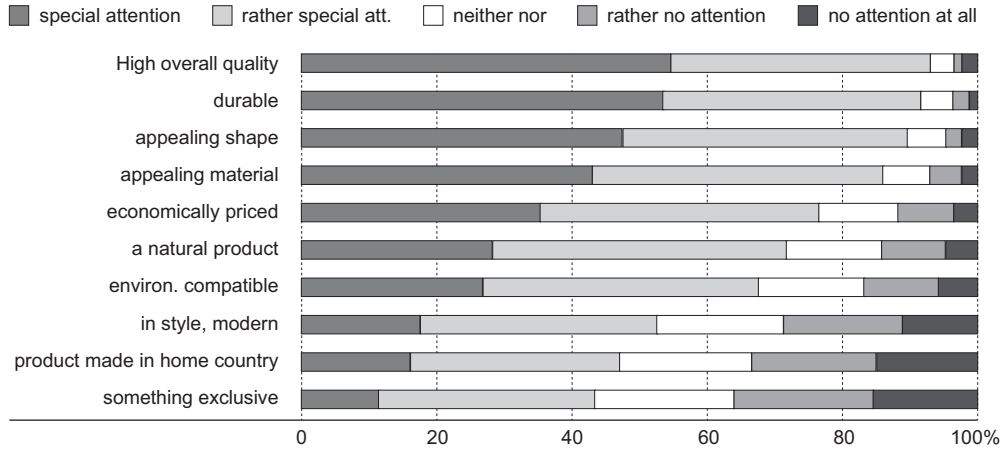
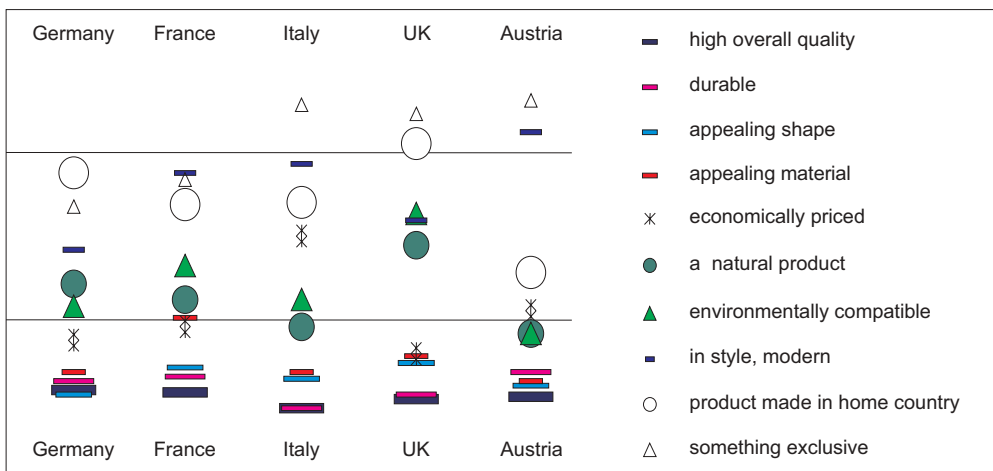


Figure 13. Product attributes and their importance when purchasing furniture – main EU-markets (main market: n = 3.634 respondents ; country markets: ca. 660 resp. / Germany: 1600 resp.).

The most important product attributes of furniture or fixtures for consumers in the main markets in Europe are (in the order of stated importance): quality, durability, form, material and economic price. Environmental aspects, such as the “naturalness” or the environmental compatibility of a product follow.

Neither/Nor



Special attention

Figure 14. Product attributes and their importance when purchasing furniture – country markets.

The product aspects “a natural product” and “environmentally compatible” get more attention when buying wood products such as furniture or fixtures than the origin of wood from the home country. In Germany “product made in home country” ranks as the last of all 10 product attributes that people were asked to evaluate, in Austria the product feature “made of wood from forests in Austria” is considerably more important than that a product is “in style / modern”.

The analysis for differences in socio-demographic variables reveals that younger persons do in general neither pay special attention to the naturalness of a product nor to the origin of a product from the home country. In almost all countries older persons (50+ years) and lower educated people put significantly more weight on the naturalness or the origin of a product.

No significant differences in these socio-demographic variables were found for “environmental compatibility” which means that people of all age groups and education levels regard this aspect equal in importance.

A separate group of respondents was asked to rank an identical list of product features according to the attention paid when purchasing fixtures such as windows, doors or flooring. The result of the ranking of product attributes for fixtures is almost identical with the result for furniture.

The image of SFM-wood products

Figure 15 shows the changes in the image of a product if it is made of wood originating from sustainably managed forests. The product category in question is furniture. The

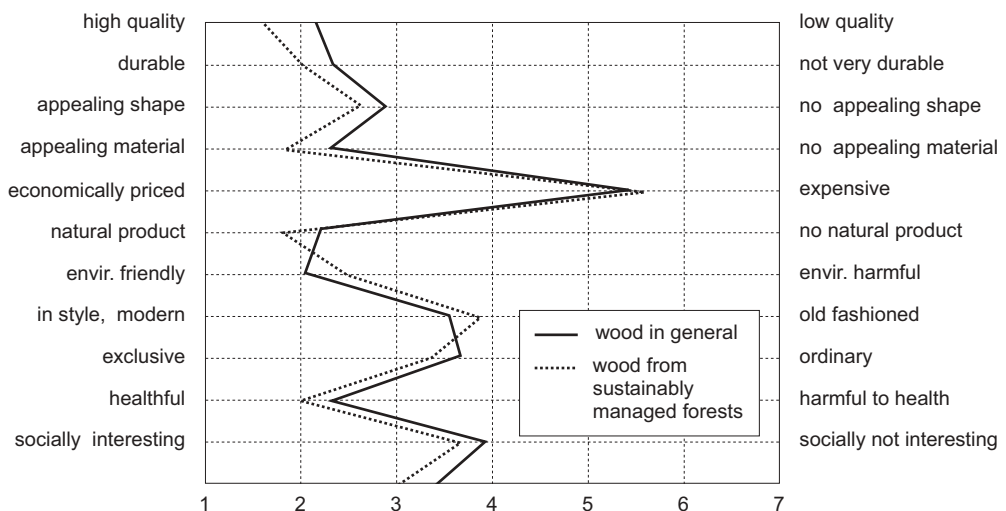


Figure 15. Image differences between wood products in general compared with wood from sustainably managed forests n for ordinary wood: main mkt: 1.825 resp.; country mkts: ca. 330 resp. / Ger. 800 resp.).

product features are ranked according to their stated importance as in a previous question so that the first features represent the most important ones .

The analysis of the data shows that the evaluation of a product made of wood from sustainably managed forests is quite similar to that of wood in general. Deviations in the image of SFM-wood products, however, are mostly negative, which means that people who are provided with a simple explanation of what SFM means evaluate such a product more negatively in several key product features than ordinary wood. In only three product features SFM-wood products achieve a better ranking than general wood products. They are perceived to be more environmentally friendly, more modern and more economically priced.

The country markets show the same general patterns as the EU-main market except the UK market, where the image of SFM-certified products is considerably more environmentally friendly and considerably more in style / modern than ordinary wood products (Fig. 16). Note that the UK market is both the most advanced market for SFM products and people in the UK are more familiar with the key term SFM.

The image of SFM-wood is rather homogenous in respect to different age groups, sex, education or social classes. The image differs between residential size. Residents from bigger urban areas tend to associate something less natural with SFM-wood than residents from small towns or rural areas.

People who evaluated the term “SFM” as meaning something very environmentally friendly tended to evaluate SFM-wood more positively than those who did not. However, the average image of SFM-products was better than that of ordinary wood: they are perceived to be more environmentally friendly, more modern and more

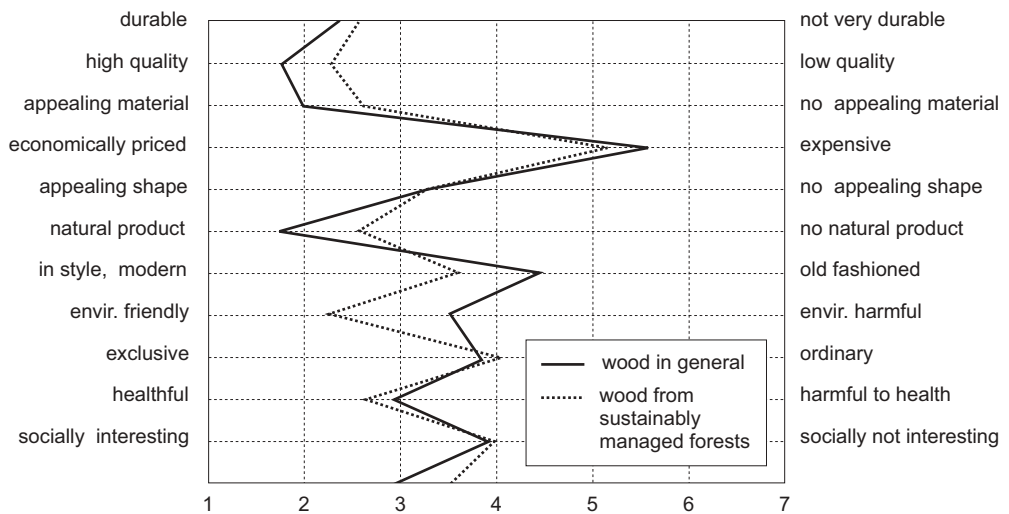


Figure 16. Image differences between solid wood and wood from sustainably managed forests: the UK market.

economically priced. These differences are again most distinct in the UK. People in Germany evaluate SFM-wood to be as good or slightly better than ordinary solid wood in the majority of product attributes. The difference is again most distinct in the features mentioned above and additionally SFM-wood is seen as something more distinctly natural – contrary to the results of the UK, where it is seen to be considerably less distinctly natural than ordinary wood.

How important do consumers regard the product feature “SFM”?

The following question concerns the relative importance of the feature “origin of wood from sustainably managed forests” for different product groups. The answer behaviour gives an indication of the importance of a potential new and intangible feature signalling product quality.

Question: *How important would the origin of wood from sustainably managed forests be for you, if purchasing one of the following products (Answer categories: very, quite only a little not at all important)*

a furniture such as bedroom furniture, kitchen- or sitting room furniture

b fixtures such as flooring, doors, windows or similar

c paper products such as writing paper, magazines/books

(main market: n = 3.634 respondents; country markets: ca. 660 resp. / Germany: 1600 resp.)

About 20-25% of the people state that a SFM feature is very important and about 10-15% state that it is not at all important (Fig. 17). The majority of people find the feature very or quite important. This result is fairly similar in the three product groups (furniture, fixtures and paper products) and it is also fairly similar in all countries surveyed.

In general, higher educated people and people from higher social classes tend to find SFM-wood more important than respondents with lower education or from lower social classes.

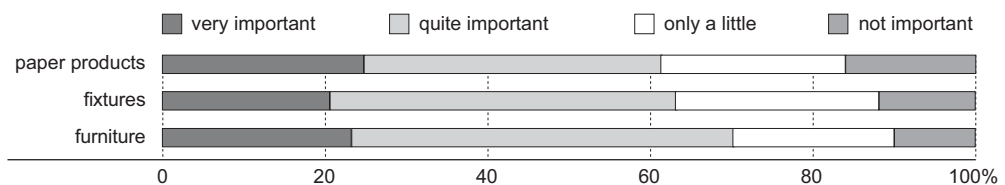


Figure 17. Stated importance of SFM-feature for different wood product groups – main markets.

Do consumers prefer SFM-labels or marks of origin?

A general question assessing the attitudes of respondents towards green environmental information on products yielded the following condensed results from a list of 5 statements: about 13% are very content with existing green information, 36% are rather content, 36% not very content and 15% not at all content with the situation.

Of the statements asked respondents agreed most often with the statement: “the great variety of different environmental labels is confusing” (56.5% agreed) and least often to the statement: “the environmental information on products is generally clear and easy to understand” (27.8% agreed). About 50% of respondents agree to the statement: “Environmental information is one of the most important aspects of product information”.

In recent years, considerable efforts have been made to develop and establish labels of origin for wood. The following question was asked to shed light on the preferences of consumers in relation to marks of origin (for wood from their home countries) and SFM-labels:

Question: *If you had the choice between two otherwise identical wood products, which of the following products would you choose?*

- 1 *the wood product that bears the label “made of wood from forests of [the home country]”*
- 2 *the wood product that bears the label “made of wood from sustainably managed forests”*

(n: main mkt: 1.825 resp.; country mkts: ca. 330 resp. / Ger.: 800 resp.)

More people prefer a SFM-label to a mark of origin (wood from the home country) in the main markets of Europe (Fig. 18). However, preferences for labels differ considerably, e.g. between the UK (70.5% chose a SFM-label) and Austria (80.1% chose a mark-of-origin label).

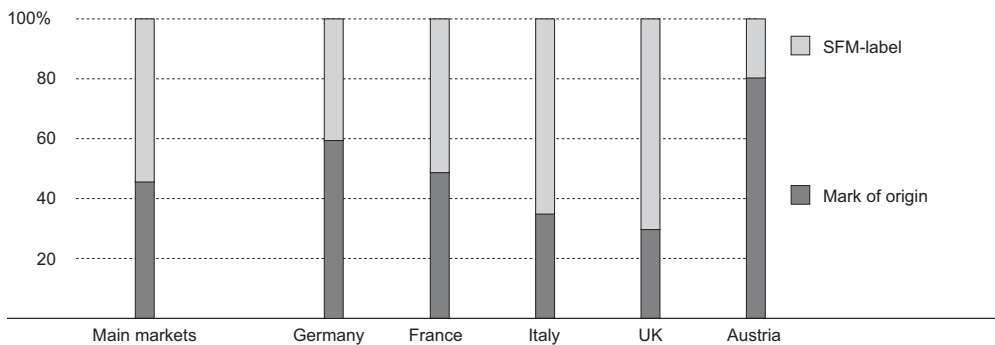


Figure 18. Preferences: Mark of origin-label versus SFM-label.

There are significant differences in the answering behaviour between different age groups and education levels. The age group > 60 chooses significantly more often the product with the label “made of wood from forests of [the home country]” and the age group < 29 chooses significantly more often the wood product with the label “made of wood from sustainably managed forests”. Respondents with lower education chose the product from the home country more often compared to respondents with higher education who chose the product with the SFM-label more often. There are no significant differences between the respondents of different gender or social class.

Analysis of the relationship between the familiarity with the term “SFM” and the choice of a label shows that familiarity significantly shifts preferences towards an SFM-label (Table 13). The same positive relationship can be seen between a positive evaluation of the meaning of SFM and the preference for an SFM-label.

Table 13. Choice of Subgroup: Evaluation of SFM = very positive. Valid percent.

	Germany	France	Italy	UK	Austria
made of wood from home country	31.4	22.8	12.3	20.1	52.3
made of wood from sustainably managed forests	68.6	77.2	87.7	79.9	47.7
Total	100.0	100.0	100.0	100.0	100.0

Which groups are seen as credible certifying/labelling organisations?

“Environmental pressure groups” (ENGOS) enjoy the highest overall credibility of all alternative certifying / labelling organisations listed (Figure 19). About 80% of the respondents rate them as credible, of which almost 40% rate them as very credible. “National interest groups of forestry / timber industry” is rated most credible by about 60%, and “Competent national ministries”, “EU-administration” and “European interest group of forestry / timber industry” by about 50% of the respondents. Leaving aside the environmental pressure groups people tend to show more trust in national institutions than in pan-European organisations.

The ENGOS are generally considered as very credible in other countries involved in this survey, except in France. The credibility is also depending on the age and gender: the age group 45-59 years and male respondents state more often that ENGOS are not credible or not at all credible. It was also found that younger respondents (age < 29) were considering ENGOS very credible.

“National interest groups” are trusted more in Germany than in other countries, especially in Italy. The credibility depends also on the age and education: respondents of age group 45-59 years and those of primary school education trust more often in “National interest groups”, whereas respondents with graduation diploma more often find these groups not so credible.

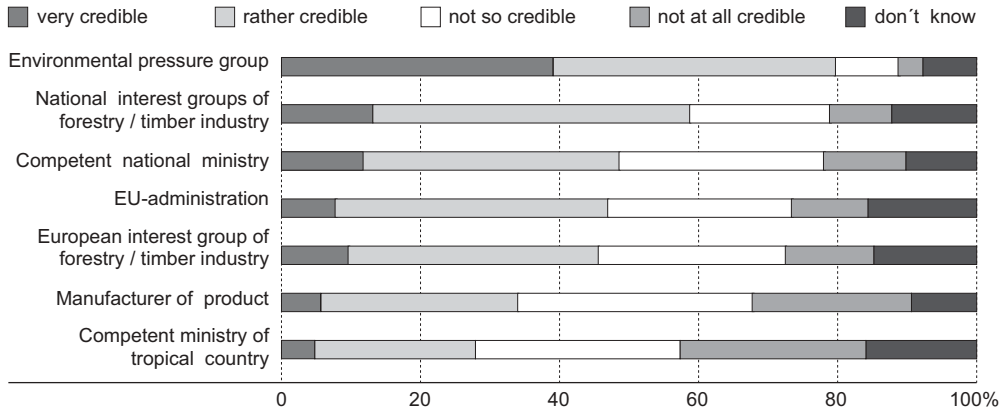


Figure 19. Credibility of potential information sources for a sustainability label (n: main mkt: 1,825 resp.; country mkts: ca. 330 resp. / Germany 800 resp.).

“Competent national ministries” and “EU-administration” are found credible in France and in Italy (very credible), but also generally respondents with graduation diploma are more often trusting in these groups. Germans and those belonging into the age group 30-44 years state significantly less often than other respective groups that “Ministries” and “EU-administration” are very credible.

Are EU-consumers willing to pay for “SFM”-wood?

The question regarding the willingness to pay for the product feature “SFM-wood” was put in a purchase situation context. The willingness to pay was asked on two different price levels, using absolute prices (end points: + 20% and – 20% of start price). The question was supported by a price list showing the different price alternatives:

.... suppose that you find a piece of wooden furniture, i.e. a table, cupboard, bed or similar which you would like to buy.

a If this piece of wooden furniture costs [rounded equivalent of ECU 780], up to which price would you pay at most for the same piece of furniture when the wood it is made of comes from sustainably managed forests?

b same question with rounded equivalent of ECU 1,870

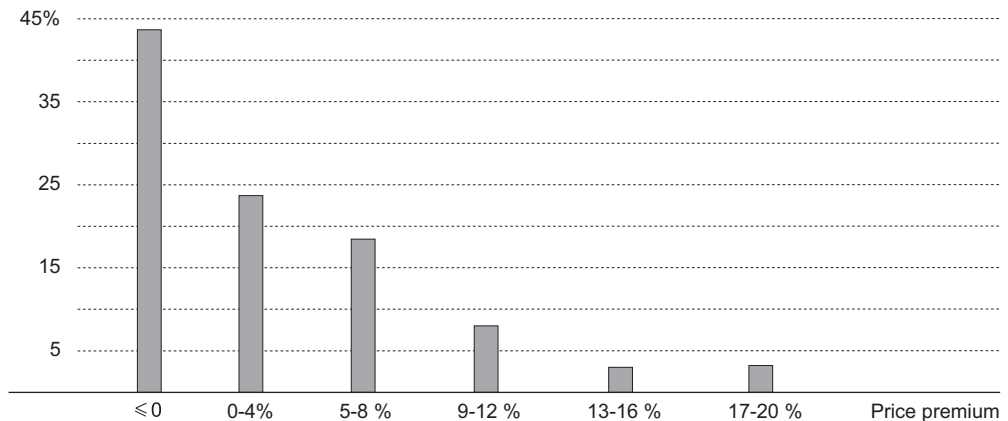
n: main mkt: 1.825 resp.; country mkts: ca. 330 resp. / Ger.: 800 resp.

A control group was asked the same question indirectly: "up to which price do you think people would pay at most for..." The results of the indirect question are on average almost identical with the direct form.

Table 14. Willingness to pay – country results.

results in %		Germany	France	Italy	UK	Austria
Percentage of respondents willing to pay:	not more	33.6	49.1	41.9	58.0	37.7
	more	66.4	50.9	58.1	42.0	62.3
WTP – all respondents	Mean %	+ 3.37	+ 1.40	+ 2.40	+ 1.56	+ 4.90
Respondents: WTP more	Mean %	+ 6.60	+ 5.67	+ 6.66	+ 6.98	+ 9.63

Amount of respondents willingness to pay more

**Figure 20.** Willingness to pay for product feature: SFM-wood.

About 43% of the people in the main European markets state that they are not willing to pay more for a product feature “made of SFM-wood” and about 57% state that they are (Fig. 20). Over 13% of respondents stated that they would be willing to pay more than a 10% price premium for this product feature.

The number of people willing to pay more varies from 42% (UK) to 66% (Germany) (Table 14). The mean price premium the respondents were willing to pay varies in a range of approximately 1.4% (France) and 4.9% (Austria). The mean price premium for those respondents who chose a higher price than the start price is between approx. 5.7% (France) and 9.6% (Austria).

In the main EU-markets the respondents of the age groups 30-59 are generally willing to pay more for an SFM label and people > 60 years are rather unwilling to pay a premium. Likewise, persons from higher social classes are more willing to pay more for an SFM-label than respondents from lower social classes. There is no difference between the responses of men and women.

The exploratory research into potential determinants for the willingness to pay yielded the Spearman bivariate correlations in Figure 21.

Environmental attitude	Environmental concern		$r = 0.188$ ***
	Pro-active behavioural intent		$r = 0.197$ ***
Forests	Satisfaction with forest condition	- domestic forest: - tropical forest:	$r = -0.102$ *** $r = -0.082$ **
	Forest condition	- domestic forest: - tropical forest:	$r = -0.069$ ** $r = -0.088$ *
	Frequency of forest visits		$r = 0.116$ ***
Forestry	Responsibility of forestry	- domestic forest: - tropical forest:	$r =$ not significant $r =$ not significant
	Sustainability of forest management	- domestic forest: - tropical forest:	$r =$ not significant $r =$ not significant
Wood	Environmental friendliness	- domestic wood - tropical wood	$r =$ not significant $r = -0.092$ **
Product features	Environm compatibility		$r = 0.143$ ***
	Natural product		$r = 0.096$ ***
	Economic price		$r = -0.128$ ***
Envir. product information	Contentment Importance		$r =$ not significant $r = 0.114$ ***
SFM-label	Meaning of SFM	- positive / negative	$r = 0.112$ ***
		- envir. friendliness	$r = 0.076$ ***

Figure 21. Potential determinants for the willingness to pay – Spearman bivariate correlations (*** lightly significant, ** very significant, * significant).

In general the willingness to pay is weak, but significantly correlated with the majority of factors. The highest correlations exist between the willingness to pay and the general environmental concern, the frequency of visits in forests and the stated attention to the environmental compatibility of products in a purchasing situation. No significant correlation, however, was found between the willingness to pay and the respondents attitudes towards forest condition or the assessment of the sustainability of forest management in the home country.

3. SUMMARY AND CONCLUSIONS

1. The key information to communicate the key aspect of certification, namely the origin of wood from sustainably managed forests (SFM), is known only by a small fraction of the population in Germany, France, Italy and Austria. Only in the UK the consumers are reasonably familiar with the term.

2. About half of the consumers evaluate the term "SFM" as rather environmentally friendly. However, about a quarter of the consumers doesn't know whether to evaluate the term positively or negatively. Again in the UK significantly more people evaluate the term as something very environmentally friendly.
3. If asked what the term "SFM" means, people in each of the countries associate this mainly with wood balance of growth and removal, followed by ecological care and social responsibility. Negative interpretations are by and large rejected.
4. When purchasing furniture or fixtures ecological product attributes are on average not among the five most important product features. The image of SFM-labelled wood products does vary slightly but significantly from ordinary wood products. While the general image of SFM-labelled products is negative, the following three characteristics are, on the contrary, considered positive: the products are perceived to be more environmentally friendly, more modern and, surprisingly, more economically priced. Again the UK market shows these differences most distinctly. If asked directly how important people regard SFM-wood in products, about one quarter finds this aspect "very important", about 10-15% not at all important. There are no great differences in product groups, however people tend to value it more in furniture than in paper products.
5. Regarding labels and labelling, about half of the population of the countries surveyed is content with the existing environmental product information, half is not. When asked whether consumers prefer marks of origin of the home country for wood products or SFM-wood labels, about 60% of the consumers in the main markets (Germany, France, Italy, UK) voted for SFM-labels. Familiarity with the term SFM increases the choice of SFM-labels considerably.
6. In terms of consumers' willingness to pay (WTP) for SFM-wood approximately 40% answered that they would not be willing to pay more. Those persons willing to pay a premium would pay on average up to about 6% more. The lowest WTP was found in France (5.5%), the highest in Austria (9.5%). The willingness to pay is quite price-sensitive: a different start price of about 150% of the original initial price reduces WTP by approximately 20%. Even if people evaluate the term SFM as very friendly, this does not lead to a strong increase in WTP.
7. Main EU-markets and SFM-certification. The results of the consumer survey show that the majority of EU-consumers regards SFM-wood as environmentally friendly and something that is rather important. As a product feature, however, environmental friendliness is seen as an aspect of secondary importance. Consumers are thus only willing to pay a quite low price premium. In general, therefore, SFM-wood does not face a strong market demand in Europe. Higher latent demand can be activated in specific market segments, such as those groups that favour environmental products or those who prefer modern and "in"-style products.

8. Individual markets and SFM-certification. The UK market is clearly the leading consumer market:
- There is a considerably higher familiarity with the key term “SFM” and people evaluate the term considerably more often as meaning something “very environmentally friendly”.
 - The image differences between SFM-wood products and ordinary wood products is already quite distinct.
 - People clearly prefer SFM-labels over “made in the UK”-country of origin labels

However, the UK market also shows several weak signals:

- The attention given to the environmental compatibility and naturalness of a product is lower in the UK than in the other markets surveyed.
- About 20% of respondents state that the feature “SFM-wood” is not at all an important product feature in their purchasing decision, compared to about 5% in other countries
- Fewer persons in the UK stated that they are willing to pay more for SFM-wood than in the other markets surveyed.

The German market is still a sleeping market:

- There is a low familiarity with the key term “SFM”, and people evaluate the term less often as meaning something “very environmentally friendly” than in the other markets.
- The attention given to the environmental compatibility of a product is higher in Germany than in the other main markets surveyed.
- Persons who are familiar with the term SFM or evaluate SFM as something very environmentally friendly tend to evaluate SFM-wood as something as good as or better than ordinary wood, a better result than in most of the other countries surveyed.
- There are more people willing to pay more for SFM-wood than in any other market surveyed.

Nevertheless, the generally unfavourable condition of the European market for SFM-wood is true also in general in the German context:

- Only the same percentage of people in Germany find SFM-wood to be a very important product feature for their purchasing decision as people in other countries surveyed (about 20%).
- The average willingness to pay is quite low, even for those persons who stated they would be willing to pay more.

The Italian market showed quite strong similarities with the other main EU-markets surveyed.

- Respondents pay as much or more attention to environmental compatibility or naturalness of products than respondents in the other countries surveyed.
- Italians expressed very similar views on the importance of SFM wood for their purchasing decisions and are willing to pay also as much as or more than people

in the other countries of the main EU-markets. These views were often distinctly expressed by people with higher education and from higher classes.

The French market presents itself as quite indifferent to SFM-wood.

- The expression SFM is neither widely recognised nor very clear in its meaning.
- Although people state they pay attention to environmental aspects on products, this does not materialise in connection with SFM-wood. Consequently, the willingness to pay for SFM-wood is lower than in the other countries surveyed.

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EUROPEAN CITIZENS AND THEIR ATTITUDE TOWARDS FORESTS, FORESTRY AND WOOD

1. THE ATTITUDE OF EUROPEAN CITIZENS TOWARDS FORESTS

What is the role of forests in today's society?

The following question deals with the importance of different interests of society in relation to forests or their management as seen by the respondents. Note that the respondents were asked about the importance of different aspects for society of their home country in general.

Question: Forests can serve different purposes. In your opinion, how important are the following aspects for society in [the home country] in general? Number "1" means particularly important and "7" means not at all important. Between 1 and 7 you can fine tune your judgement

- a the long-term ensuring of wood supply*
- b the long-term preservation of the diversity of animal and plant species in forests*
- c the long-term preservation of the total forest area*
- d the long-term supply of the population with recreational services*
- e the protection of the population from negative natural effects like erosion, floods, landslides or similar*
- n main mkt: 1.825 resp.; country mkts: ca. 330 resp. / Ger: 800 resp.*

A control question in a different sub-group asked respondents to rank the aspects above according to their importance. n: main mkt: 1.825 resp.; country mkts: ca. 330 resp. / Ger: 800 resp.

The results (Fig. 22) show that, in general, in the main EU markets all of the aspects listed are seen as important roles of forests for society by a majority of the respondents. Also, the protection aspects are clearly favoured over the utilisation of the resource. Country results (Fig. 23) tend to show rather little variation of the results for the main market. The control group that was asked to rank the statements of the question showed almost identical results.

Socio-demographic differences in the answering behaviour are found mostly in regard to species diversity. Lower educated respondents in the main EU-countries regard species diversity preservation as less important than others and find wood supply rather important. In Germany, younger, higher educated persons and persons from higher social classes find preservation of species diversity more important than others.

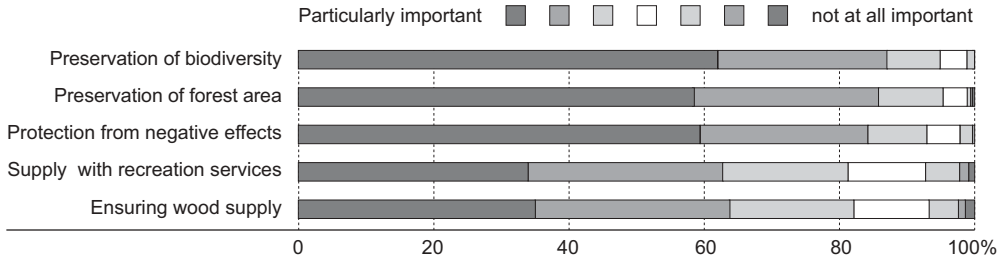


Figure 22. The role of forests – main EU-countries.

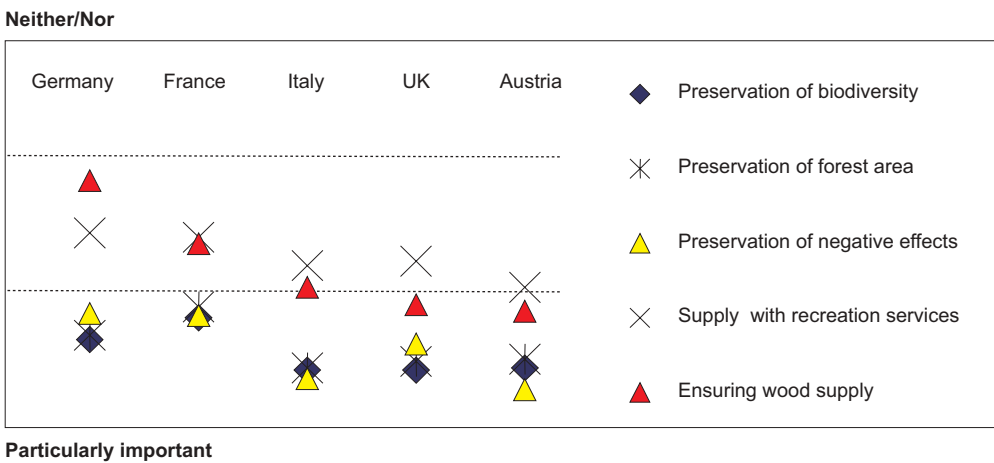


Figure 23. The role of forests – country results.

In France, persons with primary school education are indifferent to it. In Austria, significantly more female respondents find species diversity particularly important than male respondents.

The general bias towards protection aspects in connection with forests can at least partly be explained by the opinions people show regarding the condition of forests (see next section).

What do EU-citizens think about the forest condition?

The condition of forests was investigated in relation to the status and/or development of three central elements of sustainability, namely the forest area, the number of animal and plant species (species diversity) and forest health.

Two sub-groups were asked to assess the status or development of forests in their home country. (main market: n = 3.634 respondents ; country markets: ca. 660 resp. / Germany: 1600 resp.).

Respondents in the third subgroup were asked to assess the status or development of forests in tropical countries. (each: n: main mkt: 1.825 resp.; country mkts: ca. 330 resp. / Ger: 800 resp.).

The assessment of the domestic forests

Figure 24 shows the results of the assessment of the domestic forests by the respondents in Germany, France, Italy and the UK. It thus shows how the majority of EU-citizens assesses the status of their domestic forests.

The majority of the EU-population believes that in their respective home countries all of the sustainability aspects in question, namely forest area, species diversity and forest health are decreasing moderately or considerably. Only about 10-15% of the population in the main EU countries thinks that the forest increases or improves in relation to these three aspects.

A similar picture is prevalent in the single countries surveyed (Table 15). A noteworthy exception is the evaluation of forest area in Austria where 67% of the respondents state that the forest area is stable or increases.

In general the condition of domestic forests is assessed differently by different age groups and education levels: more people over 50 years believe that forest condition is increasing than people < 50 years and more people with lower education are of the opinion that forest condition is stable.

In Germany persons over 50 years believe significantly more often that forest conditions are increasing/improving, people < 30 years tend to believe the opposite. The same trend can be found in the UK and in Austria. German and Austrian respondents with primary education are significantly more often of the opinion that the forest condition is stable and people with higher than secondary education tend to believe that the condition is decreasing. In Austria female respondents assess the condition of domestic forests significantly worse than male respondents.

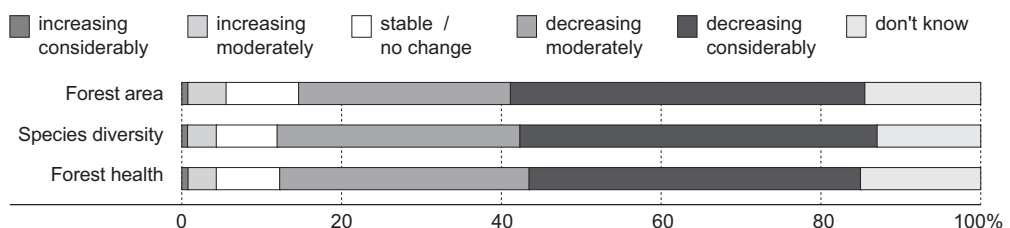


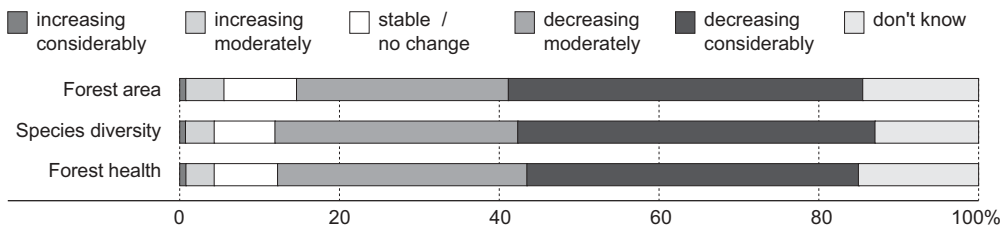
Figure 24. The assessment of forest condition in the respective home countries.

Table 15. Assessment of forest condition – detailed country results in percent.

		Germany	France	Italy	UK	Austria
Area of forest land	increasing considerably	0.9	2.7	0.6	3.1	5.5
	increasing moderately	7.6	20.6	6.0	23.6	26.3
	stable / no change	29.8	27.6	15.1	19.7	35.2
	decreasing moderately	43.1	30.3	39.5	33.4	27.4
	decreasing considerably	13.7	12.6	30.6	10.5	3.4
	don't know	4.8	6.2	8.3	9.7	2.4
	Total %	100.0	100.0	100.0	100.0	100.0
Number of animal and plant species	increasing considerably	1.5	4.0	1.1	1.9	1.7
	increasing moderately	7.7	14.4	4.3	12.8	10.5
	stable / no change	21.4	27.1	15.4	17.9	25.6
	decreasing moderately	47.6	34.7	41.0	40.5	47.0
	decreasing considerably	17.5	13.3	29.0	17.0	13.3
	don't know	4.2	6.5	9.2	9.8	1.8
	Total %	100.0	100.0	100.0	100.0	100.0
Forest health	increasing considerably	1.0	2.0	0.2	1.4	0.8
	increasing moderately	10.9	15.7	5.1	16.6	6.3
	stable / no change	16.7	26.9	13.3	27.9	25.7
	decreasing moderately	43.2	33.9	41.5	34.4	44.5
	decreasing considerably	24.1	14.5	29.3	9.1	21.4
	don't know	4.0	6.8	10.6	10.6	1.4
	Total %	100.0	100.0	100.0	100.0	100.0

The assessment of forests in tropical countries

With respect to the forest condition in tropical countries (Fig. 25.), as represented by the aspects of forest area, species diversity and forest health, about 45% of the respondents in the main EU-countries assess it as considerably decreasing. Only about 10-15% are of the opinion that forest area, species diversity or forest health are increasing or are stable. About 15% answer “don’t know”.

**Figure 25.** The assessment of forest condition in tropical countries – main EU-countries.

The condition of tropical forests is seen similarly by all age groups, people of different gender and education levels.

The satisfaction with the situation of forests

When asked about how satisfied with the condition of forests people are, the outcome was as follows: in the main markets in Europe only about one quarter (27.7%) of the population is content with the condition of forests in their respective home countries and 58% is not. 14.3% answered “don’t know” (Fig. 26 and Table 16. Domestic forests: main market: n = 3.634 respondents ; country markets: ca. 660 resp. / Germany: 1600

Table 16. Contentment with the state / development of forests, results in percent.

		Main Market	Germany	France	Italy	UK	Austria
Satisfied with the condition of forests in home country	very	2.6	2.0	2.4	1.7	4.4	4.8
	quite	25.1	22.0	34.2	14.4	30.6	59.0
	only a little	40.9	43.0	38.4	50.4	31.5	29.1
	not at all	17.1	17.1	13.0	21.1	17.4	3.2
	don't know	14.3	15.9	12.0	12.5	16.2	4.0
	Total %	100.0	100.0	100.0	100.0	100.0	100.0
Satisfied with the condition of forests in tropical countries	very	0.6	0.8	0.4	0.9	0.3	2.5
	quite	5.8	1.7	6.2	7.3	9.8	4.9
	only a little	25.3	19.7	25.5	37.7	20.4	34.7
	not at all	40.7	50.9	43.5	24.1	39.7	45.5
	don't know	27.7	27.0	24.3	29.9	29.9	12.4
	Total %	100.0	100.0	100.0	100.0	100.0	100.0

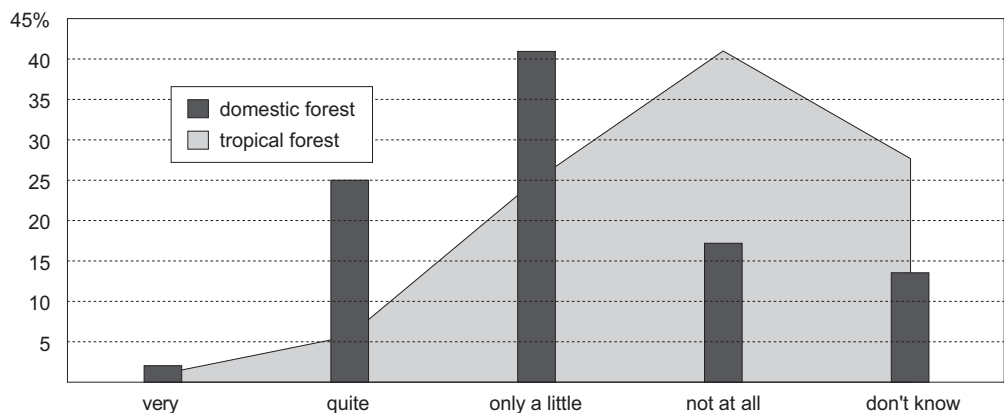


Figure 26. The satisfaction with the situation of forests – main EU-country result.

respondents; tropical forests: main market: n = 1.825 respondents; country markets: ca. 330 resp. / Ger. 800 respondents).

Very few people are very content with the situation of their domestic forests and only in Austria the majority of people (63.8%) satisfied with the situation. People in Italy are least satisfied with forests in their countries (71.5% are only a little or not at all satisfied).

The majority of the population (66%) are not very content with the situation of tropical forests of which 40.7% state that they are not at all content. 27% of the respondents answered “don’t know” and only 6.4% are content.

Just few differences can be found in assessments regarding socio-demographic characteristics. In the total main market older people tend to be more satisfied with the state and condition of domestic forests than younger people, however this difference is not significant at the 0.05 level. ($p = 0.056 / df = 9$). People from lower social classes are generally less satisfied than people from higher social classes ($p = 0.017 / df = 6$). There are no differences in the contentment with the situation of tropical forest.

The satisfaction with the situation of the domestic forest in the main markets correlates significantly with forest area ($r = 0.490 ***$), species diversity ($r = 0.483 ***$) and forest health ($r = 0.561 ***$). Assuming a causal relationship, the results show that forest health is seen as the most important factor (of the three factors) for the expressed satisfaction with forests in the four biggest countries of the EU.

The satisfaction with the situation of tropical forests also correlates significantly with forest area (0.484 ***), species diversity (0.440 ***), and forest health (0.456 ***). Assuming once again causal relationships this would mean that the changes in forest area are more influential in determining how satisfied a respondent is with the situation of tropical forests than forest health or species diversity.

2. WHAT DO EU-CITIZENS THINK ABOUT FORESTRY?

The perceived responsibility for forest conditions

Those people that were only a little or not satisfied with the situation of forests were asked who they regard as being responsible for the situation (for domestic forests: main market: n = 1.825 respondents; country markets: ca. 330 resp. / Ger. 800 respondents for tropical forests: main market: n = 1.825 respondents; country markets: ca. 330 resp. / Ger. 800 respondents). The majority of people in the EU think that the major factors and responsibilities for unsatisfactory forest condition of domestic forests lie outside the forestry sector, namely in pollution by the industry and traffic or in construction activity (Fig. 27). However, forestry is seen as a factor which is also quite responsible for unsatisfactory conditions. Only a few people think that forestry is not at all responsible.

The control question asking one sub-group solely to name the degree of responsibility of forestry for the situation yielded very similar results: 55.7% believe that the forestry sector is very or quite responsible for the situation of domestic forests (compared to almost 60% in the evaluation as in Figure 27).

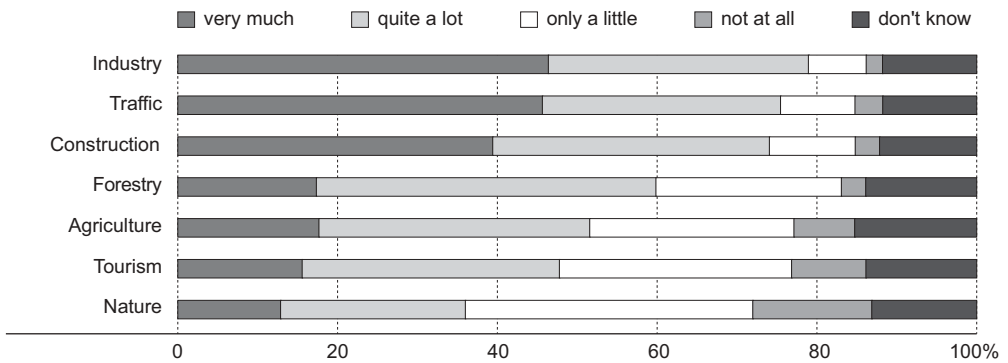


Figure 27. Responsibility for the condition of domestic forests.

The responsibility for forestry conditions in the domestic countries is in general seen quite equally between different socio-demographic groups. However, people of the age group < 29 years tend to believe that the forestry sector is not at all responsible, and people between 45 and 60 years think forestry to be only a little responsible. Furthermore, persons from higher social classes find forestry in general significantly less responsible for forest conditions than persons from lower classes.

Regarding the situation of forests in tropical countries the majority of EU citizens is of the opinion that the main factor for the situation is forestry (Fig. 28). About 50% of respondents state that forestry sector itself is very much responsible for the situation. The results of each of the single countries surveyed reflect the main market results both for domestic forests and for tropical forests.

Persons of the age group 30-50 years and people living in large urban areas (> 100 000 inhabitants) think significantly more often that the forestry sector is very responsible for the situation of tropical forests compared with other age groups or from smaller residential sizes.

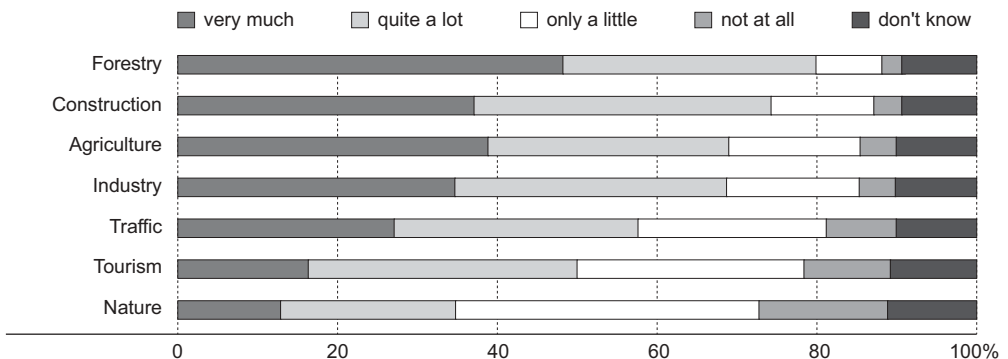


Figure 28. Responsibility for the situation of tropical forests.

Where are forests being sustainably managed today?

The following question addressed to what extent people regard forest management to be sustainable in different regions of the world. A control question concerning the sustainability of domestic forestry was asked in a different subgroup.

Question a: If “sustainable forest management” means that the forest in question is being carefully managed, and in that forest less wood is cut than regrows. In your opinion: how sustainably are forests currently managed in [the home country]

1 very 2 quite 3 only a little 4 not at all 0 don't know

Question b: And how sustainable do you consider forest management to be in the following forests of the world? Number “1” means very, “2” quite, “3” only a little and “4” not at all sustainable (category “don't know” listed).

- a forests in tropical countries (Asia, Africa, South America)*
- b forests in Central Europe (Germany, Austria, Switzerland)*
- c forests in Eastern Europe*
- d forests in Scandinavia (Norway, Sweden, Finland)*
- e forests in North America (Canada, USA)*

The question was supported by a card that listed the statements and a definition of “SFM” (see above). Main market: n = 1.825 respondents; country markets: ca. 330 resp. / Ger: 800 respondents

The majority of EU-citizens regard Scandinavian forestry to be more sustainable than any other of the regions in question, including forestry in their home countries (Fig. 29). About or more than half of the respondents in the major EU-countries think that forest management in Scandinavia and central Europe is very or quite sustainable. Figure 30 shows the results of the individual countries.

3. HOW ENVIRONMENTALLY FRIENDLY IS WOOD?

This section compares the environmentally friendly image of wood both horizontally in relation to substitution materials and vertically through the life cycle of wood products.

How environmentally friendly is wood in comparison with other materials?

The environmental friendliness of wood was compared with several substitute materials. It was also investigated in relation to the origin of the wood, based on the assumption that different mental images exist for wood from different regions in relation to environmental performance. This characteristic is not as important for other

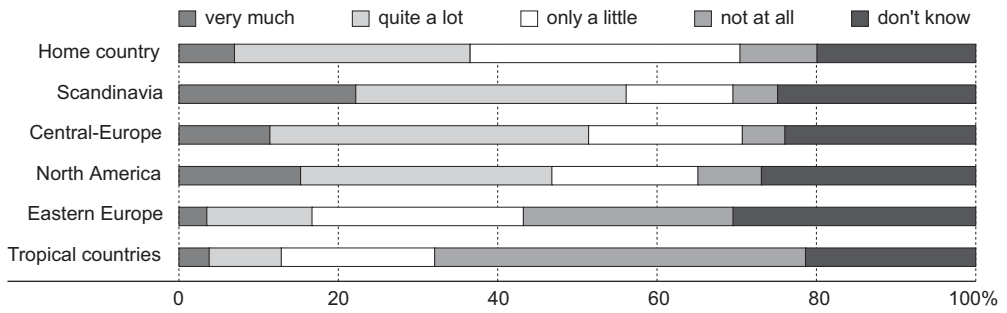


Figure 29. Sustainability of forest management in different regions – the public opinion in the main EU-countries.

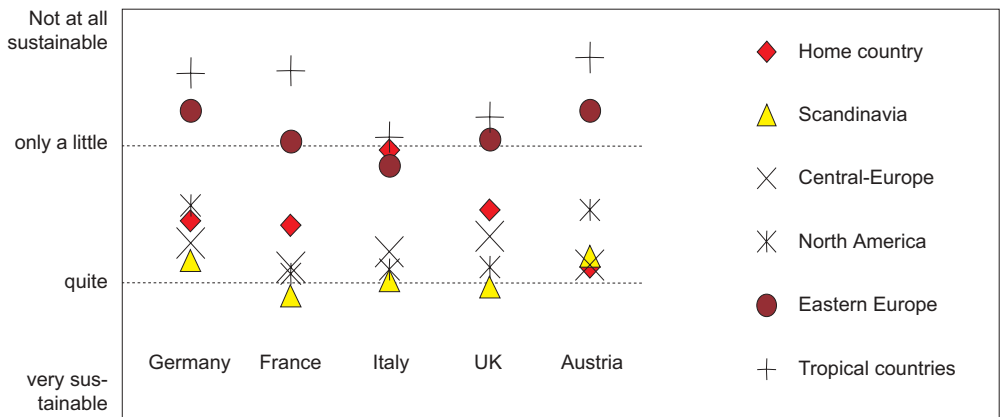


Figure 30. Sustainability of forest management in different regions – the public opinion – country results (note: mean of categorical data).

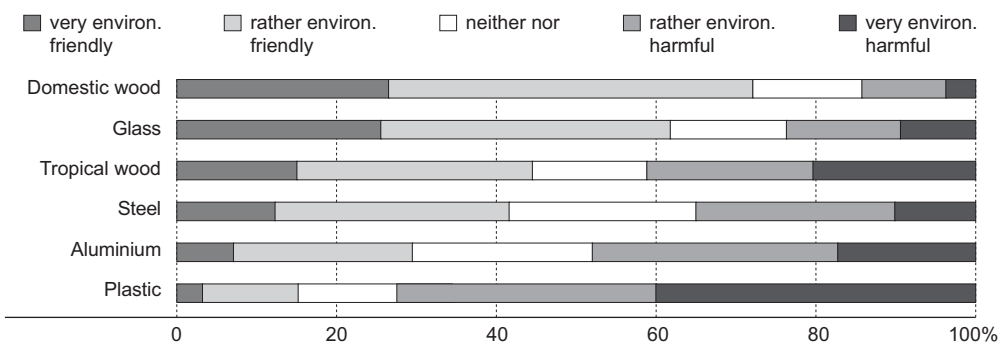


Figure 31. The environmental friendliness of substitute materials – main EU-market results.

substitution materials. In the interpretation of the data, it has been taken into account that the evaluation comprises both the material and the region/country of origin.

The majority of the population of the main EU-countries regards two of the materials presented as environmentally friendly: (domestic) wood (66.1%) and glass (53.9%). Tropical wood is seen as environmentally friendly as harmful by an equal part of the EU-population.

Domestic wood is regarded as the most environmentally friendly material of the list of materials presented with the exceptions Italy and the UK (Fig. 32). In the UK tropical wood is evaluated more environmentally friendly than the other materials and glass is

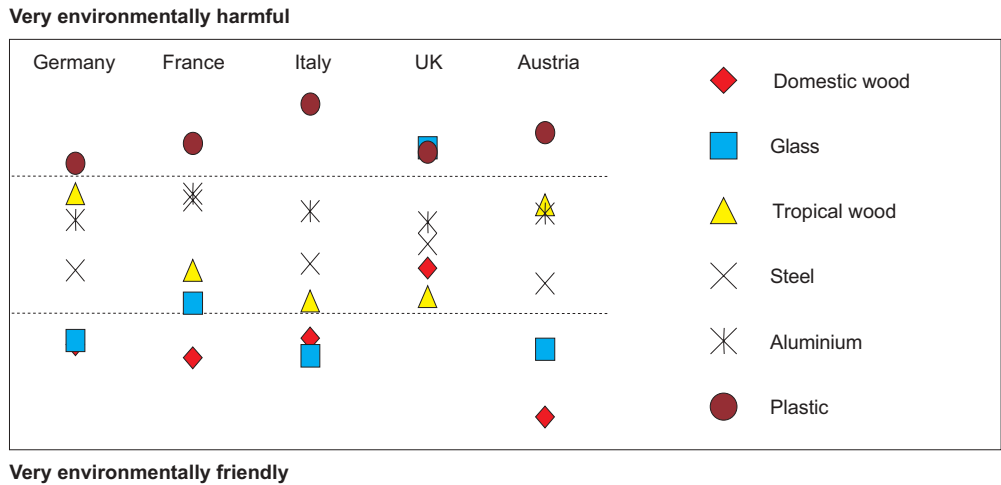


Figure 32. The environmental friendliness of substitute materials – country results.

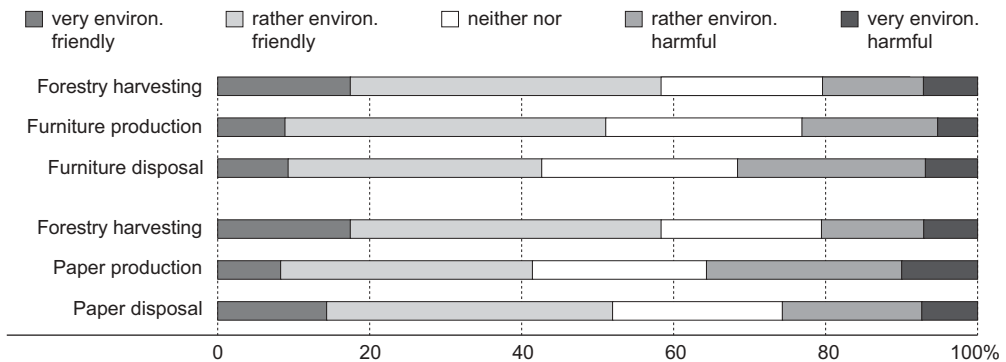


Figure 33. The environmental friendliness of stages of wood product lifecycles.

seen as environmentally harmful as plastic. In all countries studied, the image of tropical wood was worst in Germany and Austria.

The answering behaviour regarding the environmental friendliness of domestic wood or tropical wood does not differ in many respects, however, younger respondents (< 30 years) evaluated domestic wood significantly less environmentally friendly and tropical wood less environmentally harmful than older persons (> 50 years). Lower educated persons evaluate tropical wood significantly more environmentally harmful than higher educated persons.

How environmentally friendly is wood production as part of a life cycle?

The environmental friendliness of wood during its lifecycle was asked for two products: wooden furniture and paper.

More than 50% of the respondents regard the majority of stages of the life cycle of furniture and paper as environmentally friendly, with the exceptions of furniture disposal and the production of paper.

The country results (Table 17) reveal that forestry and timber harvesting is seen as the most environmentally friendly phase of the life cycle of furniture and paper with the exception of Italy in both furniture and paper life cycle and the exception of the UK in paper production. However, none of the life cycle phases of the products in question is seen as environmentally harmful by a majority of respondents.

Table 17. The environmental friendliness of stages of wood product lifecycles – country results. Very environmentally friendly (1); Very environmentally harmful (7).

		Germany	France	Italy	UK	Austria
<u>Furniture</u>						
Forestry and harvesting of timber	Mean	2.99	3.07	3.66	3.90	2.53
	St.dev	1.38	1.71	2.02	1.88	1.21
Production of wooden furniture	Mean	3.23	3.73	3.56	3.92	2.76
	St.dev	1.35	1.49	1.77	1.62	1.35
Disposal of wooden furniture	Mean	3.76	3.94	3.22	4.22	3.46
	St.dev	1.57	1.59	1.69	1.77	3.76
<u>Paper</u>						
Forestry and harvesting of timber	Mean	2.99	3.07	3.66	3.90	2.53
	St.dev	1.38	1.71	2.02	1.88	1.21
Production of paper	Mean	3.81	4.34	3.70	3.98	3.69
	St.dev	1.59	1.74	1.95	1.75	1.73
Disposal of paper	Mean	3.37	3.80	3.11	3.81	2.65
	St.dev	1.56	1.70	1.88	1.81	1.46

4. THE GENERAL ENVIRONMENTAL ATTITUDE

The general attitude towards the environment encompasses a broad spectrum of aspects. Research on environmental concerns, attitudes towards the environment or environmental awareness stretches back about twenty years. Since the 1970s, a multitude of studies on “environmental attitudes” have been undertaken. Usually “attitudes towards the environment” are measured using a list of statements to which the respondent is asked to give his opinion. The statements asked here were taken from existing statement lists and they cover aspects that are frequently asked in surveys (Adlwarth and Wimmer 1986; Bohlen et al. 1993; ISSP 1993 (International Social Survey Programme survey on environmental issues was undertaken in 22 countries world-wide; for data set see e.g. ZUMA, Mannheim, Germany.)). The 8 Likert-type statements were grouped with respect to three aspects, following the attitude measurement – Theory of Reasoned Action (Fishbein and Ajzen 1975):

1. measurement of the affective dimension (items c, e),
2. cognitive dimension (items a, f, g, h),
3. behavioural intent (items b, d)

***Question:** People often have very different opinions about the following statements on the environment. Please tell me your opinion. Number “1” means agree completely, “2” means rather, “3” neither /nor, “4” rather not, “5” means agree not at all.*

- a The importance of environmental problems is greatly exaggerated by many environmentalists.*
- b Even if it costs me a considerable amount of additional money and effort, I do what is good for the environment.*
- c It worries me when I think about the state of the environment that our children and grandchildren will most probably have to live in.*
- d The government and the industry should start with environmental protection, not the ordinary man.*
- e When I read newspaper reports or see TV broadcasts about environmental problems, it often makes me angry or indignant.*
- f Environmental protection and fighting against environmental pollution are less urgent than is often claimed.*
- g If we continue our present course, we are headed for an environmental catastrophe.*
- h We worry too much about the future of the environment, and not enough about prices and jobs.*

The same question was asked in all three sub-groups. Factor analysis resulted in the exclusion of statement d) and gave a two factor solution:

- factors comprising statements expressing concern about the state of the environmental (statements b, c, e, g)

- factors comprising statements expressing little concern about the state of the environment (statements a, f, h)

Respondents were classified into 5 groups according to their answering behaviour to the two statement bundles (Cluster analysis of factor scores followed by discriminant analysis: classification result main markets: 77.9% correctly classified; Cronbach Alpha: 0.674).

According to this classification, 23% of the respondents in the main markets in Europe are very concerned about the environment, 27% are rather concerned, 28% indifferent, 16% are not particularly concerned and 5% are not at all concerned about the environment. This result clearly shows a high level of general environmental concern in Europe.

The degree of environmental concern differs significantly between age groups ($p = 0.001 / df = 12$), education levels ($p \leq 0.0005 / df = 8$), sex ($p = 0.003 / df = 4$), and social class ($p < 0.0005 / df = 8$). People in the age group 30-44 years old are significantly more often very concerned compared with people < 29 years old and + 60 years old who are more often not particularly or not at all concerned about the environment. Higher educated persons (graduate degree or higher) and persons from a higher social class are more concerned. Respondents with primary education are more often not or not particularly concerned. Female respondents are more often very concerned than male. People with children are significantly more often concerned ($p \leq 0.0005 / df = 4$) as are people living in urban areas with more than 100.000 inhabitants ($p \leq 0.0005 / df \leq 8$).

The analysis of answering behaviour to the single statements asked (Fig. 34) shows in more detail that people across Europe express very similar attitudes towards the environment. This result confirms the results of several other international surveys conducted in Europe, such as Eurobarometer (1995), ISSP (1993) and REAP.¹

People expressed the view that they are angry and worried about the environment and that they are prepared to contribute to improving the situation. But people also think that environmental problems are often overstated by some groups and problems are exaggerated. In summary, Europeans seem to be of the view that “we are not headed for a catastrophe, but we should worry about the environment”.

Analysis of correlation (Bivariate Spearman correlation analysis, Expl. D.M.) between environmental attitudes, the degree of environmental concern, and other issues investigated in the survey shows that significant correlations at the main market level exist but correlations are in general low.

According to the analyses, people who are more environmentally concerned rate the condition of forests worse, they are less satisfied with the condition of tropical forests and they are more firmly of the opinion that forestry is responsible for the situation of tropical forests. However, the evaluation of the environmental friendliness of wood as

¹ The Eurobarometer opinion poll was carried out at the request of the European Commission simultaneously in the fifteen countries of the European Union. In total 15 800 people were interviewed. Intended to give a clearer picture of how Europeans perceive environmental issues, this survey follows on from four other similar Eurobarometer opinion polls undertaken in 1982 (EC10), 1986 (EC12), 1988 (EC12) and 1992 (EC12). The 1995 survey is part of the programme REAP = Research into Environmental Attitudes and Perceptions, undertaken by COMPASS, a consortium of European social research institutes, funded by the European Union. The REAP is also linked to the 1993 module of the ISSP on environmental issues. The ISSP on environmental issues was undertaken in 1993 in 22 countries around the world with focus on Europe. The data are public accessible for secondary data analysis by the Zentralarchiv für empirische Sozialforschung in Cologne.

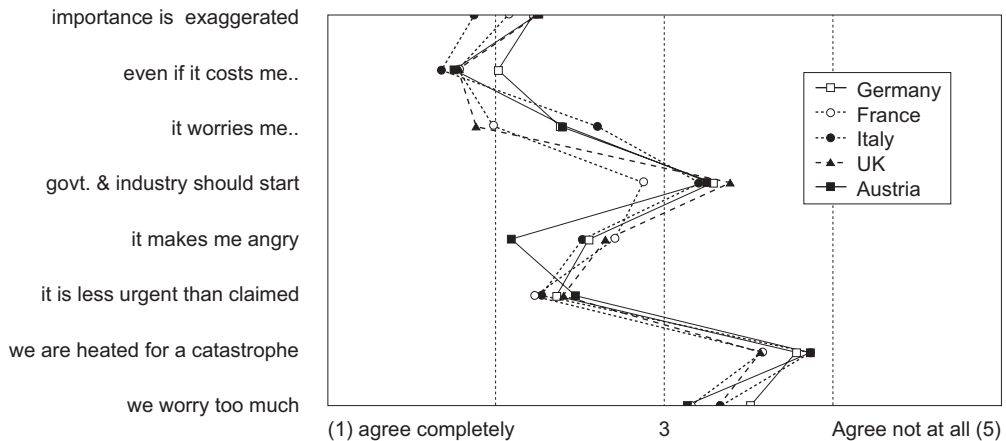


Figure 34. Attitudes towards the environment in European countries.

a material is scarcely correlated to the degree of environmental concern. In purchasing situations people who are more concerned about the environment place more attention on environmental product features and see environmental product information as more important than others.

5. SUMMARY AND CONCLUSIONS

1. The majority of the EU-population regards the preservation of species diversity and protection aspects of forests as more important for today's society than its utilisation in the form of recreation or wood harvesting.
2. This is most probably a consequence of the opinion of the situation of forests: on average about 60% of the population in the EU main markets (Germany, France, Italy, UK) thinks that the condition of forests in the home country decreases in regard to forest area, species diversity and forest health. The assessment of the situation in tropical countries is considerably worse. The majority of respondents are only a little content with the situation of domestic forests and not at all content with the situation of tropical forests.
3. The forestry sector itself is seen to contribute to the situation of forests by a large part of the population. However, in Europe the factors seen as most responsible for the situation are the pollution by industry and traffic as well as construction activity. Most persons, however, believe that forestry itself is the main cause for the current situation of tropical forests. Favourable views on sustainable forms of forest management are only attributed to forestry in Scandinavia and central Europe. Eastern Europe and tropical countries are regarded as not or only slightly sustainably managed.

Forests	Satisfaction with forest condition	- domestic forest: - tropical forest:	$r = -0.102$ *** $r = -0.248$ **
	Forest condition	- domestic forest: - tropical forest:	$r = -0.232$ *** $r = -0.242$ ***
	Frequency of forest visits		$r = -0.114$ ***
Forestry	Responsibility of forestry	- domestic forest: - tropical forest:	$r = 0.090$ *** $r = 0.268$ **
	Sustainability of forest management	- domestic forest: - tropical forest:	$r = 0.052$ *** $r = -0.166$ ***
Wood	Environmental friendliness	- domestic wood - tropical wood	$r = 0.075$ ** $r =$ not significant
Product features	Environm. compatibility		$r = 0.230$ ***
	Natural product		$r = 0.205$ ***
	Economic price		$r = -0.064$ ***
Envir. product information	Contentment		$r = -0.146$ ***
	Importance		$r = 0.251$ ***
SFM-label	Meaning of SFM	- positive / negative	$r = 0.155$ ***
		- envir. friendliness	$r = 0.087$ ***

Figure 35. Environmental attitudes (Bivariate Spearman correlation).

4. Wood, especially domestic wood, is regarded as more environmentally friendly than most of the other substitution materials in question. Even tropical wood is – on average in the four main markets – seen as being more environmentally friendly than steel, aluminium or plastic. Tropical wood is regarded less environmentally friendly in Germany or Austria than in Italy or France. As regards the environmental friendliness of different life cycles of wood products people associate wood production, i.e. forestry and harvesting, to be the most environmental friendly phase of the cycle.
5. Regarding general environmental concern people in the countries surveyed express quite similar views across Europe. They are concerned about the environment and its fate, but they also express that environmental problems as such shouldn't be exaggerated.

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V

RESULTS OF THE FINNISH FORESTRY-WOOD CHAIN SURVEY

Jari Kärnä and Heikki Juslin

RESULTS OF THE FINNISH FOREST OWNER SURVEY

1. SOCIO-ECONOMIC BACKGROUND AND INFORMATION ON HOLDINGS

The respondents of this study represent quite accurately the population of Finnish private forest owners (Tables 18 and 19). However, the mean size of the respondents' forest area (49 ha) is significantly larger than presented in previous studies on the structure of Finnish forest ownership. Moreover, the proportion of female respondents is smaller than their proportion in other studies (18% respective to 25%). The mean age of respondents is 55 years.

Table 18. Distribution of respondents' forest areas. Mean size of forest area 49 ha.

Forest area of estate	Distribution of respondents in the study (%)
under 10 ha	13
10-19 ha	20
20-39 ha	25
40-79 ha	24
over 80 ha	18
Total	100

Some 66% of the respondents indicate that a valid forestry plan exists for their forests, while some 34% did not have a valid forestry plan. Owners of large forest holdings have significantly more valid forestry plans than the owners of smaller forest areas.

Table 19. Distribution of respondents' type of forest ownership.

Type of forest ownership	Distribution of respondents in the study (%)
Forest estate owners	35
Farmer forest owners	30
Pensioner forest owners	35
Total	100

2. VALUES, OBJECTIVES AND LEVEL OF GREENNESS

In general, most forest owners' forest-related values and objectives for forest ownership emphasise the economic use of forests. However, ecological aspects are also of importance. The forest owners do not generally consider the norms pertaining to certification as justified. They are particularly anxious about the favouring of certified forests and forest products. Particularly pensioners and anti-green forest owners tend to react to all favouring of and participation in certification with more reserve than other forest owners.

The forest owners' level of greenness was defined by creating a sum-variable from the forest-related value and objective variables. The variables to be included in the sum-variable were chosen by using factor analysis. The forest owners' level of greenness was not at a very high level. The largest amount of forest owners are either neutral greens (51%) or anti-greens (38%). Only a minor part of forest owners are categorised as pro-greens (12%). Farmers, who generally own large areas of forests, are less green than other forest owners.

3. FOREST OWNERS' KNOWLEDGE OF FOREST CERTIFICATION

The knowledge of forest certification was weak among a large number of private forest owners; one third of the respondents claim that they have never heard of certification and that their knowledge of forest certification was non-existent (Table 20). Very few of them profess high or very high knowledge. Especially pensioners and other small forest owners are unacquainted with issues related to forest certification. Anti-greens, especially farmers, know more of certification than greener forest owners.

Table 20. Amount of information received and knowledge of forest certification, % of respondents. Not at all (1); very much (5).

Information received / knowledge of certification	1	2	3	4	5	Mean
Amount of information received of forest certification, %	30	6	50	7	7	2.6
Amount of knowledge of forest certification, %	34	19	39	7	2	2.2

4. GENERAL ATTITUDES TOWARDS FOREST CERTIFICATION

General attitudes were studied with nine arguments covering the economic and ecological aspects of certification. It is to be noted that the distributions and means are

calculated only from those answers are between classes 1 and 6. Thus, class 7 (does not know) has been omitted when calculating the distributions in order to avoid bias of means (Table 21).

The viability of certification was generally doubted by the forest owners. Most of them believe that it is only feasible to certify forests if their forest-related income is increased, and that obeying laws is sufficient for good forest management. Furthermore, it was generally believed that certification renders practising forestry more difficult. Forest owners are not convinced of the forest industry's interest in certified timber or of the possibility that the requirements of certification would improve the condition of their forests. A little more is believed in certification's possibilities to improve the biodiversity of forests and in consumers' interest in certified forest products.

Table 21. Forest owners' general attitudes towards forest certification. Completely disagree (1); completely agree (6).

Argument	1	2	3	4	5	6	Mean	Don't know %
Ecolabelling of forests is feasible to forest owner only if it increases the income from selling timber, %	5	6	17	25	16	32	4.3	13
Obeying the law is a sufficient guarantee on the good management of forests, %	9	8	13	24	20	26	4.2	11
The ecolabelling of my forests would render practising forestry more difficult, %	10	12	18	21	15	24	3.9	34
Consumers are interested in whether timber originates from an ecolabelled forest or not, %	18	11	17	26	17	11	3.5	23
Fulfilling the requirements of ecolabelling would increase the biodiversity of my forests, %	21	9	17	28	13	12	3.4	21
As a forest owner I would benefit from the ecolabelling of my forests, %	29	7	16	24	14	10	3.1	36
Timber buyers would be ready to pay a premium for ecolabelled timber, %	26	12	19	23	11	9	3.1	31
Ecolabelling would increase forest industry's interest in buying timber from my forests, %	25	14	19	23	11	8	3.0	27
Fulfilling the requirements of ecolabelling would improve the condition of my forests, %	30	14	18	22	9	7	2.9	21

In general, forest estate owners and green persons believe most in the viability of certification. Larger forest owners doubt more the general viability of certification than small forest owners, but believe more in the consumers' interest in it.

5. OBJECTIVES FOR CERTIFICATION

Forest owners' objectives for forest certification were studied by asking which of the given potential reasons would be behind their decision if they were to participate the in ecolabelling of forests. In addition to the seven given objectives respondents were given the opportunity of naming their own reason for participation. Since only 16 respondents indicated an objective of their own for certification, these are not considered in the study.

Table 22. Forest owners' objectives for forest certification. Not at all important (1); very important (6).

Objective	1	2	3	4	5	6	Mean
Obtaining better price for timber, %	3	2	7	30	23	35	4.7
Securing demand for timber, %	7	3	11	29	23	28	4.4
Securing health and productive capacity of own forests, %	9	5	10	30	24	23	4.2
Securing biodiversity of own forests, %	10	6	12	31	21	19	4.1
Aspiration to better forest management, %	12	6	11	32	19	20	4.0
Enabling a better protection of endangered species, %	16	9	20	26	15	15	3.6
Improved possibilities to use own forests for recreational purposes, %	22	13	19	25	10	11	3.2

The forest owners' objectives for certification are mainly economic in nature (Table 22). Securing the productive capacity of forests is also considered important. Multiple-use objectives (improving recreational possibilities and protection of endangered species) are not considered as important reasons for participating in certification. The economic objectives are particularly important for farmers owning large forests and for anti-greens in general. Better forest management and the multiple-use objectives are most important for green forest owners (mainly forest estate owners).

6. PREFERRED CERTIFICATION SYSTEM

Preferred certification body

Respondents were asked which party they feel is a dependable and preferable party to function as a certifying body. They were asked to prioritise the three best of the given alternatives. They were also given the possibility to suggest a candidate of their own. Class 4 shows the percentage of respondents who did not rank this alternative among the best three. It is to be noted that because some respondents did not answer correctly to questions of this type (e.g. several first choices were indicated), the total sum of percentages per column is not necessarily 100% (Table 23).

Table 23. Preferred certifying body. Highest priority (1); lowest priority (3); not included in 1-3 (4).

Certifying body	Order of preference, % of respondents			
	1	2	3	4
Governmental organisation	23	30	15	33
Scientific organisation	24	25	13	37
Private organisation	21	15	21	44
Consumer organisation	13	16	15	57
Other organisation	20	4	4	73
Environmental organisation	7	10	15	69

Forest owners prefer a governmental or scientific organisation to be the certifying body. A private certification organisation is also accepted as an alternative. Consumer and especially environmental organisations are, however, not considered to be dependable to function as a certifying body. Forest owners were active in indicating their own alternative for a dependable organisation. 54% of the respondents who gave their own alternative opined that a dependable organisation would be a Forestry Association. In general, forest owners or forest owner organisations were strongly emphasised as an alternative.

A governmental organisation is favoured most by forest estate owners. Farmers prefer most a forest owner organisation, while owners of small forest holdings (mainly pensioner forest owners) and green forest owners are those most willing to accept an NGO-related party as certifying body.

Preferred negotiating party

Respondents were asked which party they prefer when negotiating their possible application for a certificate. They were asked to prioritise the three best of the given alternatives. They were also given the possibility to suggest a candidate of their own. Table 24 shows the distribution of answers. Class 4 shows the percentage of

respondents who did not rank this alternative among the best three. It is to be noted that because some respondents did not answer correctly to questions of this type (e.g. several first choices were indicated), the total sum of percentages per column is not necessarily 100%.

Table 24. Preferred negotiating party. Highest priority (1); lowest priority (3); not included in 1-3 (4).

Negotiating party	Order of preference, % of respondents			
	1	2	3	4
Advisor of Forest Association	81	10	4	5
Representative of a governmental organisation	7	46	15	31
Representative of an industrial timber buyer	4	16	22	58
Representative of a private certifying company	5	10	20	65
Representative of an environmental organisation	4	4	12	80
Other	1	1	2	96

An advisor of a Forestry Association is clearly the most preferred party for negotiations. The second best alternative is considered to be the representative of a governmental organisation. Representatives of an industrial timber buyer or a consumer organisation are ranked third. However, a representative of an environmental organisation or the option “other” are not considered as feasible alternatives. Only 17 respondents ranked some other representative among the three best alternatives. Due to the low occurrence of other representatives tendered, this group was not considered when analysing the differences in preferred negotiating party.

A private certifying company is the most preferred option by forest estate owners. The green owners of small forest holdings (mainly forest estate- and pensioner forest owners) are the groups who most prefer a representative of an environmental organisation. Green forest owners dislike the representative of an industrial timber buyer as an alternative.

Preferred certification criteria

The preferred criteria for certification were studied by asking how important the given aspects are when striving for a sustainable and responsible use of forests. The distribution of answers is presented in Table 25.

Securing the productive capacity of forests is considered to be the most important aspect in sustainable forest management. Also the protection of the soil and water resources is regarded as important. The criteria connected to the multiple-use of forests are not among the aspects considered as the most important. It is to be noted, however,

Table 25. Preferred certification criteria. Not at all important (1); very important (6).

Criteria	1	2	3	4	5	6	Mean
Increasing the amount and productivity of forests	3	1	5	29	28	35	4.8
Use of forests in a way that strives to protect soil and water resources	3	2	9	33	29	25	4.6
Securing the forest-related rights of local people	11	6	11	26	19	27	4.2
Increasing the biodiversity of nature	8	6	13	31	23	19	4.1
Increasing the beauty of forest scenery and recreational possibilities	9	6	16	34	20	15	4.0

that all given criteria are generally considered to be of importance in sustainable forest management. Increasing the productivity of forests is most important for anti-green persons, while securing the rights of local people is important especially for farmers and green persons. The ecological criteria are considered as most important especially by forest estate owners and green forest owners.

Preferred level of certification

Respondents were asked on which geographical level they prefer certification to be implemented. They were asked to prioritise the three best of the given alternatives. Class 4 shows the percentage of respondents who did not rank this alternative among the best three. It is to be noted that because some respondents did not answer correctly questions of this type (e.g. several first choices were indicated), the total sum of percentages per column is not necessarily 100% (Table 26). The percentage of respondents who have indicated that they are unwilling to participate in the certification of any given alternative or that they have no certain opinion on the subject is also given in Table 26. The distribution of respondents in the four given alternatives does not contain the persons who have indicated that they are unwilling to participate in any of the given alternatives.

Most forest owners prefer the regional-level certification of the area of the local Forestry Association. Also the certification of small forest owner groups is considered as a feasible alternative. The certification of the area of a Forest Centre and the individual certification of every forest owner are not considered as preferable options. The certification of small forest owner groups is mostly favoured by forest estate owners and by persons owning small forest areas. Certification of the area of a Forest is mostly favoured by anti-greens (who are generally large forest owners). One out of five forest owners (especially pensioners and anti-greens) are unwilling to participate in the certification of any given area.

Table 26. Preferred level of certification. Highest preference (1); lowest preference (3); not included in 1-3 (4).

Level of certification	Order of preference, % of respondents			
	1	2	3	4
Forests in the area of local Forest Association are certified together	51	29	12	8
Forests of small forest owner groups are certified together	18	32	23	28
Forests in the area of a Forest Centre are certified together	16	25	19	41
Forests of every individual forest owner are certified separately	19	10	18	54
Not ready to participate in any of given alternatives 22%; does not know 16%				

7. WILLINGNESS TO ADAPT TO CERTIFICATION

Willingness to meet the costs of certification

Forest owners' willingness to meet the costs induced by certification was studied by asking how large a portion of their income from fellings they would be ready to spend on the direct and indirect costs of certification.

Most forest owners are not willing to spend any of their income from fellings on the costs induced by certification (Table 27). Especially the direct costs of certification are not accepted. The indirect costs (reduced net income from forests) are slightly better accepted, but also these costs are only on a marginal level. Pensioner forest owners and anti-greens are the least willing of accepting the costs of certification

Willingness to adapt to certification system requirements

The willingness of forest owners to adapt to the management systems of certification was studied by asking whether they were ready to perform certain actions in order to have their forests certified.

Forest owners are generally not very willing to adapt to the behavioural requirements of certification (Table 28). Over one fifth of the respondents indicated that they are absolutely not ready to adapt their behaviour. Forest owners are most willing to allow the certifying body to inspect their forests and forest-related documents. Also to take the auditing results into consideration is considered acceptable by most forest owners. However, forest owners are less willing to commit themselves to the obligations of certification. Pensioner forest owners and anti-greens are the least willing to adapt to the management systems of certification.

Table 27. Willingness to agree to costs of certification, % of respondents.

Source of costs	% of income from fellings ready to spend				
	0	0-2	2-5	5-10	10-
Direct costs (implementation of certification & auditing), %	53	38	8	0	0
Indirect costs (reduced net income from forests), %	40	41	14	4	2

Table 28. Willingness to adapt to management systems of certification, % of respondents. Absolutely not ready (1); absolutely ready (6).

Requirement	1	2	3	4	5	6	Mean
Allowing the certifying body to inspect forests and documents related to forest management and use, %	22	9	16	25	11	16	3.4
Execution of changes in the forest management and the use of forests according to the defects perceived in audits, %	21	11	18	27	12	12	3.3
Allowing the inspection of forests' ecological value prior to executing e.g. fellings, %	23	13	19	25	8	12	3.2
Reporting of any actions to be undertaken in forests to certifying body in advance, %	26	11	19	22	10	12	3.1
Commitment to develop the management and the use of forests according to given requirements, %	25	11	20	27	9	9	3.1

Willingness to adapt forest management to certification requirements

The forest owners' willingness to adapt to forest management requirements of certification was studied by asking if they were ready to perform certain actions in order to have their forests certified.

The forest owners are ready to implement ecological forest management (Table 29). They are, for example, very willing to regenerate forests naturally and to maintain mixed stands in their forests. Interestingly, most forest owners even consider it acceptable to leave up to 10% of trees unharvested in regeneration fellings, even though this would considerably reduce their net income from forests. On the other hand, forest owners are not ready to maintain a part of forests constantly in old age class (= older than the minimum age for regeneration fellings). They are also very unwilling to make man-made decaying trees and especially to leave a part of forests completely outside

Table 29. Willingness to adapt to forest management requirements of certification, % of respondents. Absolutely not ready (1): absolutely ready (6).

Requirement	1	2	3	4	5	6	Mean
Regenerating forests naturally whenever possible	1	2	3	29	22	43	5.0
Maintaining mixed forests	2	0	3	31	26	38	4.9
Minimising soil cultivation when regenerating forests	6	5	8	28	20	33	4.5
Leaving forests unfertilised	8	5	11	27	19	29	4.3
Leaving buffer zones around important biotopes	7	5	11	31	21	26	4.3
Leaving decaying trees in forests	11	6	9	28	17	30	4.2
Leaving 10% of trees unharvested when executing regeneration fellings	14	7	11	26	16	26	4.0
Maintaining a part of forests constantly in old age class	25	12	22	20	10	12	3.1
Making man-made decaying trees when executing regeneration fellings	32	11	21	19	8	9	2.9
Leaving a part of forests in a completely natural state	38	16	19	14	4	9	2.6

economic use. In general, green forest owners are readier to adapt to the forest management requirements than anti-green persons. Moreover, especially pensioner forest owners are reluctant to adapt to these requirements.

8. DECISION ON PARTICIPATION IN CERTIFICATION

Factors affecting participation

Factors affecting the forest owners' willingness to participate in certification were studied by asking how important the given aspects are when considering their participation in certification. The distribution of the answers is presented in Table 30.

Forest owners consider the participation of forest owners in the planning process of certification very important. It is also highly important that the use of forests does not need to be changed considerably and that the certifying body is the party of their preference. Participation of the other local forest owners is not considered to be of much importance when applying for a certificate. Certain knowledge of the economic profitability of certification is especially important for farmers. Both farmers and forest estate owners are more sensitive of the suitability of the certification system for them

Table 30. Factors affecting participation in certification, % of respondents. Not important (1); very important (6).

Aspect	1	2	3	4	5	6	Mean
Forest owners have participated in the planning of the ecolabelling scheme	3	1	2	24	15	56	5.1
Use of forests does not have to be changed considerably in order to get forests ecolabelled	4	3	7	27	23	35	4.7
Certifying body is the preferred party	5	1	6	30	24	33	4.7
Ecolabelling does not require much time and paperwork	6	3	7	27	22	35	4.6
There is certain knowledge of economic profitability of ecolabelling	10	3	13	28	18	28	4.2
Other local forest owners have already ecolabelled their forests	26	13	23	18	10	9	3.0

than pensioners. In general, the suitability of the certification system is most important for anti-green persons. However, anti-greens do consider other forest owners' participation as less important than green forest owners.

Willingness to participate in certification

The willingness of forest owners to apply for a certificate for their own forests was studied by asking what they would answer if they were asked at the time of filling in the questionnaire whether they were ready to apply for an ecolabel for their forests.

Most forest owners are not at present interested in certifying their forests (Table 31). However, a large proportion of them are interested in negotiating on the issues connected to the possible certification of their forests. Only a minor part of forest owners would be absolutely ready to have their forests certified. Forest estate owners and farmers are more willing to participate in certification than pensioner forest owners. Green forest owners are more willing to participate than anti-greens.

The willingness of forest owners to participate in the certification of the area of the local Forestry Association was studied by asking what they would answer if they were

Table 31. Willingness to apply for certification of own forests.

Alternative	% of respondents
I am absolutely ready to apply for an ecolabel for my forests	3
I am interested in negotiating on the ecolabelling of my forests	32
I am not at present interested in ecolabelling my forests	52
I am definitely not going to apply for an ecolabel for my forests	13

Table 32. Willingness to participate in certification of the area of local Forestry Association.

Alternative	% of respondents
I am absolutely ready to participate in the project	3
I am interested in negotiating about my participation	44
I am not at present interested in participating in the project	43
I am definitely not going to participate in the project	10

asked at the time of filling in the questionnaire whether they were ready to participate in the ecolabelling project of the local Forestry Association.

Most forest owners are either possibly interested in participating in the certification project or not interested in participation at the present time (Table 32). A minor part of the forest owners are either absolutely not ready to participate in the project or absolutely ready to participate in it.

9. CONCLUSIONS

Forest certification is at the moment generally considered as viable by green forest owners. On the other hand, anti-green persons (who in general are owners of large forest areas) are not interested in certification, nor do they believe in the positive effect of certification for their forestry. While large forest owners are an important source of roundwood in Finland, their participation in certification is essential regarding the development of certification systems. Pensioner forest owners have generally the least knowledge of certification. In many cases, they also have the most negative attitudes towards certification. If no economic reason for participation can be distinguished, wide and truly voluntary participation in certification is not probable. Forest certification cannot gain a wide acceptance if the used certification system does not satisfy private forest owners.

Finnish forest owners prefer group certification on a regional level, preferably by certifying the areas of local forestry associations. This alternative would integrate forestry associations into the certification procedure and would thus enhance forest owners' willingness to participate in it. Regional certification would also reduce the cost impact of certification on individual forest owners. This is most important, since forest owners are not ready to accept significant costs induced by certification. Forest owners are not very willing to accept the fact that certification of their forests places certain requirements on their behaviour. They are especially unwilling to make themselves obliged to follow given requirements.

Despite forest owners' reluctance to commit themselves to use their forests according to given requirements, they are clearly willing to implement ecological forest management. However, practices having a very strong negative effect on the net income acquired from forests are not accepted. Therefore, certification should aim at improving the sustainability of forestry by other means than, for example, leaving a part of forests

completely outside economic use. Forest owners are unwilling to change their current forest management practices considerably in order to be certified.

Even though forest owners are not very interested in certification at present, it is possible to implement a widely accepted and participated certification scheme in Finland, if that is preferred on national level. This will, however, require further knowledge of the different effects of certification as well as efficient and impartial transfer of this knowledge to private forest owners. The benefits and disadvantages of certification must be made known to forest owners. The role of the local forestry associations is central if a timber certification system is preferred to be implemented in Finland.

RESULTS OF THE FINNISH INDUSTRY AND TRADE SURVEY

1. VALUES AND EXPECTED DEVELOPMENT OF MARKET ENVIRONMENT IN FINLAND

Environmental Business Values

General environmental values of Finnish forest industry were studied by using various statements concerning the social responsibility of companies. The statements covered both the economic and the ecological, as well as the social aspects of business management.

The environmental friendliness and social responsibility of companies were seen as a necessity in the society. As many as 95% of the respondents thought that environmentally friendly products are a necessity in the future. About 80% believed that companies should redirect their customers towards less environmentally harmful consumption, and that companies should have other responsibilities than just maintaining a profitable business. Governmental regulation in balancing environmental and economic values was supported by 55% of the respondents.

The environmental values were studied also by asking about the desirability of certain measures influencing the environment and business management. 96% of the respondents considered the consumer the most desirable measure in influencing the quality of environment. Also industry competition and government regulations were supported. Consumer boycotts and pressure by NGOs were not considered as desirable measures.

An additional question was asked to assess the company's specific interest in redirecting consumers' needs and wants. Two out of three companies had an interest in redirecting consumers' needs and wants towards less environmentally harmful consumption, and only 14% had no interest in that (Table 33).

Table 33. Company's interest in redirecting consumers' needs and wants, %. Strong interest (5), no interest at all (1).

Interest in redirecting consumers' needs and wants towards...	5	4	3	2	1	Mean
less consumption	1	10	28	26	35	2.2
less environmentally harmful consumption	25	41	20	9	5	3.7

Those companies, about 10% of the respondents, who had an interest in redirecting consumers' needs and wants towards less consumption indicated that they want to produce high quality, long-lasting products that reduce total consumption by having long useful life. As a conclusion, regarding the environmental values of the Finnish forest industry, it can be suggested that the environmental values of Finnish forest industry seem to support the principles of ecological marketing.

Environmental Micro and Macro Environment and Customer Behaviour

Industry's perceptions concerning the micro and macro environment of the Finnish forest industry were studied by asking how environmental related issues are expected to develop in the future, how environmentally aware the most important customers are and how they rate the importance of different product factors. Also the importance of timber certification for customers and perceived interest in it were asked.

The results of the expected development of the company's market environment show very clearly that environmental consciousness, as well as supply and demand of environmentally friendly products, are expected to increase in the near future. 38% of the respondents expected that the customer's willingness to pay higher prices for environmentally friendly products will also increase, but about 10% expected it to decrease. 45% expected the influence of ENGOs on the market to increase. Decreasing influence of ENGOs was expected by about 10% of the respondents.

The respondents were asked to assess how their main customer group(s) rate the importance of certain factors when buying wood products (Table 34). They were asked to divide 100 percentage points between the factors. Price and quality were assessed to be the most important factors. The environmental friendliness of the products was assigned 7% weight in customers' buying decision.

The pulp and paper industry assigned a significantly greater weight to environmental friendliness in their customers' buying decisions than sawmills. Also marketing channels assessed it as more important compared to sawmills. It is to be noted that the respondents were asked to assess their main customers' views which usually means export customers in Western Europe for the pulp and paper industry.

Table 34. Perceptions of the customers' rating of the importance of a product's factors in the buying decision.

Factor	Mean of given points
Price	37
Quality	26
Delivery (time/reliability)	17
Specification	12
Environmentally friendliness of the products	7
Others	1
Total	100

37% of the respondents assessed that their most important customer group(s) are environmentally aware and 30% regarded them not environmentally aware (Table 35). No statistically significant differences occurred between industry sectors or size classes.

The questions of consumers' perceptions and their interest in certified products were asked to study the role of timber certification in the company's micro environment (Tables 36 and 37).

43% of the respondents assessed timber certification as an important issue for their most important customer group(s). 29% regarded it not important. Concrete interest in the form of requests for documents concerning the level of forest management and origin of wood had been shown by 18% of customers. 27% of customers had never shown any interest at all in certification. If timber certification had sometimes come out in informal discussions with customers, the respondents usually chose option 2 or 3 for these questions.

Cross tabulation shows that the importance of timber certification systems seems to differ between the customers of different industry sectors. It seems that the customers of the paper industry would find timber certification more important than the customers of secondary wood processing. Secondary wood processing was also the biggest group

Table 35. Environmental awareness of the most important customer group(s), %. Very aware (5); not aware at all (1).

Question	5	4	3	2	1	Mean
How environmental aware are your most important customer group(s)?	3	34	33	27	3	3.1

Table 36. Customers' perceptions concerning the importance of certification, %. Very important (5); not important at all (1).

Question	5	4	3	2	1	No idea	Mean
If a timber certification system were introduced in the near future, how important would your most important customer group(s) find the certification system?	7	36	22	23	6	6	3.2

Table 37. Customers' interest in certified products, %. Strong interest (5); no interest at all (1).

Question	5	4	3	2	1	Mean
Have your customers shown any interest in certified products?	0	18	20	35	27	2.3

that had no idea about their customers' perceptions. Concrete requests concerning the origin of wood had been received by the paper and sawmilling industry and part of the marketing channels.

Environmental consciousness, as well as the supply of and demand for environmentally friendly products, are expected to increase in the near future. Only 10% of the respondents, many of them among the pulp and paper industry, expected the customers' willingness to pay higher prices for environmentally friendly products to decrease. Price and quality were assessed to be the most important factors in the buying decision. Environmental friendliness of the products was assessed to have a 7% weight. 37% of the respondents assessed that their most important customer group(s) are environmentally aware. 18% of the industries, especially paper and sawmilling industry as well as part of the marketing channels, had received formal requests concerning the origin of wood.

2. ECOLOGICAL MARKETING AND ENVIRONMENTAL ACTIVITY IN FINLAND

Decisions for Marketing Strategies

Product Strategies. The strategic product decisions typically describe what kind of products the company wants to produce. The product characteristics and orientation, e.g. commodity product – special product – customer product, are defined in product strategies. Environmental friendliness may, for instance, be one strategic characteristic that can convert a commodity product to a special product.

Environmental friendliness seems to be a moderately emphasised product characteristic: over 50% of the respondents emphasise it in their strategic product decisions, and only 15% do not (Table 38). Printing houses and publishers (paper buyers) and surprisingly also sawmill and panel industry seem to emphasise environmental friendliness slightly less than other sectors. The group emphasising environmental friendliness least in its product decisions was the paper buyers. However, the Finnish sampling on this industry sector is small. Large industrial paper buyers in Finland are not specialised in, for example, using mainly recycled paper.

Over half of the respondents believed that timber certification system would support their company's strategic product decisions (Table 39). Only 17% assessed that it would not support product strategies. No statistically significant difference occurred between industry sectors or size.

Customer and Supplier Strategies. Customer strategies typically describe what type of customer groups the company wants to concentrate on. Customers' environmental awareness had an important role in customer selection for only 27% of the respondents. For 45% it was not an important factor. It seems that only a few companies (4%) have considered a strategy to concentrate on environmentally aware customers. These companies seem to operate in the paper, secondary wood processing and DIY sectors. However, customers' environmental awareness has some influence on the customer strategies for about quarter of the Finnish forest industries.

Timber certification system would have an impact in deciding on suppliers of the raw materials and products for 39% of the respondents (Table 41). About as many companies assessed certification system as not influencing supplier strategies. This could be interpreted that less than half of the companies would be ready to consider seeking

Table 38. The emphasis of the product's environmental friendliness (EF) in the strategic product decisions, %. EF most emphasised product characteristic (5); no emphasis at all (1).

Question	5	4	3	2	1	Mean
In your strategic product decisions, how much is the environmental friendliness (EF) of the product emphasised?	6	46	33	13	2	3.4

Table 39. Support of a timber certification system in the company's strategic product decisions, %. Would support fully (5); would not support at all (1).

Question	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future would it support your strategic product decisions?	20	34	29	9	8	3.5

Table 40. The importance of customers' environmental awareness in customer selection, %. Very important (5); not important at all (1).

Question	5	4	3	2	1	Mean
When selecting your most important customer group(s), how important is their level of environmental awareness in your decision making	4	23	28	31	14	2.7

Table 41. Impact of timber certification in deciding on suppliers of the raw materials and products, %. Strong impact (5); no impact at all (1).

Question	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, how strong an impact would it have in deciding on suppliers of your raw materials and products	7	32	24	25	12	3.0

actively suppliers that can offer certified wood. Companies that have their own timber procurement organisation are not ready to change the procurement system itself, but seeking suppliers able to offer certified wood could be possible. Some marketing channel intermediaries seem to be readier to change their suppliers for this reason than the other groups.

Competitive Advantage Strategies. Competitive advantage strategies typically define the relative advantages of the company compared to competitors. Environmental friendliness was seen as a very important factor when planning competitive emphasis for the most important products and markets (Table 42). Altogether 54% of the respondents regarded it important, and only 14% did not. Importance of environmental friendliness in the planning of competitive emphasis seems to be regarded more important among pulp and paper industry than among sawmills and the panel sector. A clear majority (77%) of the respondents think that good forest management could be regarded as a source of competitive advantage, and only 10% did not believe so (Table 43). Almost two thirds of the respondents (62%) assessed that they would try to use certified raw material as a source of competitive advantage and only 15% thought that they would not try do so (Table 44).

Decisions for Marketing Structures

Issues like management systems, organisation and contact channels are defined in marketing structures. The values and philosophy of management is the aspect that is most influenced by environmental issues (Table 45). Only 17% of the respondents thought that the impact has been minor. Less than half said that the impact of environmental issues in planning and information systems has been strong and one quarter that the impact in personnel recruitment and training has been strong. The impact has been lowest (16%) in distribution channels. This could be interpreted as meaning that the companies do not easily make changes in their distribution channels but for a few companies environmental issues may influence the decisions concerning distribution channels too.

The pulp and paper industry seems to be the sector where environmental issues have most influenced marketing structures. The impact of environmental issues in values and philosophy, as well as in planning and information systems among pulp and paper industry was stronger compared to other industry sectors. The smallest impact occurred among marketing channels.

Table 46 defines what kind of environmental management systems have been adopted in companies. A company environmental policy statement will increasingly be used among Finnish forest industry. ISO 14000 environmental management system is either under planning or used in half of the interviewed business units. The pulp and paper industry is especially interested in ISO 14000. EMAS is currently used only in two Finnish forest industry companies, however, other companies have expressed their interest in adapting it.

Table 42. The importance of environmental friendliness in the planning of competitive emphasis for the most important products and markets, %. Very important (5); not important at all (1).

Question	5	4	3	2	1	Mean
How important is environmental friendliness when planning the competitive emphasis for your most important products and markets?	8	46	32	11	3	3.5

Table 43. Perceptions of the good forest management as a source of competitive advantage, %. Definitely yes (5); absolutely not (1).

Question	5	4	3	2	1	Mean
In your opinion, could good forest management be regarded as a source of competitive advantage?	41	36	13	8	2	4.1

Table 44. Perceptions of the use of certified raw material as a source of competitive advantage, %. Definitely yes (5); absolutely not (1).

Question	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, would you try to use the certified raw material as a source of competitive advantage?	32	30	23	11	4	3.8

Table 45. The impact of environmental issues on the structures of marketing and business management, %. Strong impact (5); No impact at all (1).

Aspect	5	4	3	2	1	Mean
Values and philosophy of management	14	45	24	14	3	3.5
Planning and information systems (type of information used etc.)	7	40	27	22	4	3.3
Personnel recruitment and training	1	25	38	22	14	2.8
Distribution channels	1	15	37	27	20	2.5

Table 46. Company's environmental management system, %.

Environmental management system	Used	Under planning	No plans
Company environmental policy statement	54	18	28
ISO 9000 / BS 5750 Quality Management System	59	23	18
ISO 14000 / BS 7750 Environmental Management System	11	39	50
EMAS (EU Eco Management and Audit Scheme)	2	13	85
Other Environmental Management System (EMS)	3	1	96

Decisions for Marketing Functions

Communication and Market Information. In integrated marketing planning the communicative marketing functions such as the use of market information, advertising and personal selling should be logical consequences from certain strategic and structure decisions. The results of the influence of environmental issues on communication and the use of market information are presented in Tables 47, 48 and 49.

About half of the respondents reported that they consider environmental concerns in strategic planning always or often. Active examination of environmental information in business decision making was carried out always or often in about 40% of the companies. The majority of the companies invite input from consumer groups, and almost half invite input from ENGOs at least occasionally.

Over half of the respondents considered that the impact of environmental issues has been strong both on advertising and personal contacts. The impact has been slightly stronger on personal contacts / selling. This is because environmental issues have often come out in informal discussions between supplier and customer rather than in formal business documentation.

Two thirds of the respondents said that they would very probably use timber certification in advertising if a widely used certification system were introduced. Only 4% said that they would definitely not use it in advertising. The pulp and paper industry is the most active industry sector to consider environmental issues in communicative marketing functions.

Pricing and Distribution. In integrated marketing planning product functions such as pricing and distribution should be logical consequences from certain strategic and structure decisions. Up to now environmental issues seem to have had rather little influence on pricing (Table 50). Over half of the respondents said that no impact at all has occurred. However, about 10% assessed that the impact has been strong. The impact of environmental issues on pricing has been strongest among the paper industry and secondary wood processing. Also one paperboard buyer assessed the impact very strong. The impact has been weakest among sawmills and marketing channels. Often the impact is dealing with recycling etc. costs and environmental investments that are reflected in price.

Table 47. Frequency of company procedures, %.

Procedure	Always	Often	Occasion.	Never	Mean
Carry out customer surveys for marketing plans	15	38	39	8	2.6
Consider environmental concerns in strategic planning	15	33	46	6	2.6
Examine environmental information in business decision making	9	31	52	8	2.4
Invite input from consumers groups when making environmental business decisions	2	15	49	34	1.9
Invite input from environmental groups when making environmental business decisions	0	10	37	53	1.6

Table 48. The impact of environmental issues on advertising and personal selling, %. Strong impact (5); no impact at all (1).

Function	5	4	3	2	1	Mean
Advertising and communication campaigns	11	41	18	20	10	3.2
Personal contacts / selling	11	44	26	18	1	3.5

Table 49. Intentions to use timber certification in the advertising, %. Definitely yes (5); absolutely not (1).

Question	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, would you try to use it in your advertising?	28	39	19	10	4	3.8

Table 50. The impact of the environmental issues on pricing, %. Strong impact (5); no impact at all (1).

Question	5	4	3	2	1	Mean
Up to now how strong an impact have environmental issues had on the pricing of your products (e.g. green premium)?	2	8	15	23	52	1.8

Almost half of the respondents considered that there is little or no possibility of getting higher prices for environmentally friendly products (Table 51). However, almost one third believed that higher prices are possible. About 40% believed that a price rise could happen through environmental friendliness being a factor that could convert a commodity / ordinary product into a special product. One third of the respondents believed that timber certification will lead to a price premium for those products. About 40% did not believe so. Small companies regarded it more probable that they could get higher prices for environmentally friendly products than large and medium sized companies.

Secondary wood processing and marketing channels were the industry sectors who consider it most likely for a price premium through converting a commodity product to a special product. The pulp and paper industry was the industry sector to least believe so. Also small companies believed so more than large and medium sized. The pulp and paper industry and paper buyers were most sceptical that timber certification would lead to a price premium, though the difference was not significant. However, some business units among the paper industry also believed in the possibility of a price premium.

Because the share of certified wood products in the market is very small it is understandably difficult to assess the expected price rise for certified products (Table 52). 40% of the respondents could not give any estimate for the price rise. Some interviewees also remarked that it is not relevant to define the share of many other organisational systems, e.g. quality management system, either in the price. 17% of the respondents believed that any price rise based on a certificate is not possible. About one third expected the price rise to be 1-5%. Only 9% believed that the price rise could be over 5%. Secondary wood processing was the industry sector that expected the highest price rise. It also seems that small and medium sized companies believe higher price rises can be expected than large companies.

Almost half of the respondents considered that it is not possible at all to pass on the cost increase of timber certification to customer prices (Table 53). Only about 10% believed that the pass-on-share of the cost increase could be 50%-100%. One quarter could not take a stand. The pulp and paper industry was the most sceptical industry

Table 51. The influence of timber certification on the pricing, %. Completely agree (5); completely disagree (1).

Statement	5	4	3	2	1	Mean
It is not possible to get higher prices for environmentally friendly products	12	34	23	22	9	3.2
Environmental friendliness can convert a commodity/ordinary product into a special product and that is reflected in the price	5	35	20	30	10	3.0
Certification is a part of an environmentally friendly product which leads to a price premium for that product	7	28	25	28	12	2.9

sector about the possibility of passing on the cost increase. Paper buyers were the most optimistic group in this sense. Significantly more small companies believed it would be possible to pass on the cost increases than large and medium sized companies.

Almost 70% of the respondents regarded segregation of certified products difficult or totally impossible, and 23% assessed it as possible (Table 54a). The cost effect of segregation was assessed as substantial (Table 54b). Differences between industry groups are not big but part of the secondary wood processing seems to be the group that regards segregation as most easily achievable. The opinions varied also inside industry sectors according to type of raw material used in the business unit, e.g. round wood or pulp. Also the expected cost increase would be smallest for some marketing channels, secondary wood processing and paper buyers. The size of the companies did not influence the ease or cost of segregation.

Table 52. Expected price rise for certified products, %.

Price rise	0	1-5	6-10	11-15	16-20	above 20	Total
	17	34	6	2	1	0	100
It is not relevant to define the share of timber certification in the price/ Impossible to say							40%

Table 53. Perceived ability to pass on cost increases on to customers.

Expected share, %	Not at all	47
	Up to 50% of the cost increase	17
	50%-100% of the cost increase	11
	Over 100% of the cost increase	0
	Impossible to say	25
	Total	100

Table 54. Ease of segregating certified and non-certified timber products and its effect on costs, %. Easily achieved (5); totally impossible (1). Very substantially (5); hardly noticeably (1).

a) Question	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future it will mean that certified products will need to be segregated from non-certified products down the whole supply chain. Do you think this would be possible?	6	17	8	36	33	2.3
b) Question	5	4	3	2	1	Mean
How would this effect your costs?	33	40	19	6	2	4.0

Level of Environmental Activity

The level of environmental activity (greenness) in marketing management, was classified into three classes. A sum variable with scale from 8 to 40 was created from eight original variables shown in Table 56 measuring how environmental issues can be seen in marketing management. The distribution of the level of environmental activity is presented in Figure 36. This distribution is used when comparing the level of greenness between different countries. Using straight 1/3 limits of the scale (classes 8-18, 19-29 and 30-40), 13% of the Finnish respondents are not environmentally active, 68% slightly active and 19% active. However, for the analyses of national reports, the classification into three groups was done by adjusting the class limits so that enough cases would fit into every three classes (Table 55).

The variables for the measure instrument were chosen by analysis of one factor solution from 18 original variables from the sections in the questionnaire on environmental marketing and business values. The one factor solution of the chosen eight variables explains 48.2% of the total variance. Table 56 gives evidence that these variables measure rather well one dimension only: the environmental activity (greenness).

The most environmentally active group was the pulp and paper industry (Table 57). It seems to be significantly greener than sawmills and marketing channel intermediaries. The paper and paperboard buyers are the least environmentally active group, according to means, but statistical testing did not report the difference because the risk of casual chance would be too high on the small sample size. Statistically the level of environmental activity was not significantly dependent on the size of the companies, though medium sized companies were not quite as environmentally active as small and large companies.

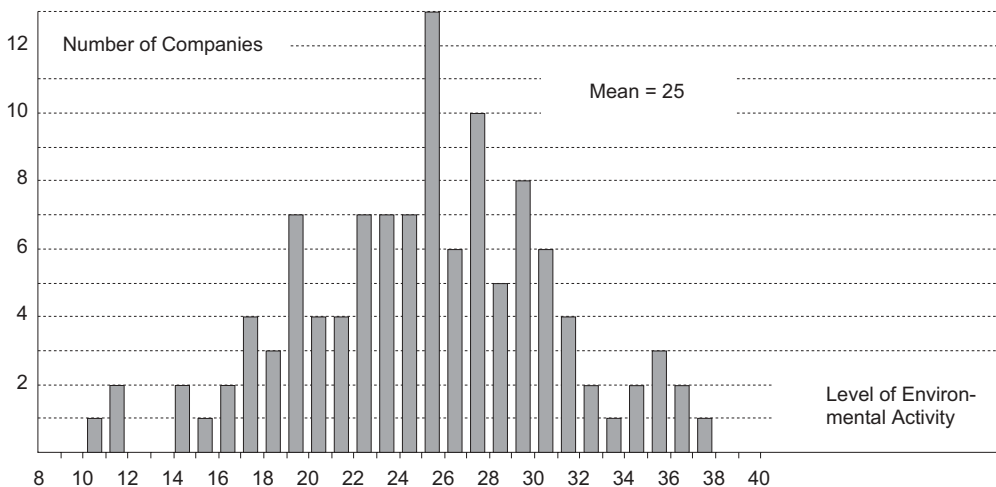


Figure 36. Level of Environmental Activity of the Finnish Respondents (Scale 8-40).

Table 55. Classification of environmental activity for the analyses used in national comparisons.

Level of Environmental Activity (Points in the sum variable)	Number	%
Not Environmentally Active (8-21)	30	26
Slightly Environmentally Active (22-28)	55	48
Environmentally Active (29-40)	29	26
Total	114	100

Table 56. The measure instrument for the level of environmental activity.

Variable	Factor I	Communality
<u>Frequency of company procedures:</u>		
Examine environmental information in business decision making	0.725	0.526
The impact of environmental issues in the personnel recruitment and training	0.710	0.504
Impact of environmental issues in advertising and communication campaigns	0.700	0.491
The impact of environmental issues in the planning and information systems (type of information used etc.)	0.704	0.496
Impact of environmental issues in personal contacts / selling	0.692	0.479
How important is environmental friendliness when planning the competitive emphasis for your most important products and markets?	0.689	0.474
The impact of environmental issues in the values and philosophy of management	0.668	0.446
Consider environmental concerns in strategic planning	0.662	0.438
Eigenvalue	3.854	
Total variance, %	48.2	
Reliability of sum variable (Cronbach Alpha)	0.878	

Table 57. Divergence of environmental activity by industry sector and size (Scale 8-40).

Level of Environmental Activity Industry sector	Mean	Level of Environmental Activity Industry sector	Mean
Pulp and paper industry	28	Small	25
Sawmills and panels	23	Medium sized	23
Secondary wood processing	25	Large	25
Marketing channels	22	F Prob. 0.1640	
Paper and paperboard buyers	22		
F Prob. 0.0006			

3. NEED FOR AND ACCEPTANCE OF TIMBER CERTIFICATION IN FINLAND

General Attitudes and Needs towards Timber Certification in Finland

The general attitudes and needs of the Finnish forest industry towards timber certification were studied by asking simply whether a widely used certification system for good forest management is needed or not, and by using a question set to define the dimensions of attitudes.

The Finnish forest industry seems to be relatively unanimous that a widely used timber certification system is needed (Table 58). 75% of the respondents were clearly of the opinion that certification is needed. Only 10% were against it. In many cases the interviewees remarked that the need is dependent on the nature of certification system. No particular type of certification scheme was defined in this connection, but expression “widely used” was defined so that it would be principally acceptable for all the stakeholders. It is also to be noted that no statistically significant differences occurred between industry sectors, size classification or environmental activity.

A clear majority, 77% of the respondents, believe that their company would benefit from the existence of a credible certification system (Table 59). The forest industry seems to feel that instead of satisfying consumers’ needs and wants, timber certification is needed to respond to the criticism by environmental groups. The need for timber certification was considered rather relevant for forest products in general (71%), not just for eco-market-niches. Only 7% believed that their customers might be prepared to pay higher price for certified products.

Preferences concerning Timber Certification in Finland

General planning and implementation. Planning and implementation of certification requires expertise, credibility and representation of various interests. According to this study, the Finnish forest industry considered that the forest industry, scientists and forest owners should have approximately the same influence in the planning and implementation of timber certification (Table 60). Forestry and environmental authorities were rated slightly less (16%) and environmental groups and consumer organisations about 10% of the desirable influence. This indicates that the Finnish forest industry regards the input of all interest groups as important but would give slightly more emphasis to economic interests and scientific inputs rather than governmental or especially non-governmental inputs in the task of planning and

Table 58. The need for a timber certification system for good forest management, %. Definitely yes (5); absolutely not (1).

Question	5	4	3	2	1	Mean
Do you think that a widely used timber certification system for good forest management is needed?	33	42	15	7	3	4.0

implementation of timber certification. These desired levels of influence were relatively unanimous across the whole of the Finnish forest industry.

Table 59. Attitudes and needs concerning timber certification, %. Completely agree (6); completely disagree (1).

Statement	6	5	4	3	2	1	Mean
Our company would benefit from the existence of a credible certification system	22	32	23	12	9	2	4.4
The majority of consumers pay no attention to the origin of timber	20	27	25	15	12	1	4.3
Timber certification is needed to respond to the criticism of the forest industry by environmental groups	12	41	27	8	8	4	4.3
Demands for certification are mainly created by environmental groups	20	28	17	24	8	3	4.2
Timber certification will enhance the competitiveness of wood products over other materials	17	27	27	13	10	6	4.1
For our purposes a mark of origin is enough to guarantee good forest management	13	34	26	13	8	6	4.1
Industry will only use certified wood if the consumer pays a higher price for the product	11	13	20	21	22	13	3.3
Timber certification will be relevant only for eco-market-niches, not for forest products in general	4	13	12	26	26	19	2.9
The majority of our customers would be prepared to pay a higher price for certified products	0	2	5	14	42	37	1.9

Table 60. The desired influence of various interest groups in the planning and implementation of timber certification (by dividing 100 points among the following alternatives).

Organisation	Mean of given points
Forest industry	22
Scientists	20
Forest owners	20
Forestry and environmental authorities	16
Environmental groups	11
Consumer organisations	10
Others	1
Total	100

Goals of Certification for the Finnish forestry-wood chain were studied with a question set that was analysed by using distributions and factor analysis.

All the aspects of timber certification described in Table 61 seem to be rather important for the Finnish forest industry. The least appreciated aspect is securing raw material resources which was often considered to have little relevance with the goals of certification.

Factor analysis of this variable set shows that the importance of timber certification is one dimensional for the Finnish forest industry (Table 62). This one factor solution explains 48.1% of the total variance in this variable set. One variable, securing raw material resources, was left out from the factor analysis because of low communality.

The loadings of the only factor support one factor solution and the dimension can be named "timber certification as a marketing tool" because all the variables are dealing with some aspect of integrated marketing management. Timber certification is therefore seen expressly as a tool of marketing management.

All the six original variables were used for a sum variable (scale 6-30) measuring the importance of timber certification as a marketing tool. All the companies considered that timber certification would be a rather important (mean = 22 points) marketing tool for them. Both environmentally active and slightly active companies regarded timber certification as a more important marketing tool than non-environmentally active companies. No statistically significant divergence occurred between industry sectors or size classification.

Table 61. The importance of different aspects of timber certification for the company, %. Very important (5); not at all important (1).

Aspect	5	4	3	2	1	Mean
Your company can be seen to be promoting and implementing good forest management	27	52	14	4	3	4.0
Your company can offer customers products from well managed forests	24	49	17	9	1	3.9
Your company can respond to criticism by environmental groups concerning the origin of the wood products you sell	32	43	14	8	3	3.9
Your company can use certification as a marketing tool (e.g. in advertising)	17	46	22	11	4	3.6
Your company can improve it's present environmental management performance	11	36	39	9	5	3.4
Your company can gain competitive advantage through certified forest products	10	33	42	14	1	3.4
Your company can secure it's raw material resources	14	19	35	18	14	3.0

Governing of Certification. According to Finnish forest industry the most preferred type of organisation for governing international certification system is international standards organisation, e.g. ISO, which was ranked to first place by 62% of the respondents (Table 63). European level certification scheme organised by EU was chosen for the most preferred body by 25% of the respondents. FSC-type of governing was most preferred only by 9% of the respondents. Few interviewees preferred some other kind of mixed governing type or thought that another body was needed in addition to a possible Finnish national certification scheme.

Table 62. Dimensions of timber certification for the company.

Variable	Factor I	Communality
Your company can offer customers products from well managed forests	0.792	0.627
Your company can be seen to be promoting and implementing good forest management	0.768	0.590
Your company can gain competitive advantage through certified forest products	0.732	0.535
Your company can use certification as a marketing tool (e.g. in advertising)	0.696	0.485
Your company can improve it's present environmental management performance	0.614	0.378
Your company can respond to criticism by environmental groups concerning the origin of the wood products you sell	0.518	0.268
Eigenvalue	2.884	
Total variance, %	48.1	
Reliability of sum variable	0.838	

Table 63. Preferred governing body of international certification system.

Governing body	Order of preference		
	1.	2.	3.
International standards organisation (e.g. ISO)	62% n= 71	27% n= 31	8% n= 9
An intergovernmental organisation (e.g. EU)	25% n= 28	55% n= 63	15% n= 17
An organisation strongly supported by international environmental and citizens' organisations (e.g. FSC)	9% n= 10	14% n= 16	71% n= 81
Any other body	4% n= 4	0%	0%

It is also to be noted that some interviewees wanted to choose only one most preferred body. Some respondents argued that they are ready to accept only that one, while some other said that they did not know enough about different certification systems, and therefore could not give the order of preference.

It seems that ISO-type of governing is the most preferred among secondary wood processing companies and least popular among marketing channels where only 27% put it on the first place. Marketing channels is a very heterogenic group in this sense. EU-type of governing was least preferred by secondary wood processing and environmentally active companies. Surprisingly, FSC-type governing was not more preferred by environmentally active companies.

Criteria. The perceptions of the Finnish forest industry concerning the criteria of sustainable forest management were studied by asking the respondents to divide 100 points among the alternatives in a commonly used list of key criteria of sustainable forest management (Table 64).

The Finnish forest industry thought all the given criteria were relevant but gave most emphasis to maintaining and enhancing wood production potential. Together with maintaining local people's forest based means of livelihood, these economic values got 53% of the points measuring the importance of criteria for sustainable forest management. Maintaining and enhancing biodiversity of nature was regarded as important as maintaining means of livelihood.

According to statistical testing, the secondary wood processing emphasised landscape and recreation more than sawmills and marketing channels. Also the pulp and paper industry regarded the protective role of forests as more important than sawmills. Other differences, though not statistically significant, are that marketing channels regarded wood production as most important, and that the environmentally active companies emphasise the protective role of forests more than the non-environmentally active ones.

Implementation. The preferred organisation for implementing a certification scheme (forest management audit) was studied by asking the respondents to rank the given alternatives in order of preference. The same question was also asked from the consumers' (the general public) point of view.

As a certifying organisation, the Finnish forest industry seems to have most confidence in governmental organisations, and certifying organisations affiliated with universities / research institutes that both were equally preferred (Table 65). The second most preferred organisations were certifiers close to the forest industry or a private certifying company. A certifying organisation close to environmental organisations was not supported because of the lack of confidence. Many respondents were strictly against such certification system implemented by environmental organisations but some of the marketing channel intermediaries also supported it.

The industries' perceptions of consumers' preferred body for forest management audit were different from their own preferences (Table 66). The most preferred body from consumers' point of view was still a governmental organisation as it was for the industries themselves. However, the second preference was for a certifying organisation supported by environmental organisations because that type of certifier was assessed to

have the confidence of consumers. Third place was given to university / research institute types of certifying organisation. Private certifiers or particularly are organisation of the forest industry were not seen to have confidence as a certifying organisation from consumers' point of view.

Table 64. The importance of the criteria for sustainable forest management.

Criteria	Mean of given points
Maintaining and enhancing wood production potential	32
Maintaining local people's forest-based means of livelihood	21
Maintaining and enhancing biodiversity of nature	21
Maintaining and enhancing landscape and recreational values	13
Maintaining and enhancing the protective role of the forests against erosion and in the supply of water	13
Other	0
Total	100

Table 65. Perceptions of company's preferred body to audit forest management, %

Auditing body	Order of preference				
	1.	2.	3.	4.	5.
Governmental organisation	32	32	20	13	3
Certifying organisation affiliated with universities and / or research institutes	31	34	19	11	5
Certifying organisation of the forest industry	18	14	36	22	10
Private certifying company	17	15	20	34	14
Certifying organisation supported by environmental organisations	3	5	5	19	68

Table 66. Perceptions of companies of the general publics' preferred body to audit forest management.

Auditing body	Order of preference				
	1.	2.	3.	4.	5.
Governmental organisation	44	24	22	9	1
Certifying organisation supported by environmental organisations	35	24	22	15	4
Certifying organisation affiliated with universities and for research institutes	18	38	29	12	3
Private certifying company	4	13	22	43	18
Certifying organisation of the forest industry	1	2	3	20	74

Intentions to use Certified Wood Products in Finland

Intentions of the Finnish forest industry to use certified wood products in the future were studied by asking which of the given statements best describes the current situation of the company concerning the use of certified wood or wood based products (Table 67). Also the estimated share of certified wood/timber products' purchases in the near future was asked, assuming that there was an increasing supply of reasonably priced certified wood products in the near future (Table 68).

38% of the respondents assessed that they would use mainly/only certified wood products by the year 2000. However, this was often a personal opinion of the interviewees rather than an official decision of the company. Therefore, the level of commitment to use certified wood products is likely to be lower than for example in companies that are members of WWF 95+ group in the UK. Still, it seems that about two thirds of the Finnish wood using industry expects that certified wood will have some role in their purchases. Only 8% of the respondents said they will have no need to use certified wood products.

Those few business units that planned to use only certified wood products were in the paper and sawmill industries. The least need for using certified wood products was with

Table 67. Company's intentions to use certified wood or wood based products.

Plan	%
1. We have made decision and work is under way to use only certified wood products by the year 2000	5
2. We have made decision and work is under way to use mainly certified wood products by the year 2000	33
3. We intend to at least try using certified wood products but we do not expect them to play a major role in our future buying over the next 5 years	29
4. We are considering whether using certified wood products suits our business	25
5. We do not think that we shall have any need to use certified wood products in the near future	8
Total	100
Mean	3.0

Table 68. Estimated future percentage purchase of certified wood products if available in quantity and at a reasonable price.

Time span	Share of purchases		Can't say / don't know
	Mean	no	
First year	22%	43	62%
After second year	36%	45	61%
After fifth year	64%	50	56%

secondary wood processors and some marketing channels intermediaries. Environmentally active and slightly active companies had higher intentions to use certified wood products than non-environmentally active.

Since there is no functional certification system in Finland, estimating the share of certified wood products' purchases is very difficult. Over half of the respondents could not give any estimation. Those companies who could give an estimation assessed that their share of purchases could increase from first year's 22% to 64% after five years. The estimates varied, however, from 1% to 100%. No statistically significant divergence occurred between background classes.

Summary and Conclusions

There were two kinds of objectives given for this forestry-wood chain study. The general attitudes of companies towards environmental issues and integration of environmental issues into the business behaviour, were studied. Also attitudes towards timber certification, as well as factors influencing the need and acceptance of certification, were studied in a more detail. Based on these objectives, it was plausible to bring the framework of the study from the direction of the theory of integrated marketing planning. Marketing management integrates the company functions into an entity that serves the markets and customers. It is a function of marketing to convey the impulses from the market environment to the management planning of the company. Thus, the values, attitudes and perceptions concerning the development of micro and macro environment of companies are plausibly linked to the integrated marketing management.

According to the principles of ecological marketing, timber certification could be one tool to put the marketing strategies of a company into practice. The conclusions and interpretation of the results are conducted based on the following assumptions concerning the connections between environment, marketing planning and timber certification:

Integration of environmental issues into business and marketing strategies is dependent on the environmental business values and perceptions regarding the development of micro and macro environment of a company. The structures and functions of marketing are putting the strategies into practice. The more emphasised environmental issues in the strategies are, the clearer they should be seen in the structures and functions, e.g. in marketing communication. The more environmental issues are emphasised in the marketing strategies of a company, the more important timber certification is for the company and the more positive the attitudes are towards timber certification.

Environmental business values and perceptions concerning the development of micro and macro environment. Environmental awareness clearly seems to be a megatrend according to the Finnish forest industry. Both environmental friendliness and the social responsibility of companies are regarded as a necessity. Using markets and marketing as a tool for improving the quality of environment is regarded as desirable.

The supply of and demand for environmentally friendly products will increase in the future.

When coming into more concrete issues in marketing management the impression changes a little. The companies do not experience their customers as being very environmentally aware. Especially the readiness to pay higher prices for environmentally friendly products is expected to be very slight. Only less than one fifth of the companies have received formal requests concerning the origin of wood.

The starting point for integrating the environmental issues into marketing is very positive on the level of values and attitudes. However, only a small part of the companies experience their customers demanding environmentally friendly products. Customer driven pressures for a strong emphasis of environmental issues in business and marketing management seem not to exist.

Ecological marketing as a whole. Over half of the Finnish forest industry companies emphasise environmental issues in their strategic business decisions. Even more companies regard environmental issues as a source of competitive advantage. However, the environmental awareness of the customers has no effect on the customer selection. Timber certification would support the strategic product decisions in over half of the companies.

Environmental issues have influenced the management values and philosophy, as well as other marketing structures especially in the pulp and paper industry. Both definition of company environmental policy and development of environmental management systems (ISO 14000) are in preparation. On the level of marketing functions the environmental issues can be most clearly seen in marketing communication. If a widely used certification system were introduced it would also be widely used in advertising. The impact of certification on pricing is still unclear.

As well as among consumers, there are dark green (environmentally active), light green (slightly environmentally active) and brown (not environmentally active) companies. The limits between classes are naturally relative. The share of dark green companies that emphasise environmental issues in all decisions is probably not relatively any higher than the share of dark green consumers. The companies are relatively well prepared for integrating the environmental issues into business and marketing management. Timber certification would plausibly be compatible with both strategic, structural and functional decisions.

Need and implementation of timber certification. According to the Finnish forest industry a widely accepted and used timber certification system is needed. The companies expect to gain benefit from it. Offering certified products for small eco-market niches only is not preferred. The forest industry considers timber certification unanimously as a tool for marketing management. In the planning and implementation of a certification system priority should be given to economic interests and scientific results. All the criteria of sustainable forest management were regarded as important but improvement of wood production potential was most emphasised.

The need for timber certification is almost unanimous. The problems are connected with the implementation of the system. The most preferred system is clearly ISO-based and the second preferred is an European level certification system organised by EU.

Assessing the volumes of the usage of certified wood use in the future is difficult. A widely accepted certification system is still missing and the development of markets is unclear. Although companies have not made official decisions, almost 40% of them believe they will use mainly certified wood products by the year 2000. A clear majority believes that certified wood products will have some role in purchases in the future.

The Finnish forest industry is ready and willing to accept timber certification at the levels of business values, attitudes and marketing philosophy. Choosing the certification system is problematic. A timber certification system having a background of environmental organisations is not preferred. Companies are very commonly adopting ISO-based environmental management systems. Integrating ISO-based EMS into marketing may be problematic. The final decision seems to depend on both markets and wood producers (forest owners). Before final decisions can be made, stronger evidence of need and demand for certified wood products is expected from the markets and customers. On the other hand, the reactions of private forest owners are also important because over two thirds of the industrial round wood in Finland comes from private family-owned forests.

VI

RESULTS OF THE GERMAN FORESTRY-WOOD CHAIN SURVEY

Tobias Kühn and Michel Becker

RESULTS OF THE GERMAN FOREST EXPERT SURVEY

1. BACKGROUND

Certification of forest management and labelling of forest products has been intensively discussed in Germany for about two years. At the beginning of 1998, the national scene can be briefly characterised by mentioning the following developments:

- Environmental organisations together with certifying companies have developed their criteria for good forest management. Up to now, a handful of communal German forestry enterprises have been certified according to these criteria.
- Several forest owners associations have taken a position against any certification of forest enterprises. The German Forestry Council (Deutscher Forstwirtschaftsrat – DFWR), the umbrella organisation of all national forest owners groups, has created a mark of origin, which is based on forest legislation in force, effective state control over forest management and the long tradition of sustainable forestry in the country. The mark has been used since the beginning of 1997, and all forestry enterprises are allowed to use it free of charge. The Federal Government has revealed its support of this mark of origin.
- A German FSC working group was established in October 1997 to develop principles and criteria of forest management based on the international FSC guidelines.
- The Association of Municipalities in Rhineland-Palatinate (Gemeinde- und Städtebund Rheinland-Pfalz) started an initiative (Forstinitiative für den deutschen Wald) in August 1997 to develop guidelines for sustainable, ecologically adapted forest management. There are links between this initiative and the German FSC-working group.

When planning the suitable scope of a forest owner survey regarding certification in Germany, two problems had to be taken into consideration:

1. the high number of about one million forest owners and the very diverse structure of forest ownership;
2. the well founded assumption that the large majority of individual forest owners does not yet have a profound knowledge and opinion regarding forest management certification and timber labelling.

It was therefore decided – different from the concepts followed in Finland and in the UK – to organise the German forest owners survey as an expert consultation.

2. BASIC ATTITUDES REGARDING CERTIFICATION OF FOREST ENTERPRISES

About 40% of the German forest experts are strictly against any certification of forest enterprises, while about one third approve it (Table 69). More than a quarter of the experts are still undecided. Experts of the different groups judge the certification of forest enterprises differently. Pronounced attitudes against certification of forest enterprises are frequent mainly in groups 1, 3 and 4, that is, among the representatives of private forest enterprises and their co-operatives and associations, whereas a majority of communal forestry experts are ready to support certification.

Table 69. Basic attitudes regarding timber certification, %.

Expert group	Against certification	In favour of certification	Undecided
1. Private forests	64	17	19
2. Communal forests	19	51	31
3. Forest owner coop.	52	19	29
4. Forest owners assoc.	58	25	17
5. State forest administr.	40	27	33
Total average	39	34	27

The survey results contain numerous explanations why so many German forestry experts are against certification or at least are sceptical in regard to possible advantages of certification.

3. TIMBER MARKET EXPECTATIONS

Two thirds of the experts believe that markets where wood products with special environmental qualities are demanded in Germany are niche markets and that these markets will grow but slowly in the future. The majority of the experts interviewed think that there will be only a minor demand for certified wood products.

It is expected that mainly the furniture industry, publishing houses, the timber trade and DIY-retailers will be the branches where a demand for certified wood products could develop. More than three quarters of the experts believe that environmental groups will have the strongest influence on the demand for certified wood, while only about a quarter assume that the influence of forest owners associations and forest enterprises will be strong. About 50% of the experts expect that labels which guarantee timber coming from sustainable forest resources will have increasing importance on Western European export markets.

Besides the demand aspects, there are also price arguments. Only few experts (14%) believe that consumers are willing to pay higher prices for certified timber.

Consequently, only 9% believe that it will be possible for forest enterprises to overcompensate the costs of a certification through higher prices for certified roundwood. 80% of the experts question whether there are chances at all to get higher prices for certified wood.

Following the niche market hypothesis, one option presented in the questionnaire was that certification could be an opportunity for a limited number of German forest enterprises to develop their specific profile and to support their roundwood marketing. However, only about 20% of the experts believe that such a strategy will be successful.

Most experts also are sceptical that certification of forest enterprises will help to market other products than roundwood, especially services. However, a breakdown of data according to expert groups reveals that nearly half of the communal forestry experts expect that certification will support the marketing of non-wood products, especially services. This may be taken as one explanation why attitudes to certification of forest enterprises are more positive in the communal expert group.

The main marketing arguments in favour of certification are that the market position of German forest products may be strengthened against international competition on national as well as on export markets, and that market demand for certified forest products will expand slowly. However, only about 30% of the experts support such optimistic marketing expectations.

4. OTHER EXPECTATIONS

In the international debate on forest management certification, it is frequently argued that certification costs will be rewarded not only through advantages in forest products marketing, but also through an internal improvement of forest enterprises (e.g. more and better organised information available, strengthening of management, motivation of employees, better use of resources, reduction of ecological risks). Arguments of this type have been included in the survey questionnaire, but only about 10% of the experts in the sample believe in such internal advantages of certification for German forest enterprises. Some 20 to 25% of the experts expect, however, that specific nature protection and biodiversity objectives may be supported.

5. ACCEPTABLE COSTS

One of the targets of this survey was to collect data regarding acceptable costs to certify forest enterprises. About half of the experts in the sample were not able or willing to answer the relevant question. Those who provided information put an average of DM 6.10 per hectare as an acceptable cost for an initial certification and about DM 1.20 per hectare for annual inspections. Table 70 shows how figures differ between expert groups. Experts of the communal forestry sector have indicated a considerably higher cost rate for an initial certification than the representatives of other groups.

Table 70. Acceptable costs of the certification of forest enterprises in Germany.

Expert group	Initial Certification DM (n = 77)	Annual inspection DM (n = 74)
1. Private forests	3.68	0.55
2. Communal forests	9.28	1.57
3. Forestry associations	3.30	1.62
4. Forest owners assoc.	1.50	0.75
5. State forest administr.	4.57	0.80
Total average	6.10	1.18

6. MARK OF ORIGIN VERSUS CERTIFICATION OF FOREST ENTERPRISES

Several questions offered a possibility to the experts to judge and compare the German mark of origin, a FSC-certification of forest enterprises and the ISO-concept to introduce environmental management systems in forest enterprises. Only the main results are reported here.

Three quarters of the experts are convinced that the German mark of origin will be a successful system to guarantee sustainable forest management in the country (Table 71). Furthermore, about 60-70% do not expect that the FSC-System or the ISO-System or a combination of both can be widely accepted in Germany.

A strong argument in favour of the mark of origin – beside of the cost aspects – is that such a system is well suited to the forest ownership structure in Germany, as small forest owners and forest owners co-operatives can easily gain from it. The majority of experts also believe that the mark of origin will convince wood consumers in Germany that products made of homegrown wood are based on a sustainable forest resource.

Experts are less confident with regard to a future influence of the mark of origin on export markets for German forest products. Only one quarter expects the mark to be quickly disseminated internationally. This is probably one reason why approximately 60% of the experts recommend the introduction of a common mark of origin of forest owners associations in the EU.

Despite the many expert votes supporting the national mark of origin and despite the scepticism regarding the future success of the FSC- or the ISO-system, two thirds of the

Table 71. Which system to guarantee sustainable forest management will be accepted in Germany? Very probable (1); very improbable (5).

	1	2	3	4	5	Mean
1. The mark of origin	34	41	15	5	6	2.1
2. The FSC-system	6	8	25	30	32	3.7
3. The ISO-System	1	7	20	41	31	3.9
4. FSC and ISO combined	3	8	17	27	469	4.0
5. A certification system on EU-level	9	15	23	18	35	3.6

Table 72. Participation of German forest owners in development of certification schemes, %.

Expert group	Participation is necessary	Participation is not necessary
1. Private forests	48	52
2. Communal forests	76	24
3. Forestry associations	65	36
4. Forest owners assoc.	58	42
5. State forest administr.	75	25
Total average	67	34

respondents recommend that the German forest owners and their associations participate actively in the development of schemes for the certification of sustainable forest management.

Table 72 shows differences between expert groups as to the necessity of participating actively in international certification developments. Of those experts who recommend German forest owners' participation, a majority (45%) puts the development of an EU-based labelling system on first place, whereas involvement in the FSC-process (25%) or in developing ISO environmental management systems for forest enterprises (21%) are rated lower.

7. FOREST MANAGEMENT RESTRICTIONS

What shall be allowed in a certified forest enterprise and what not? This is one of the main questions discussed in Germany in connection with certification. In the survey, experts were confronted with a list of management restrictions and were asked to mark their position between "totally acceptable" and "not at all acceptable" (Table 73). The 11 items have been compiled by evaluating documents of the different organisations which are active on the German certification stage. Special attention was paid to those restrictions which have intensively been discussed during the last two years.

About three quarters of the experts find it acceptable to promote mixed stands of native species, to support shade bearing trees over long regeneration periods, to concentrate on natural regeneration as a standard system, and to establish permanent skidding tracks and cable strips for low impact logging.

However, more than three quarters are not ready to renounce the use of large machines such as harvesters and to set 5 to 10% of the forest area aside as reference areas without any logging operations. A majority of the experts also reject to renounce the use of pesticides, especially insecticides to combat bark beetles and gypsy moth (*Lymantria dispar* L.).

Consent and refusal are more or less balanced regarding renunciation of clear cuts on areas larger than 0.1 ha, establishment of buffer zones around ecologically important biotopes, maintenance of part of the timber stock as dead trees, and using native species only for seed and reforestation.

Table 73. Acceptance of forest management restrictions. Totally acceptable (1), not at all acceptable (5).

	1	2	3	4	5	Mean
1. Renunciation of all pesticides (e.g. against bark beetles and weeds)	15	16	16	23	30	3.4
2. Striving for mixed stands based on native species	56	19	14	8	4	1.9
3. Regeneration of shade bearing trees over long periods (30 years minimum)	45	29	18	6	3	1.9
4. Natural regeneration of native species as the standard silvicultural system	47	30	11	6	6	1.9
5. Using only native species for seed, reforestation and planting of patches	20	16	19	14	31	3.2
6. Establishing permanent skidding tracks and cable strips to preserve soils	60	17	9	6	8	1.9
7. Renunciation of large machines such as harvesters for logging operations	3	4	10	16	67	4.4
8. Setting aside ca. 5 % of timber stock to allow natural mortality (dead trees)	23	22	19	15	22	2.9
9. Establishing of buffer zones around ecologically important biotopes	16	26	21	16	22	3.0
10. Establishing areas without any logging operations on 5-10 % of the forest area	8	8	10	17	57	4.1
11. Renunciation of clear cuts	28	16	13	17	26	3.0

8. PRELIMINARY CONCLUSIONS

A full evaluation of the survey data has not been finished at the time of writing this report. A careful comparison of results from the consumer survey, the industry and trade survey and the forest expert survey is still missing. Only preliminary conclusions can therefore be formulated here.

The majority of the forest experts are opposed to the FSC certification system and to the ISO environmental management system for German forest enterprises. Experts connected with private forestry refuse international certification schemes more pronouncedly than experts of other groups, especially of communal forestry. The main arguments against international certification schemes are:

1. Markets for certified forest products are only small, slowly growing niche markets.
2. Due to the low rate of willingness to pay more for certified forest products, compensation for certification costs cannot be expected.

3. The German mark of origin will be communicated successfully at least on the national markets and will convince consumers that German wood is based on sustainable forest management.

Argument (2) is in correspondence with results of the consumer and the forest industry and timber trade surveys, and also argument (1) may be confirmed by selected findings and interpretations from the two other surveys. Such correspondence is not evident regarding argument (3), considering that a) most consumers do not know what “sustainable” means and that they prefer labels recommended by environmental organisations, and that b) forest industry and timber trade prefer international certification schemes based on the ISO system.

The forest experts who answered the questionnaires doubt that FSC- or ISO-based certification schemes will be established successfully in Germany. A majority of experts, nevertheless, want the forest owners’ organisations to participate more actively on the international certification stage. They apparently fear that otherwise disadvantages might develop resulting from international competition on forest products markets. However, the first choice for an active involvement of German forest owners in the certification debate should be, according to the majority of experts, the support of an EU labelling system.

The survey came out with clear results regarding the acceptance and refusal of important criteria for sustainable forest management discussed in Germany between environmentalists and forest owners. Comments of experts in the questionnaires show, however, that the acceptance or non-acceptance of part of the management restrictions depends on definitions or interpretations in detail, e.g. whether Douglas fir, introduced in German silviculture about hundred years ago, is to be classified as a native species.

RESULTS OF THE GERMAN INDUSTRY AND TRADE SURVEY

1. VALUES AND EXPECTED DEVELOPMENT OF MARKET ENVIRONMENT IN GERMANY

Environmental Business Values

General environmental values of the forest industry in Germany were studied by using various statements concerning the social responsibility of companies. The statements covered both the economic and the ecological, as well as the social aspects of business management.

The environmental friendliness and social responsibility of companies are seen as a necessity in the society. Almost all respondents supported consumer demands and industry competition as principal measures to influence the quality of the environment. Consumer boycotts and pressure by NGOs, however, were not regarded expedient measures in influencing the quality of environment. Only 10% of the interviewed managers had no interest in redirecting consumers' needs and wants toward less environmentally harmful consumption (Table 74). The environmental values to be found in the forest industry in Germany seem to support the principles of ecological marketing. The most supported measures influencing the quality of environment were:

1. Consumer demands for environmentally friendly products (95%)
2. Industry competition based on environmentally friendly products (93%)
3. Developing standards and eco-labels for environmentally friendly products (85%)

“Consumer boycotts” (60%) and “Pressure on industry and trade by environmental groups” (65%) got mostly negative answers.

Another question was added to assess company specific interest in redirecting consumers' needs and wants. The results seem to support the aforementioned analysis of environmental values of the forest industry in Germany. The vast majority (70%) declared their strong interest in redirecting consumers' needs and wants towards less environmentally harmful consumption. Only 15% had no interest in that.

Table 74. Company's interest in redirecting consumers' needs and wants, % (n = 144). Strong interest (5); no interest at all (1).

Interest in redirecting consumers' needs and wants towards...	5	4	3	2	1	Mean
less consumption	8	7	16	19	51	2.0
less environmentally harmful consumption	32	38	19	6	4	3.9

Environmental Micro and Macro Environment and Customer Behaviour

Industries' perceptions concerning the micro and macro environment of the forest industry in Germany were studied by asking how environmentally related issues are expected to develop in the future, how environmentally aware the most important customers are and how they rate the importance of different product factors. Also the importance of timber certification for customers and perceived interest in it were asked.

The results of the expected development of company's market environment show very clearly that environmental consciousness, as well as supply and demand of environmentally friendly products, were expected to increase in the near future: 90% of the respondents were convinced that the supply of environmentally friendly products and consumers' demands for such products will increase. 50% expected an increasing influence of environmental groups on the market. 40% chose the medium category. 32% of the respondents expected that the customers' willingness to pay higher prices for environmentally friendly products will also increase, however, 27% expected it to decrease, and more than 40% chose "remains unchanged".

The respondents were asked to assess how their main customer group(s) rate the importance of key purchasing criteria factors when buying wood products. One hundred points were asked to be divided among the factors (Table 75). Price and quality were assessed to be the most important factors. Delivery and environmental friendliness of the products were rather insignificant. No statistically significant divergences occurred between industry sectors or companies of different size.

The respondents estimated that the environmental awareness of their customers was not very high (Table 76). Only 27% assessed that their most important customer group(s) were environmentally aware.

Table 75. Perceptions of the customers' rating of product factors, (n = 135).

Factor	Mean of given points
Price	40
Quality	26
Delivery (time/reliability)	15
Specification	10
Environmental friendliness of the products	9
Others	1

Table 76. Environmental awareness of the most important customer group(s), % (n = 138). Very aware (5); not aware at all (1).

	5	4	3	2	1	Mean
How environmental aware are your most important customer group(s)?	7	20	50	17	4	3.1

The respondents expected that their most important customer groups will not consider timber certification very important (Table 77). 28% of the respondents assessed timber certification as an important issue for their most important customer group(s), but 44% regarded it to be not important. However, the general distribution of the answers was relatively homogenous.

According to the results, the customers' interest in certified products has been very low (Table 78). Only 15% of the customers had shown some interest and 37% none. It must also be kept in mind that respondents had a broad understanding of certification in this context, including e.g. certification of quality management under ISO 9000. Taking this into account, the interest in a timber certification system would be rated even lower than in this study.

Cross tabulation shows that the importance of timber certification seems to differ between the customers of different industry sectors. Customers of the pulp and paper industry find timber certification more important than customers of secondary wood processing. Significant divergences occurred regarding companies of different size: Large companies assessed their customers' perceptions and interests at a higher level than small and middle-sized companies.

Price and quality were assessed to be the most important factors for the main customers. Environmental consciousness, as well as supply and demand of environmentally friendly products, are expected to increase in the near future. 27% of the respondents expected the customers' willingness to pay higher prices for environmentally friendly products to decrease. 27% of the respondents estimated that their most important customer group(s) is environmentally aware. However, environmental friendliness of the products was not assessed to be a very important factor. Managers estimate that only 15% of their customers show concrete interest in certified products.

Table 77. Customers' perceptions concerning the importance of certification, % (n = 143). Very important (5); not important (1).

	5	4	3	2	1	Don't know	Mean
If a timber certification system were introduced in the near future, how important would your most important customer group(s) find the certification system?	7	21	28	24	20	15	2.7

Table 78. Customers' interest in certified products, % (n = 139). Strong interest (5); no interest at all (1).

	5	4	3	2	1	Mean
Have your customers shown any interest in certified products?	4	11	22	25	37	2.2

2. ECOLOGICAL MARKETING AND ENVIRONMENTAL ACTIVITY IN GERMANY

Decisions for Marketing Strategies

Product Strategies. The emphasis on environmental issues and the role of timber certification in the product strategies of the forest industry in Germany were studied by asking the questions presented in Tables 79 and 80. The strategic product decisions typically describe what kind of products the company wants to produce. The product characteristics and orientation, e.g. commodity product – special product – customer product, are defined in product strategies. Environmental friendliness may, for instance, be one strategic characteristic that can convert a commodity product into a special product.

Approximately 60% of the respondents emphasise environmental friendliness in their strategic product decisions (Table 79). Only 14% do not emphasise environmental friendliness. Although respondents assess the environmental awareness of their most important customers as not very high (Table 76), most of them emphasise it in their product decisions. If possible, they consider that “environmental friendliness” is an attribute that products should have whether consumers demand it or not. No statistically significant divergences occurred between industry sectors or companies of different size. However, the pulp and paper and secondary wood processing industries seem to emphasise environmental friendliness more than other industry sectors.

41% of respondents say that a timber certification system would support their strategic product decisions and 38% state that it would not support product strategies (Table 80). No statistically significant divergences occurred between industry sectors. However, significant divergences occurred regarding size of companies: large companies considered that a timber certification system would support their strategic product decisions more than small and middle-sized companies.

Customer and Supplier Strategies. The emphasis on environmental issues and the role of timber certification in customer and supplier strategies of the forest industry in Germany were studied by asking the questions presented in Tables 81 and 82. Customer strategies describe what type of customer groups the company wants to concentrate on.

Customers’ levels of environmental awareness were important for 60% of the respondents, although environmental awareness of the most important customers was assessed not to be very strong (Table 76). For 15% it was not important. No statistically significant divergences occurred between industry sectors or companies of different size. For the pulp and paper industry and paper buyers it seems to be more important than for other industry sectors. Large-sized companies seem to take into account their customers’ environmental awareness more than small and middle-sized companies.

Timber certification would have a strong impact in deciding on suppliers of raw materials and products for a majority of the respondents (52%) (Table 82). 28% assessed no impact of a timber certification system. Thus it seems that the majority of the respondents would be ready to consider seeking suppliers that offer certified timber. No statistically significant divergences occurred between industry sectors. The pulp and paper industry seems to put a stronger impact in deciding on their suppliers of raw

material and products than other industry sectors. Significant divergences occurred regarding size of companies: large-sized companies saw a stronger impact than small and middle-sized companies.

Table 79. Emphasis of the product's environmental friendliness (EF) in strategic product decisions, % (n = 141). Most emphasised (5); not emphasised (1).

	5	4	3	2	1	Mean
In your strategic product decisions, how much is the environmental friendliness (EF) of the product emphasised?	21	38	27	13	1	3.6

Table 80. Support of a timber certification system in the company's strategic product decisions, % (n = 144). Support fully (5); not supported at all (1).

	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future would it support your strategic product decisions?	15	26	21	20	18	3.0

Table 81. The importance of customers' environmental awareness in customer selection, % (n = 145). Very important (5); not important at all (1).

	5	4	3	2	1	Mean
When selecting your most important customer group(s), how important is their level of environmental awareness in your decision making	26	34	25	12	3	3.7

Table 82. Impact of timber certification on selection of suppliers of the raw materials and products, % (n = 145) Strong impact (5); no impact at all (1).

	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, how strong an impact would it have in deciding on suppliers of your raw materials and products	13	39	20	18	10	3.3

Competitive Advantage Strategies. The emphasis of environmental issues and the role of timber certification in competitive advantage strategies of the forest industry in Germany was studied by asking the questions presented in Tables 83, 84 and 85. Competitive advantage strategies define relative advantages of a company compared to its competitors.

63% of the respondents said that they would try to use certified raw materials as a source of competitive advantage (Table 83). Only 15% answered that they would not try to do so. The respondents considered the effects of certified timber to be greater than good forest management as a source of competitive advantage. The pulp and paper industry and large-sized companies in general seem to wish to use certified raw materials as a source of competitive advantage more than other industry sectors, namely, small and middle-sized companies.

More than half of the respondents thought that good forest management could be regarded as a source of competitive advantage, and one quarter did not think so (Table 84). Thus, practice of forestry could have an influence on the competitive advantage of

Table 83. Perceptions of the use of certified raw material as a source of competitive advantage, % (n = 145). Definitely yes (5); absolutely not (1).

	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, would you try to use the certified raw material as a source of competitive advantage?	27	36	22	10	5	3.7

Table 84. Perceptions of good forest management as a source of competitive advantage, % (n = 142). Definitely yes (5); absolutely not (1).

	5	4	3	2	1	Mean
In your opinion, could good forest management ¹ be regarded as a source of competitive advantage?	13	39	23	16	9	3.3

¹ Some respondents criticised the wording of this question: "good forest management" was a very unusual term in Germany. Respondents suggested to use "sustainable forest management" instead.

Table 85. Perceptions of the use of certified raw material as a source of competitive advantage, % (n = 145). Definitely yes (5); absolutely not (1).

	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, would you try to use the certified raw material as a source of competitive advantage?	27	36	22	10	5	3.7

forest industries. Significant divergences occurred between industry sectors. The pulp and paper industry emphasised good forest management as a source of competitive advantage more than other industry sectors. No statistically significant divergences occurred concerning companies of different size. However, large-sized companies seem to believe more than small and middle-sized companies that good forest management is regarded as a source of competitive advantage.

63% of the respondents said that they would try to use certified raw material as a source of competitive advantage (Table 85). Only 15% answered that they would not try to do so. No statistically significant divergences occurred between industry sectors or companies of different size. The pulp and paper industry and large-sized companies in general seem to wish to use certified raw material as a source of competitive advantage more than other industry sectors, and small and middle-sized companies.

Decisions for Marketing Structures

Issues like management systems, organisation and contract channels are defined as marketing structures. The questions presented in Tables 86 and 87 were asked to study how environmental issues influence marketing structures.

The values and philosophy of management are the aspects that are most influenced by environmental issues. 53% of the respondents estimate a strong impact; only 15% do not assess any impact (Table 86). The other three items are assessed similarly. Approximately 25% of the respondents see a strong impact of environmental issues concerning planning and information systems, personnel recruitment and training, and distribution channels. The pulp and paper industry was the industry sector where values and philosophy of management are significantly influenced by environmental issues. No statistically significant divergences occurred between industry sectors or companies of different size. However, the pulp and paper industry seems to be the sector where environmental issues had the most influence on marketing structures regarding values and philosophy of management as well as personnel recruitment and training. Also the values and philosophy of management as well as planning and information systems

Table 86. The impact of environmental issues on the marketing and business management, %. Strong impact (5); no impact at all (1).

Impact	5	4	3	2	1	Mean
Values and philosophy of management (n = 144)	18	35	32	11	4	3.5
Planning and information systems (type of information used etc.) (n = 143)	7	16	46	18	13	2.9
Personal recruitment and training (n = 144)	6	22	34	22	17	2.8
Distribution channels (n = 142)	4	18	42	21	15	2.8

Table 87. Company's environmental management system, %.

Environmental management system	Used	Under planning	No plans
Company environmental policy statement (n = 133)	43	19	38
ISO 9000 Quality Management System (n = 131)	36	30	34
ISO 14000 Environmental Management System (n = 127)	6	21	73
EMAS (EU Eco Management and Audit Scheme) (n = 128)	13	27	61
Other Environmental Management System (EMS) (n = 110)	7	2	91

seem to have a stronger impact from environmental issues in large-sized companies than in small or middle-sized companies.

Various management systems have been adopted in German companies, but especially company environmental statements and ISO 9000 Quality Management System are widely used. More than 40% of the respondents use internal environmental policy statements, approximately 20% plan to devise an environmental statement and 38% have no plans regarding a statement. 36% of the respondents already used the Quality Management System ISO 9000 and 30% plan to establish it. 34% have no plans concerning ISO 9000. Environmental Management System ISO 14000 is used only in 13% of the interviewed companies until now, 21% plan to establish it and more than two thirds (73%) have no plans regarding the ISO 14000 system. A reason for hesitating could be that establishing an ISO 14000 system environmental management system normally requires an ISO 9000 quality management system. 13% of interviewed companies use EMAS, 27% have plans to establish this scheme, and more than 60% of the interviewed companies have no plans concerning it. The ISO 9000 is used in 85% of interviewed pulp and paper companies, and the rest of the pulp and paper industry plan to establish it. Among marketing channel intermediates it is used only by a few companies. ISO 14000 is used mainly among the pulp and paper industry (23%). 31% plan to establish it but half the respondents have no plans concerning ISO 14000. Other industry sectors are hardly interested.

Decisions for Marketing Functions

Communication and Market Information. In integrated marketing planning, communicative marketing functions like use of market information, advertising and personal selling should be logical consequences of certain strategic and structural decisions. The questions in Tables 88, 89 and 90 were asked to study how environmental issues have influenced the communication and use of market information.

More than half of the respondents report that they consider environmental concerns in strategic planning and examine environmental information in business decision making always or often (Table 88). Only 8% of the interviewed managers answer that they have never considered environmental concerns in strategic planning and even less (3%) have never examined environmental information in business decision making. Both items are answered very similarly. About one third carry out customer surveys for

Table 88. Frequency of company procedures. Always (1); never (5).

Procedure	1	2	3	4	Mean
Consider environmental concerns in strategic planning (n = 142)	21	30	39	8	2.7
Examine environmental information in business decision making (n = 142)	17	39	41	3	2.7
Carry out customer surveys for marketing plans (n = 143)	4	33	41	22	2.2
Invite input from environmental groups when making environmental business decisions (n = 142)	2	11	37	50	1.7
Invite input from consumers groups when making environmental business decisions (n = 143)	1	5	15	79	1.3

marketing plans. Two thirds do not use customer surveys for marketing plans. The low interest results from the large number of small-sized companies covered in this survey. Most small companies do not practise any market research. Half of the interviewed companies answer that they never invite input from environmental groups when making environmental business decisions. 37% report that they invite them occasionally. However, the interviewer had the impression that some companies answered approvingly although they never invited environmental groups.

The customer groups are even more rarely invited for input than environmental groups when making environmental business decisions. No significant divergences occurred between industry sectors or companies of different size, however, the pulp and paper industry and secondary wood processing seem to consider environmental concerns in their strategic planning more than other industry sectors. Large-sized companies seem to consider it more than small and middle-sized companies. Secondary wood processing, marketing channels and paper buyers seem to carry out customer surveys for their marketing plans. Middle and large-sized companies seem to carry out surveys more than small-sized companies. Frequency in inviting input from consumer groups and from environmental groups is very similar between industry sectors. Large-sized companies seem to carry it out slightly more often.

Environmental issues are important for both advertising and communication campaigns / personal contacts and selling. More than 40% of the respondents report that the impact of environmental issues are strong both on advertising and personal contacts, however, the impact is slightly stronger on advertising (Table 89). 35% of the interviewed managers see no impact of environmental issues regarding advertising and communication campaigns. A smaller proportion of the respondents (26%) register no impact of environmental issues concerning personal contacts and selling. No significant divergence regarding advertising and communication campaigns occurred between industry sectors. The impact seems to be stronger according to pulp and paper industry and paper buyers than in other industry sectors. A significant divergence was computed with respect to the size of the companies: large companies saw a stronger impact than

Table 89. The impact of environmental issues on advertising and personal selling, %. Strong impact (5); no impact (1).

Function	5	4	3	2	1	Mean
Advertising and communication campaigns (n = 142)	19	26	20	20	15	3.1
Personal contacts / selling (n = 143)	11	31	32	20	6	3.2

Table 90. Intentions to use timber certification in advertising, % (n = 143). Definitely yes (5); definitely not (1).

	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, would you try to use it in your advertising?	45	24	16	9	6	3.9

small and middle-sized companies. No significant divergence occurred between industry sectors and the size of companies concerning personal contacts and selling. The pulp and paper industry seems to observe a stronger impact than the other sectors. Large companies seem to notice a stronger impact than small and middle-sized companies.

69% of the respondents say that they would use a timber certification system in their advertising (Table 90). Only 15% declare that they would not try to use it. No significant divergence occurred between the industry sectors and the size of companies. The pulp and paper industry seems to try to use timber certification system more than other sectors. Large-sized companies try to use timber certification system in their advertising more than small and middle-sized companies.

Pricing and Distribution

Integrated marketing planning also includes product functions like pricing and distribution. These product functions should be logical consequences from certain strategic and structural decisions.

Up to now the impact of environmental issues on the pricing of products produced by the respondents has not been very strong (Table 91). More than 50% answered that no impact has occurred. However, approximately one quarter regarded the impact to be strong. This result is not surprising because most of the interviewed companies were not specialised in green products. No significant divergence occurred between the industry sectors and the size of the companies. The impact of environmental issues concerning pricing seems to be the strongest in the pulp and paper industry. The weakest impact seems to be in marketing channels.

About 40% of the respondents reported that it was possible to get higher prices for environmentally friendly products, however, another 40% believed that it was not possible. Approximately 30% believed that environmental friendliness can convert a commodity/ordinary product into a special product and that is reflected in the price (Table 92). 52% of the respondents did so. Thus, the majority of the interviewed managers do not expect price increases. About 25% of the respondents considered that timber certification is part of an environmentally friendly product that leads to a price premium for it. The majority did not expect a premium.

Approximately 40% of the respondents do not expect any price rise at all (Table 93). Most of these respondents explained that they would be ready to pay a higher price for a certified product if their customers would accept higher prices, and about 20% of the respondents could not estimate any price rise percent. 27% believed the price to rise between 1-5%. Only 13% expected a pronounced increase of prices (more than 5%).

Table 91. Impact of environmental issues on pricing, % (n=144). Strong impact (5); no impact (1).

	5	4	3	2	1	Mean
Up to now how strong an impact have environmental issues had on the pricing of your products (e.g. green premium)?	5	21	21	21	33	2.4

Table 92. The influence of environmental friendliness on pricing, %. Completely agree (5); completely disagree (1).

Statement	5	4	3	2	1	Mean
It is not possible to get higher prices for environmentally friendly products	14	26	21	29	11	3.0
Environmental friendliness can convert a commodity / ordinary product into a special product and that is reflected in the price	8	21	19	23	29	2.5
Certification is a part of an environmentally friendly product which leads to a price premium for that product	10	13	21	23	33	2.4

Table 93. Expected price rise for certified products, % (n=144).

Price rise	0	1-5	6-10	11-15	16-20	above 20	Total
	38	27	7	4	1	1	100
It is not relevant to define the share of timber certification in the price / Impossible to say 22%							

About 60% of the respondents considered that it was not possible at all to pass on the cost increase of timber certification to customer prices (Table 94). 15% saw possibilities up to 100% of the cost increase and only 2% expected more than 100% of the cost increase. 25% were not able to determine the extent of a price increase.

More than two thirds of the respondents answered that it is difficult or totally impossible to segregate certified products from non-certified products and about 20% of the respondents consider it possible (Table 95, question a). The cost effect of segregation is estimated to be substantial, approximately 45% of the respondents regard it as a distinct effect (Table 95, question b). About 30% regard it as not very important. The pulp and paper industry and the marketing channels regarded the cost effect more substantial than other industry sectors.

Up to now the environmental issues seem to have had a rather small influence on pricing. 40% of the respondents assess that there are few possibilities to obtain higher prices for environmentally friendly products. About one fourth believe that timber certification will lead to a price premium for these products. More than 20% of the respondents could not give any price rise estimate. About 40% assess that they do not expect any price rise at all. Approximately 60% expect that it is not possible at all to pass on the cost increases of timber certification to customer prices. Almost two thirds regard segregation of certified products difficult or totally impossible. The cost effect of segregation is estimated as being substantial.

Table 94. Perceived ability to pass on cost increases on to customers, %.

Costs can be passed on (n=145)	Not at all	59
	Up to 50% of the cost increase	6
	50%-100% of the cost increase	9
	Over 100% of the cost increase	2
	Impossible to say	25

Table 95. Ease of segregating certified and non-certified timber products and its effect on costs, %. Easily achieved (5); totally impossible (1). Very substantially (5); hardly noticeably (1).

a) Question (n=145)	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future it will mean that certified products will need to be segregated from non-certified products down the whole supply chain. Do you think this would be possible?	8	13	10	35	33	2.3
b) Question (n=135)	5	4	3	2	1	Mean
How would this effect your costs?	17	27	25	15	16	3.1

Level of Environmental Activity

The level of environmental activity (greenness) in marketing management, was classified into three classes. A sum variable with scale from 8 to 40 was created from eight original variables that measures how environmental issues can be seen in the marketing management. The distribution of the level of greenness is presented in Figure 37. This distribution is used when comparing the level of greenness between different countries. Using straight 1/3 limits of the scale, 24% of the respondents in Germany (classes 8-19) were not environmentally active, 52% (classes 20-28) slightly active and 24% (classes 29-40) active (Table 97). However, for the analyses of national reports, the classification into three classes was done by adjusting the class limits so that enough cases would come into every three classes.

The variables for the measure instrument were chosen by analysis of one factor solution from 18 original variables from the sections of environmental marketing and business values. The one factor solution of the chosen eight variables explains 49,3% of the total variance (Table 96). Table 97 shows that these variables measure rather well in one dimension only: the environmental activity (greenness).

The most environmentally active group was the pulp and paper industry (Table 98). It seems to be more active than the other branches, but statistical testing does not report

Table 96. The measure instrument for the level of environmental activity.

Variable	Factor I	Communality
<u>Frequency of company procedures:</u>		
Examine environmental information in business decision making	0.758	0.574
The impact of environmental issues in the personnel recruitment and training	0.713	0.508
Impact of environmental issues in advertising and communication campaigns	0.723	0.522
The impact of environmental issues in the planning and information systems (type of information used etc.)	0.729	0.532
Impact of environmental issues in personal contacts / selling	0.628	0.394
How important is environmental friendliness when planning the competitive emphasis for your most important products and markets?	0.555	0.308
The impact of environmental issues in the values and philosophy of management	0.721	0.520
Consider environmental concerns in strategic planning	0.766	0.586
Eigenvalue	3.945	
Total variance, %	49.3	
Reliability of sum variable	0.846	

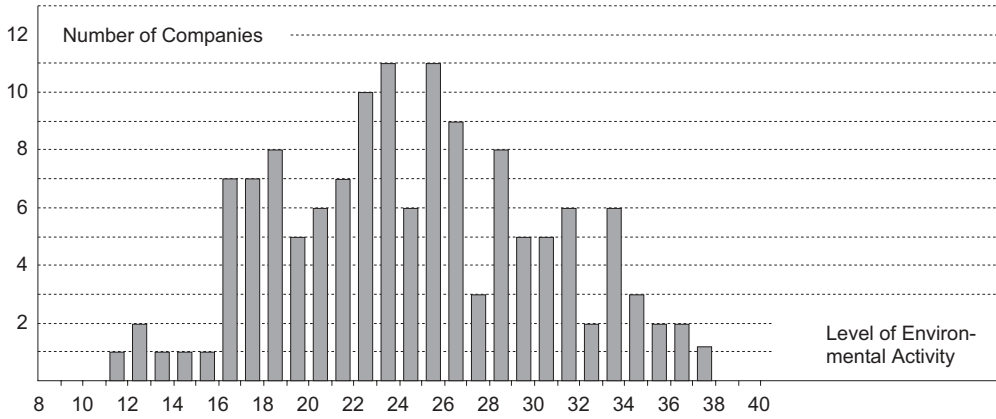


Figure 37. Level of environmental activity of the respondents in Germany (Scale 8-40)

Table 97. Classification of environmental activity for the analyses.

Level of Environmental Activity (Points in the sum variable)	Numbers	%
Not Environmentally Active (8-19)	33	24
Slightly Environmentally Active (20-28)	71	52
Environmentally Active (29-40)	32	24
Total	136	100

Table 98. Divergence of environmental activity by means of industry and size classification (Scale 8-40).

Level of environmental activity, industry sector	Mean	Level of environmental activity, industry sector, size	Mean
Pulp and paper industry	27	Small	24
Sawmills and panels	24	Medium sized	24
Secondary wood processing	24	Large	27
Marketing channels	22	F Prob. 0.0102	
Paper and paperboard buyers	24		
F Prob. 0.1907			

the divergences significantly. However, significant divergences regarding the level of environmental activity occurred with the size of companies: large-sized companies are significantly more active (0.05 sign. level) than small and medium sized companies. The divergence between large-sized companies and small-sized companies is also significant on the 0.01 level.

3. NEED FOR AND ACCEPTANCE OF TIMBER CERTIFICATION IN GERMANY

General Attitudes and Needs towards Timber Certification in Germany

The general attitudes and needs of the forest industry in Germany towards timber certification were studied by asking directly whether a widely used certification system for good forest management is needed or not, and by using a question set to define the dimensions of attitudes.

About 60% of the respondents think that a widely used timber certification system for good forest management is needed, approximately one third are against it (Table 99). No significant divergences occurred between industry sectors, size or level of environmental activity of interviewed companies. The pulp and paper industry seem to have the most positive attitudes towards certification. Small and large-sized companies seem to support it more than medium sized companies. Slightly environmentally active and environmentally active companies support certification more than non-environmentally active companies.

More than 70% believe that demands for certification are mainly created by environmental groups (Table 100). In the opinion of two thirds of respondents, the majority of consumers do not pay attention to the origin of timber. About 60% expect their company to benefit from the existence of a credible certification system. Only 10% of the respondents believe that their customers would be prepared to pay a higher price for certified products. Compared with the results regarding the necessity of timber certification this answer seems very pessimistic but describes the attitudes of many respondents.

The managers were asked if a mark of origin was enough for their purposes to guarantee good forest management. In Germany the establishment of a mark of origin was discussed since 1994. It was introduced in autumn 1996 but the discussion regarding its effectiveness was still going on during the interviewing period. About 60% of the respondents estimated that a mark of origin was enough for their purposes but about 40% thought that it was insufficient. About 40% expect that timber certification will be relevant only for eco-market-niches.

Preferences concerning Timber Certification in Germany

General Planning and Implementation. Planning and implementation of certification requires expertise, credibility and representation of various interests. According to the forest industry in Germany, the preference for groups to influence the implementation

Table 99. The need for a timber certification system for good forest management, %. (n = 144) Definitely yes (5); Absolutely not (1).

	5	4	3	2	1	Mean
Do you think that a widely used timber certification system for good forest management is needed?	33	26	12	17	13	3.5

Table 100. Attitudes and needs concerning timber certification, %. Completely agree (6), completely disagree (1).

Statement	6	5	4	3	2	1	Mean
Demands for certification are mainly created by environmental groups	21	30	21	14	8	6	4.2
The majority of consumers pay no attention to the origin of timber	19	32	15	13	15	6	4.1
Timber certification is needed to respond to the criticism of the forest industry by environmental groups	19	26	17	12	19	8	3.9
Our company would benefit from the existence of a credible certification system	17	24	20	17	16	6	3.9
For our purposes a mark of origin is enough to guarantee good forest management	19	17	23	17	13	11	3.8
Timber certification will enhance the competitiveness of wood products over other materials	18	18	23	15	17	9	3.8
Compared to other products the marketing of wood products would benefit from the existence of a credible certification system	10	21	25	22	18	4	3.7
Industry will only use certified wood if the consumer pays a higher price for the product	17	14	17	16	17	19	3.4
Timber certification will be relevant only for eco-market-niches, not for forest products in general	11	12	20	13	24	19	3.2
The majority of our customers would be prepared to pay a higher price for certified products	0	2	8	12	35	43	1.9

Table 101. The desired influence of various interest groups in the planning and implementation of timber certification (by dividing 100 points among the following alternatives).

Organisation (n = 144)	Mean of given points
Scientists	21
Forest industries	19
Forest owners	19
Forestry and environmental authorities	16
Environmental groups	13
Consumer organisations	10
Others	2

and planning of certification was very homogeneous (Table 101). Scientists, forest industries, forest owners and authorities responsible for forestry and environment were valued slightly higher than environmental groups or consumer organisations. Significant divergences occurred between industry sectors only regarding “Authorities”. Paper buyers conceded authorities less influence than secondary wood processing (0.01 level). Regarding the size of companies, a lot of significant divergences occurred. Large-sized companies granted “Forest owners” more influence than small companies (0.1 level). Middle and large-sized companies conceded “Authorities” more influence than small-sized companies (0.1 level). Among small and large-sized companies divergence was computed at the 0.05 level. Large-sized companies granted “Consumer organisations” less influence than small-sized companies did (0.05 level). Regarding environmental activity only one significant divergence occurred. Slightly environmentally active companies conceded “Authorities” more influence than non-environmentally active companies (0.05 level).

Goals of Certification. The goals of certification for the forestry-wood chain in Germany were studied with a question set that was analysed by using distributions and factor analysis (Table 102).

67% of the respondents believed that it was important for their company to respond to criticism by environmental groups concerning the origin of the wood. Two thirds of the interviewed companies regarded it important to use certification as a marketing tool (e.g. in advertising). More than 60% considered it important to offer their customers products from well-managed forests. Approximately 60% of the respondents believed that timber certification could be useful to promote environmental management performance. No respondent answered that it is not important at all.

This result goes well together with the positive attitudes regarding using timber certification as a marketing tool. Promoting a company’s performance can be understood as a part of the communication policy which is one main part of marketing. 57% of the respondents regarded timber certification important as a means of gaining support for the implementation of good forest management. Only 39% of the interviewed managers believed that their company would gain competitive advantage through certified forest products. In the opinion of 34% it was not important. To secure the company’s raw material resources with a timber certification system was important only for 31% of the respondents whereas 43% regarded it as unimportant. This question divided the respondents in two parts: companies buying on international markets considered the role of a certification system higher than companies buying on national markets. The importance of timber certification is one-dimensional for the forest industry in Germany: it is seen as a tool of marketing management. A significant divergence occurred only on the aspect of offering their customers products from well managed forests. In this respect the pulp and paper industry assessed it as less important than other industry sectors.

To compare the means a sum variable was computed. The factor analysis of this variable set shows that the importance of timber certification is one-dimensional for the forest industry in Germany. The solution explains 57.5% of the total variance in this variable set (Table 103). One variable, securing raw material resources, was left out from the factor analysis because of low communality.

Table 102. The importance and role of timber certification for the company, %. Very important (6), not at all important (1).

Aspect	5	4	3	2	1	Mean
Your company can respond to criticism by environmental groups concerning the origin of the wood products you sell	35	32	17	12	5	3.8
Your company can use certification as a marketing tool [e.g. in advertising]	23	43	18	15	1	3.7
Your company can offer customers products from well-managed forests	23	40	21	13	3	3.7
Your company can improve it's present environmental management performance	22	37	25	16	0	3.6
Your company can be seen to be promoting and implementing good forest management	22	35	25	13	4	3.6
Your company can gain competitive advantage through certified forest products	13	26	26	27	7	3.1
Your company can secure it's raw material resources	12	19	26	22	21	2.8

The loadings of the factor solution and the dimension can be named timber certification as a marketing tool because all the variables are dealing with some aspect of integrated marketing management.

The six original variables were used for a sum variable (scale 6-30) measuring the importance of timber certification as a marketing tool. All companies considered that timber certification could be a rather important (mean = 21.5 points) marketing tool for them. Environmentally active and slightly active companies see it as a more important marketing tool than environmentally active companies. Significant divergences occurred concerning environmental activity: "Not active" companies assessed the importance of timber certification as a marketing tool less than the "active" companies (0.01 level). No statistically significant divergence occurred between industry sectors or size classification

Governing of Certification. Three main alternatives for governing the certification system have been introduced in the public European certification debate. 57% of the respondents representing the German forest industry preferred the International Standards Organisation (ISO) as their first choice (Table 104). Intergovernmental organisation (e.g. EU) was chosen as the most preferred body by 22% of the respondents. Only 12% preferred an organisation strongly supported by international environmental and citizens' organisations (e.g. FSC). 8% of the interviewed managers ranked any other body in first place. Some respondents only mentioned their most preferred certification body and did not express a second or third choice. No significant divergence occurred between industry sectors, size classification and environmental activity. However, it seems that an ISO-type

Table 103. Dimensions of timber certification for the company.

Variable	Factor I	Communality
Your company can offer customers products from well managed forests	0.792	0.627
Your company can be seen to be promoting and implementing good forest management	0.768	0.590
Your company can gain competitive advantage through certified forest products	0.732	0.535
Your company can use certification as a marketing tool (e.g. in advertising)	0.696	0.485
Your company can improve it's present environmental management performance	0.614	0.378
Your company can respond to criticism by environmental groups concerning the origin of the wood products you sell	0.518	0.268
Eigenvalue	2.884	
Total variance, %	48.1	
Reliability of sum variable	0.838	

Table 104. Preferred governing body of international certification system, %.

Governing body	Order of preference			
	1.	2.	3.	4.
International standards organisation (e.g. ISO) (n = 122)	57	28	7	13
An intergovernmental organisation (e.g. EU) (n = 108)	22	46	27	19
An organisation strongly supported by international environmental and citizens' organisations (e.g. FSC) (n = 107)	12	24	57	50
Any other body (n = 24)	8	2	7	19

of governing organisation is most preferred by the pulp and paper industry (91% ranked it first) while EU was preferred most by secondary wood (37%) processors. FSC was ranked in first mainly by secondary wood processing, marketing channels and paper buyers (approximately 20%).

Criteria. Table 105 presents the key criteria of sustainable forest management. Although “sustainability” is a vague term that includes many aspects, the given categories contain the viewpoints of the respondents connected with that term. The perceptions of the forest industry in Germany concerning the criteria of sustainable

forest management were studied by asking the respondents to divide 100 points among the given alternatives.

The forest industry managers in Germany assessed all the given criteria but gave most emphasis on maintaining and enhancing the role of forests to protect against erosion and to supply water (27%). Maintaining and enhancing biodiversity of nature follows with 20%.

Thus, two criteria on forests' environmental performances were considered to be most important. The two economic values, "Maintaining and enhancing wood production potential" and "Maintaining local people's forest-based means of livelihood" were assessed similarly (18% each). "Maintaining and enhancing landscape and recreational values" got the lowest estimation. It is noteworthy that:

1. All categories were estimated relatively similarly.
2. The respondents accentuated environmental definitions of sustainability more than the economic values.
3. "Maintaining local peoples forest-based means of livelihood" was rather insignificant in Germany because forestry is a very small labour market compared to the whole labour market.

According to statistical analysis, paper buyers emphasised "Maintaining and enhancing of biodiversity" more than secondary wood processing (0.05 level). Paper buyers seem also to emphasise "Maintaining and enhancing of landscape and recreation" more than secondary wood processing. Large-sized companies emphasised biodiversity more than middle-sized companies (0.05 level), while middle-sized companies estimated landscape and recreation more than large-sized companies (0.01 level). No significant divergence occurred between enterprises with different levels of environmental activity.

Implementation. The preferred organisation for implementing a certification scheme (forest management audit) was studied by asking the respondents to rank the given alternatives in order of preference (Table 106). The same was asked from the consumers' point of view (Table 107).

The forest industry in Germany seems to trust most in certifying organisations affiliated with universities (47% of the respondents) or research institutes and in governmental organisations (30% of the respondents). About 15% preferred certifying organisations supported by environmental organisations and certifying organisations of the forest industry. Only 9% of the interviewed managers regarded private certifying companies as a preferred body for forest management audit.

The perceptions of the consumers' preferred body for forest management audit assessed by the forest industry in Germany were different from their own preferences. The most preferred (53%) body from the consumers' point of view was a certifying organisation supported by environmental organisations. Some of the respondents explained that this estimation is regrettable but realistic. Second place (28%) were certifying organisations affiliated with universities and research institutes. Governmental organisations followed in third place (19%). Private certifiers and certifying organisations of the forest industry were not seen to have confidence as a certifying organisation from the consumers' point of view.

Table 105. The importance of the criteria of sustainable forest management.

Criteria (n = 144)	Mean of given points
Maintaining and enhancing the protective role of the forests against erosion and in the supply of water	27
Maintaining and enhancing biodiversity of nature	20
Maintaining and enhancing wood production potential	18
Maintaining local people's forest-based means of livelihood	18
Maintaining and enhancing landscape and recreational values	16

Table 106. Companies' preferred body to forest management audit, %.

Auditing body	Order of preference				
	1.	2.	3.	4.	5.
Certifying organisation affiliated with universities and research institutes (n = 129)	47	27	16	8	3
Governmental organisation (n = 130)	29	27	15	13	15
Certifying organisation supported by environmental organisations (n = 126)	16	15	22	25	22
Certifying organisation of the forest industry (n = 123)	14	20	25	20	21
Private certifying company (n = 118)	9	14	20	22	36

Table 107. Perceptions by companies of the general public's preferred body to audit forest management, %.

Auditing body	Order of preference				
	1.	2.	3.	4.	5.
Certifying organisation supported by environmental organisations (n = 131)	53	15	20	8	5
Certifying organisation affiliated with universities and research institutes (n = 126)	28	37	23	10	2
Governmental organisation (n = 130)	19	37	32	5	7
Private certifying company (n = 120)	3	8	13	37	39
Certifying organisation of the forest industry (n = 122)	3	3	12	32	50

Intentions to use Certified Wood Products in Germany

The intentions of the forest industry in Germany to use certified wood products in the future were studied by asking which of the statements below better described the companies' intentions concerning the use of certified wood or wood based products. Also an estimated share of certified wood / timber products' purchases in the near future were asked, assuming that there was an increasing supply of reasonably priced certified wood products.

Only 1% of the respondents answered that their companies will use only certified wood products by the year 2000 (Table 108). 12% said that they will mainly use certified wood products by the year 2000. However, this was often a personal opinion of the interviewed manager, not a decision already taken by the company. Approximately two thirds expected that certified wood products would not play a major role in their future buying over the next 5 years. Only 11% of the respondents did not expect a need to use certified wood products. Significant divergences occurred

Table 108. Company's intentions to use certified wood or wood based products.

Plan (n = 144)	%
1. We have made decision and work is under way to use only certified wood products by the year 2000	1
2. We have made decision and work is under way to use mainly certified wood products by the year 2000	12
3. We intend to at least try using certified wood products but we do not expect them to play a major role in our future buying over the next 5 years	65
4. We are considering whether using certified wood products suits our business	10
5. We do not think that we shall have any need to use certified wood products in the near future	11
Total	100
Mean	3.2

Table 109. Estimated future percentage purchase of certified wood products if available in quantity and at a reasonable price.

	Mean of estimated share, %	Can't say / Don't know, %
First year	25 (n = 59)	59 (n = 84)
After second year	39 (n = 61)	58 (n = 83)
After fifth year	59 (n = 59)	41 (n = 86)

regarding companies of different size. Large-sized companies had higher intentions to use certified wood products than small- and middle-sized companies.

The respondents emphasised frequently that the share of certified timber will depend on consumers' demands and reasonable prices. About 60% of the respondents could not give any estimation of the share of certified wood products' purchases in the near future (Table 109). Those companies who could give an estimation assessed that their share of purchases could increase from first year's 25% to 59% after the fifth year. The estimated shares varied from 0% to 100%. No significant divergences occurred between companies of different size and industry sectors. The environmentally active companies estimated a higher share after the first year, second year and the fifth year than non-active companies and slightly active companies

4 SUMMARY AND CONCLUSIONS

Purpose and implementation of the study

The purpose of the forestry-wood chain survey is to evaluate the attitudes and preferences of the wood-using industry and its marketing channels towards timber certification. The influence of industry sector, company size and environmental activity on the attitudes and preferences have been analysed. The primary data research has been implemented in three countries: Finland, Germany and the UK. Standardised personal interviews with a sample size of 100-150 in each country were used in the data collection. The sampling method was quota sampling in Finland and the UK with the objective of representative data for each group surveyed. The sampling method in Germany was different from that in Finland and the UK. The sample includes randomly sampled companies (about three quarters) and known large companies. The following industry sectors were surveyed: 1) pulp and paper industry, 2) sawmills and panel industry, 3) secondary wood processing, 4) marketing channel intermediaries and 5) paper buyers. The number of interviews in Germany was 148. The analyses were conducted using SPSS 6.1 statistical software. In the analysis of the primary data means, distributions, factor analysis, sum variables and cross tabulation were used.

Results of the study

Environmental Business Values (Table 74). The environmental friendliness and social responsibility of companies are seen as a necessity in the society. Almost all respondents supported consumer demands and industry competition as the principal measures influencing the quality of the environment. Consumer boycotts and pressure by NGOs, however, were not regarded as expedient measures in influencing the quality of environment. Only 15% of the interviewed managers had no interest in redirecting consumers' needs and wants toward less environmentally harmful consumption. The environmental values to be found in the forest industry in Germany seem to support the principles of ecological marketing.

Environmental Micro and Macro Environment and Customer Behaviour (Tables 75-78). Price and quality were assessed to be the most important factors for the main customers. Environmental consciousness, as well as supply and demand of environmentally friendly products, are expected to increase in the near future. 27% of the respondents expected the customers' willingness to pay higher prices for environmentally friendly products to decrease. 27% of the respondents considered that their most important customer group(s) are environmentally aware. Environmental friendliness of the products was not assessed to be a very important factor. Managers estimate that only by 15% of their customers show concrete interest in certified products.

Marketing Strategy Decisions (Tables 79-85). Over 50% of the respondents emphasise environmental friendliness in their strategic product decisions, and only 15% do not emphasise it. The pulp and paper industry and secondary wood processors seem to emphasise environmental friendliness more than other industry sectors. Raw materials were rated to be the most environmentally friendly phase during the life of a company's main product. Production technologies followed as the second most important phase. About 40% of the respondents expect support for their product decisions by a timber certification system but approximately 40% did not expect such support. Approximately 25% of the companies have considered a strategy to concentrate on environmentally aware customers. More than half of the respondents mentioned a strong impact of a timber certification system in deciding on their suppliers of raw materials and products. Environmental friendliness was seen as an important factor when planning the competitive emphasis for the most important products and markets of the respondents. Large-sized companies seem to regard this more than small and middle-sized companies. 52% of the respondents thought that good forest management could be regarded as a source of competitive advantage. Large-sized companies seem to regard good forest management as a source of competitive advantage more than small and middle-sized companies. 63% of the forest industry managers in Germany reported that they would try to use certified raw material as a source of competitive advantage. The pulp and paper industry and large-sized companies in general seem to try this more than small and middle-sized companies.

Marketing Structure Decisions (Tables 86-87). Values and philosophy of management are most influenced by environmental issues. The pulp and paper industry seems to be the sector where environmental issues have most influence on marketing structures. Company environmental policy statements and ISO 9000 Quality Management System are already widely used in the forest industry in Germany. The ISO 14000 Environmental Management System is under planning in about a fifth of the interviewed business units. Especially the pulp and paper industry is interested in ISO 14000. EMAS is under planning in about a quarter of the companies.

Marketing Function Decisions (Tables 88-95). About half of the respondents reported that they consider environmental concerns in strategic planning and examine environmental information in business decision making always or often. Approximately 40% use the results of customer surveys for their marketing plans. The majority invite

input from environmental groups and a fifth invite input from customer groups. About two thirds of the respondents say that they would probably use timber certification in advertising if a timber certification system is introduced. Up to now the environmental issues seem to have had a rather small influence on pricing. 40% of the respondents assess that there are few possibilities to obtain higher prices for environmental friendly products. About one fourth believe that timber certification will lead to a price premium for those products. More than 20% of the respondents cannot give any % estimate for price rise. About 40% believe that they do not expect any price rise at all. Approximately 60% expect that it is not possible at all to pass on the cost increases of timber certification to customer prices. Almost two thirds regard segregation of certified products difficult or totally impossible. The cost effect of segregation is estimated to be substantial.

Level of Environmental Activity (Tables 96-98, Figure 37). A sum variable was computed as an instrument to measure the level of environmental activity (greenness) of the interviewed companies. Original variables that measure how environmental issues have influenced the marketing management of companies were used. The forest industry in Germany seem to be rather environmentally active (mean = 22.5 on the scale 8-40). The environmentally most active group is the pulp and paper industry.

General Attitudes and Needs towards Timber Certification (Tables 99-100). The majority of the forest industry managers in Germany thought that a widely used timber certification system is needed. However, 30% were against it. More than 70% believed that demands for certification were mainly created by environmental groups. In the opinion of two thirds the majority of consumers do not pay attention to the origin of timber. About 60% expect their company to benefit from the existence of a credible certification system. Only 10% of the respondents believed that their customers would be prepared to pay a higher price for certified products.

General planning and implementation (Table 101). The preference for groups to influence the implementation and planning of certification was very homogeneous. Scientists, forest industries, forest owners and authorities responsible for forestry and environment were valued slightly higher than environmental groups or consumer organisations.

Goals of Certification (Tables 102-103). All companies considered that timber certification could be a rather important marketing tool for them. Environmentally active and slightly active companies see certification as a more important tool than non-environmentally active companies.

Governing of Certification (Table 104). According to forest industry managers in Germany the most preferred organisation type for governing an international certification system is the International Standards Organisation (ISO), ranked first place by 57% of the respondents. European level certification scheme organised by the EU was preferred first place by 22% of the respondents. An FSC-type governing body was ranked first by only 12%.

Criteria for sustainable forest management (Table 105). The forest industry managers in Germany considered all the given criteria important but gave most emphasis on maintaining and enhancing the protective role of the forests against erosion and in the supply of water (27%). Maintaining and enhancing biodiversity of nature follows with 20%. Thus, two criteria indicating forests' environmental performances were considered to be the most important. The two economic values, "Maintaining and enhancing wood production potential" and "maintaining local people's forest-based means of livelihood" were assessed similarly (18%). "Maintaining and enhancing landscape and recreational values" got the lowest estimation.

Implementation (Tables 106-107). The forest industry in Germany reported that they had the greatest trust in certifying organisations affiliated with universities or research institutes and in governmental organisations. The most preferred body from the consumers' point of view, according to managers' perceptions, should be organisations supported by environmental organisations and organisations affiliated with universities or research institutes.

Intentions to use Certified Wood Products (Tables 108-109). Only 13% of the respondents assessed that they would mainly use certified wood products by the year 2000. However, this was often a personal opinion of the interviewed manager, not an official decision of the company. Only 11% of the respondents said that they will have no need to use certified wood products. Approximately 60% could not give any estimation regarding the share of certified wood products' purchases in the near future. Those companies who could give an estimation assessed that their share of purchases could increase from 25% in the first year up to 59% after the fifth year.

General Conclusions

1. Company managers feel responsibility for the social and environmental impacts of their business. They expect supply of and demand for environmentally friendly products as well as environmental awareness to increase in the near future. However, they do not expect that buyers will pay more for environmentally friendly products; and they rank profitability higher than environmental friendliness in their decision making.
2. Approximately 50% of the respondents said that timber certification would support their company's decisions on future products and markets. 50% of the respondents feel that a timber certification system would strongly influence the choice of raw materials. More than 50% assessed that they would try to use certified raw material as a source of competitive advantage.
3. Only one quarter expected a price premium for certified products. About 0% saw no price premium for certified products at all whilst about 30% saw price premiums between 1 and 5%. The majority of managers did not see the possibility to pass cost increases due to certification on to their customers.

4. There was a clear vote regarding preferred groups to influence the implementation and planning of certification: scientists, forest industries, forest owners and authorities responsible for forestry and environment were valued higher than environmental groups or consumer organisations.
5. ISO was the main choice of a certification system governing body, whereas a government authorised organisation was placed second. For auditing forest management, managers preferred an organisation affiliated with universities and research institutes, but thought that consumers would prefer an organisation supported by environmental organisations.
6. The majority of respondents approves the need of a widely used timber certification system for good forest management. However, they accept that the forest industry will only use certified materials if customers pay higher prices for them, which is not expected to happen.
7. The majority of respondents could or would not estimate the share of certified timber their companies will buy in the next five years; those companies who gave estimates expected the share to increase from a quarter by then to about 60% after five years.
8. Most respondents doubt that it is possible to segregate certified and non-certified materials in their factory. If this is true, it could become difficult or costly to build up chains of custody.

When trying to combine the main findings from the interviews with German managers representing forest industry and timber trade companies, the resulting picture is contradictory.

On the one hand, managers accept environmental responsibility of their companies. They assign a key role to competition and marketing in pursuing environmental goals of the society. Corresponding to this basic attitude, most of them approve the introduction of a certification system for forest management as well as the availability of certified products. They do have clear ideas on how to integrate certification in their marketing.

On the other hand, the large majority of respondents have expressed no or little willingness to pay higher prices for certified wood products. This in consequence means, that certification is not accepted as a market instrument to “reward” good forest management. Most of the managers expect that, even if available at reasonable prices, certified wood will only slowly enter their factories and stocks. The main argument behind this (beside of difficulties in segregating certified products from others) is the conviction that customers, despite of growing environmental awareness in Germany, will not accept additional costs of a certification system to be included in product prices.

This complicated mix of managers’ positive general attitudes and sceptical market expectations makes it difficult to deduce statements regarding possible future developments on German forest products markets. It seems as if in further analysis of the available data and of additional information, special attention should be

concentrated on the minority of companies classified as environmentally active. In other words: the first provisional analysis of the German survey data might be interpreted as confirmation of a niche market hypothesis regarding the demand perspectives for certified wood products in Germany.

VII

RESULTS OF THE UK FORESTRY-WOOD CHAIN SURVEY

John Samuel and Roger Cooper

RESULTS OF THE UK FOREST OWNER SURVEY

1. INFORMATION ON HOLDINGS AND BACKGROUND VARIABLES

Proportion of forest-related income to total income over the last five years. 38% of forest owners had lost money on their forestry operations over the last five years, with only 2% relying on their forests as their main source of income. 42% earned less than 5% of their total income from their woodlands.

The forest area of the holdings. The average forest area of owners' holdings was 295 ha and the size of the forest areas varied from 3 to 5000 ha (Table 110). The size bands used reflect those of the Finnish Forest Owners Survey where average forest area was much lower. Few UK respondents had forest areas less than 20 hectares, but many had areas in excess of 160 hectares. Many of the respondents own very large estates, comprising large areas of agricultural and forested land.

Holding classification. Holdings can be classified into four types (Table 111). Nearly half of respondents have less than 30% of their holdings under forestry, the remainder being agricultural land, while 25% have only forested holdings.

Table 110. UK owners forest areas.

Distribution of forest area	Number of respondents	%
less than 40 ha	53	20
41-80 ha	44	17
81-200 ha	60	23
201-500 ha	58	22
greater than 500 ha	48	18
Total	263	100

Table 111. Types and distributions of holdings.

Holding type	Distribution of respondents	% of respondents
Mostly Agriculture (up to 30% forestry)	123	47
Mixed Estates (30-70% forestry)	60	23
Mostly Forestry (>70% forestry)	13	5
Forest only	67	25
Total	263	100

Level of 'environmental values'

The level of the forest owners' 'environmental values' was measured using the questions concerning 1) the forest owners' general forest-related values and 2) their objectives for the use of their forests. Four variables were selected and added together to form a sum variable describing the forest owners' environmental values or the 'greenness'. These variables were:

1. The use of non-plantation forests should be considerably reduced in order to preserve them for future generations.
2. Ancient and ancient semi-natural woodlands should be conserved and not exploited economically at all.
3. Protection and enhancement of landscape and scenery.
4. Protection and enhancement of wildlife, biodiversity.

Thus, the more positive an answer the forest owner gave to the two value-connected arguments (1 & 2 above) and the two objectives (3 & 4 above), the more the owner can be considered to be ecologically oriented and so have higher environmental values. The answers to original questions ranged from 1 (absolutely disagree) to 6 (absolutely agree), the resulting sum-variable ranges from 4 to 24 (Figure 38). The forest owners can therefore be put into three categories inside this range: those having a value between 4 and 13 are categorised as having "low environmental values", those having a value between 14 and 17 are classified as having "medium environmental values" and those having a value between 18 and 24 are considered to have "high environmental values".

Using this method 28% of respondents had low environmental values, 42% medium environmental values and 30% high environmental values.

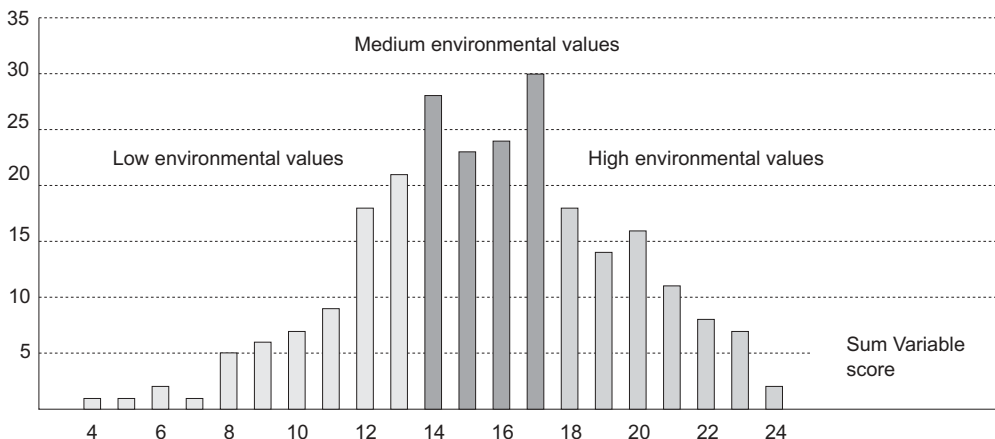


Figure 38. Forest owners' level of environmental values.

2. FOREST OWNERS VIEWS ON FOREST CERTIFICATION

Respondents' views on certification were generally positive (Table 112). The majority only disagree with one statement: "The forest industry only buys timber from certified forests". Over 60% of respondents thought the first three statements were desirable, particularly that forest owner associations encourage and help members to certify their woodlands.

Table 112. Forest owners' views on forest certification, % of respondents. Not at all desirable (1); very desirable (6).

Statement	1	2	3	4	5	6	Mean
Forest owner associations encourage and help members to certify their woodlands	15	8	12	21	24	20	3.9
Consumer choice of timber labelled as originating from certified forests	14	9	16	21	21	18	3.8
Labelled, certified timber used as a competitive tool for wood products	16	9	14	25	21	16	3.7
Most forest owners obtain certification of their forests and thus their timber	16	14	18	20	20	13	3.5
The forest industry only buys timber from certified forests	33	15	14	11	15	12	3.0

Respondents whose holdings which consisted of mostly forestry saw the statement "Most forest owners obtain certification of their forests and thus their timber", as not desirable, whilst in general, other holding types supported the statement.

Holdings with forests between 80-200 ha and 200-500 ha viewed the statements "Labelled, certified timber used as a competitive tool for wood products" and "Most forest owners obtain certification of their forests and thus their timber", as less desirable than other sizes. Owners whose forest area was less than 40 ha, and greater than 500 ha saw the statement "The forest industry only buys timber from certified forests", as desirable, whilst overall, other sizes did not. While all sizes thought forest owner associations should encourage and help members to certify their woodlands, holdings with forests between 40-80 ha thought it very desirable (82%) whilst holdings with 200-500 ha thought it less so (54%).

The higher the forest owners' environmental values were, the more positive their attitude was towards all the statements.

3. FOREST OWNERS' KNOWLEDGE OF FOREST CERTIFICATION

Forest owners' knowledge of forest certification was studied by asking whether they had heard about certification before this study and how much they knew about the issue (Table 113). Only about fifth of respondents claimed that they had never heard of certification and that they had no knowledge of forest certification. It could be said that forest owners' knowledge of certification is not sufficient at the moment as 40% felt they knew virtually nothing about it at all.

Owners of holdings consisting of only forests felt they had heard and knew more about certification than the other types. Generally the larger the forest area of the holding the more respondents felt they knew about timber and forest certification. Those with low or medium level of environmental values had heard and knew much more about certification than those with high level of environmental values.

Table 113. Amount of information received and knowledge of forest certification, % of respondents. Nothing at all (1); a great deal (5).

Knowledge of forest certification	1	2	3	4	5	Mean
Before this questionnaire, had you heard of forest or timber certification?	18	7	31	15	28	3.3
In your own opinion, how much do you know about forest or timber certification and the issues related to it?	20	21	30	15	13	2.8

4. GENERAL ATTITUDES TOWARDS FOREST CERTIFICATION

General attitudes were studied with the use of nine statements covering the economic and ecological aspects of certification. It should be noted that the "don't know" answers were excluded from the calculations of the distributions and means. The "don't know" answers are however, given as a percentage of all the answers to each of the statements (Table 114).

Forest owners generally felt that there would be few benefits from the certification of their forests. The vast majority of respondents felt that certification would only be profitable to them if there were a rise in timber prices, and that UK forestry regulations and laws are a sufficient guarantee of good forest management. Very few did not have views on these aspects. 75% of those who had one, also thought that certification would make their forestry operations more difficult. The majority of respondents with a view felt that certification would neither increase the demand for their timber nor that a premium would exist for certified timber. Over 60% of them did not see any benefits to the biodiversity or condition of their forests arising from certification, though more than a quarter of respondents did not know.

Some significant differences in owners' attitudes between types of holding, size of holding and environmental values were evident in the answers to these questions. Own-

Table 114. Forest owners' general attitudes towards forest certification, % of respondents giving an answer (% of all respondents). Completely disagree (1): completely agree (6).

Statement	1	2	3	4	5	6	Mean	Don't know
Certification will only be profitable if it increases timber prices	3	3	4	11	23	57	5.2	12
Obedying British forestry laws and following Forestry Authority guidelines is a sufficient guarantee of good forest management	7	6	5	10	18	54	4.9	7
Forest certification would make forestry activities more difficult	5	10	10	18	15	41	4.5	23
Consumers will choose certified timber	17	14	15	27	19	8	3.4	24
As a forest owner I would benefit from the certification of my forests	22	15	11	23	18	11	3.3	23
Certification would increase the demand for my timber	24	19	16	20	16	6	3.0	25
Timber buyers would be ready to pay a premium for my certified timber	33	15	13	17	15	6	2.9	25
Fulfilling the conditions of certification would improve the biodiversity of my forests	34	15	13	21	12	5	2.8	30
Fulfilling the conditions of certification would improve my forests	36	16	12	20	11	4	2.7	25

ers of predominantly agricultural holdings (over 70% agriculture) and forestry holdings (over 70% forestry) considered certification would make their forestry activities more difficult. Those with mixed holdings (30-70% forestry) were divided on this issue.

Large forest owners (over 200 ha) thought that certification would definitely not lead to an increased demand for their timber or a price premium. Opinions of medium and small owners (4-200 ha), were more divided on these points. Generally, the larger the forest area of the holding the more strongly respondents felt that UK forestry regulations and laws are a sufficient guarantee of good forest management.

The following attitudes tended to be associated with owners with a low level of environmental values:

- low expectation of a price premium from certification
- little benefit as owners from certification
- no stimulus to improved conditions of their forests from certification
- that UK forestry regulations and laws are a sufficient guarantee of good forest management

Owners with medium to high environmental values tended to believe certification would:

- improve the biodiversity of their forests
- lead consumers to choose certified timber and to increase demand for certified timber

5. POTENTIAL REASONS FOR CERTIFICATION

The potential reasoning behind owners having their forests certified was studied by asking the importance of some given factors. In addition, respondents were given the opportunity of naming their own reason for taking part. Since only 25 respondents indicated an objective of their own for certification, this alternative will not be considered in this study. These ‘other’ reasons effectively split into two groups. One group saw that certification would be compulsory in the future and therefore they would have to certify their forests. The second group saw it as a moral lead to other owners or a moral choice that they should make.

The principle reason for owners to certify their forests was economic (Table 115). The more directly the reasons related to sales, the more important they were. The three non-economic reasons were the least important aspects though they were still important to the majority of owners.

The majority of owners of all holding types except those holdings with only forests thought important reasons for certification would be to achieve better forest management and to secure the health and timber production potential of their forests.

Mixed and mostly agricultural holdings thought a fairly important reason for certification would be to secure the biodiversity of their forests. Owners with predominantly forest holdings did not think this an important reason.

Table 115. Forest owners’ potential reasons for certifying their own forests, % of respondents. Not at all important (1); Very important (6).

Reason	1	2	3	4	5	6	Mean
Enabling me to get a better price for my timber	4	1	6	13	24	52	5.1
Securing markets for my timber	5	3	5	13	27	47	4.9
Securing the health and timber production potential of my forests	20	7	10	15	21	27	3.9
Achieve better forest management	22	10	8	18	17	24	3.7
Giving a better habitat to animals	19	12	15	24	16	14	3.5
Securing the biodiversity of my forests	19	14	17	20	15	16	3.4
Improving the recreational and landscape features of my forest	22	13	15	23	16	11	3.3

Though many respondents were neutral about the importance of giving a better habitat to animals as a reason for certification, all holding types except the only forest category thought it an important reason.

Owners of mostly agricultural and mostly forest holdings thought improving the recreational and landscape features of their forests was a reasonably important reason for certification, whereas owners of mixed and only forest holdings did not.

Small forest owners (4-80 ha) saw securing markets for timber as a less important reason for certification than other size bands. Medium and large forest holdings (80-200 ha and 200-500 ha of woodland) saw achieving a better price for timber as a less important reason for certification than did the other size bands.

The higher the level of environmental values the more important the three non-economic reasons for certification became. The majority of those with medium and low environmental values saw non-economic reasons as being unimportant reasons for applying for certification, whilst most of those with high environmental values felt they were important reasons to apply.

Those with high environmental values saw “Securing the health and timber production potential of my forests” and “a better price for timber” as more important than the low environmental value group, but the low environmental value group saw “securing markets for timber” as more important than the high environmental value group.

6. PREFERRED CERTIFICATION SYSTEM

Most trusted certifying body

For forest certification to succeed it is important that it is carried out in a way that is acceptable to all parties involved. Respondents were therefore asked who they would trust to be responsible for carrying out certification. They were asked to rank their top five choices from the given alternatives. They were also given the opportunity to suggest a body of their own choosing. Table 116 shows the distribution of answers, with the columns totalling 100%.

Table 116. Most trusted certifying body, % of respondents.

Certifying body	Order of preference					
	1st	2nd	3rd	4th	5th	6th
Governmental organisation	41	26	21	10	6	17
Private organisation	30	28	17	10	10	17
Scientific organisation	19	27	34	13	3	0
Consumer organisation	2	10	11	34	42	17
Environmental organisation	2	7	14	33	39	33
Other	7	2	3	0	1	17

Forest owners' preferred certifying body was a governmental organisation. Second choice was a private organisation, with third a scientific organisation. Consumer and especially environmental organisations were well down the list of choice in terms of cumulative score and therefore not considered by forest owners to be trustworthy to function as a certifying body. Several forest owners chose their own body, the main suggestions being the Forest Authority (essentially a government body) or a partnership of all the prompted bodies or the Timber Growers Association or similar.

Owners of holdings consisting of only forests much preferred a governmental organisation compared to other holding types especially owners of mostly agricultural holdings.

72% of holdings with over 500 ha of forest preferred a governmental organisation whilst it was first choice by 34% to 40% of the other forest sizes.

The higher the environmental values the lower score a governmental organisation achieved and the more weight was given to environmental organisations.

Preferred negotiating organisation

Respondents were asked with which organisation would they prefer to negotiate their possible application for forest certification. They were asked to rank the five best of the given alternatives. They were also given the opportunity to suggest a body of their own choosing. Table 117 illustrates the distribution of answers, with the columns totalling 100%.

The results clearly show that respondents would most prefer to negotiate the issues for the application of forest certification was a representative of a forest owners association by a very large margin. Notable was the definite rejection by forest owners of environmental organisations, by the high score in fifth and sixth place. The main suggested 'other' alternatives were the Forest Authority (really a governmental organisation)

Table 117. Preferred negotiating organisation, % of respondents.

Negotiating organisation	Order of preference					
	1st	2nd	3rd	4th	5th	6th
A representative of a forest owners association	59	27	6	5	1	0
A representative of a government organisation	25	39	20	12	6	0
A representative of a private certifying company	4	21	34	31	7	17
A representative of an industrial timber buyer	3	6	31	35	24	17
A representative of an environmental organisation	3	4	10	17	62	67
Other	5	2	0	0	0	0

and independent foresters / agents (who could be considered to be private organisations) or their professional associations such as the ICF (Institute of Chartered Foresters).

Owners of holdings consisting of only forests preferred a governmental organisation compared to other holding types who preferred a forest owners association.

Owners with over 500 ha and less than 40 ha of forest gave a lower score to first place for forest owner associations than the other sizes. Owners with less than 40 ha of forest gave a higher ranking to environmental organisations than did the other size bands, whilst owners of forests of 200-500 ha gave them a very low score.

Importance of some certification objectives

The importance of some of the objectives of sustainable forest management were studied by asking how important given objectives were.

Increasing the productive capacity of forests was considered to be the most important aspect in sustainable forest management, closely followed by maintaining local people's forest-based means of livelihood (Table 118). The criteria connected to the non-economic benefits of forests were not among the objectives considered to be the most important. However, all given objectives were considered to be important in sustainable forest management. Generally, the larger the forest size the slightly more important the objective of wood production potential was seen. The higher the level of environmental values, the greater was the importance of increasing the biodiversity, the protective role, landscape and recreational values of forests.

Basis on which respondents would join a certification system

Respondents were asked on what basis they would join a certification system. They were informed that the cost per hectare of certification decreases with the increasing size of the area certified, and also if groups of owners join together, so reducing the cost

Table 118. Importance of some certification objectives, % of respondents. Not at all important (1); very important (6).

Objectives	1	2	3	4	5	6	Mean
Increasing wood production potential	2	3	5	19	25	46	5.0
Maintaining local people's forest-based means of livelihood	3	4	7	15	34	37	4.8
Increasing the protective role of the forests against erosion and in the supply of water	4	5	11	32	28	20	4.3
Increasing the biodiversity (varieties of plants & animals)	3	3	17	33	25	19	4.3
Increasing landscape and recreational values	4	6	12	31	29	19	4.3

of certification, their individual management influence might decrease. They were asked to rank their top three choices from the given alternatives (Table 119).

62% of respondents indicated the way in which they consider joining a certification system and 38% indicated they would not join or did not know. The most popular way was to join with a small number of like minded owners followed by joining in conjunction with large number of like minded owners. The higher the level of environmental values the more respondents would certify their forests in conjunction with a small number of like minded owners. Respondents with a low level of environmental values indicated they were less likely to certify their forests than those who had high or medium levels of environmental values.

7. WILLINGNESS TO ADAPT TO CERTIFICATION

Willingness to pay for the costs of certification

Forest owners' willingness to pay the costs induced by certification was studied by asking, how large a portion of their timber income they would be willing to spend on the direct and indirect costs of certification. The vast majority of forest owners were either not willing to spend anything, or up to a maximum of 2% of their timber income on the actual direct costs of auditing and applying for certification (Table 120). Respondents were more willing to forgo timber income to meet the indirect costs of changing their forest management, but they were still only willing to forgo up to 5% of their income. The smaller the woodland, generally the higher the proportion of timber income respondents were willing to spend on the indirect costs of certification. The higher the level of environmental values respondents had, the more they were willing to spend on the direct and indirect costs of certification.

Willingness to adapt to certification system requirements

The willingness of forest owners to adapt to the requirements of certification was studied by asking them whether they were ready to perform certain actions in order to have their forests certified.

Forest owners were generally not willing to conform to the requirements of certification (Table 121). Over a fifth of respondents indicated that they were not at all willing to allow any of the actions. The only action a majority were willing to accept was for the certifying body to inspect their forests and related documents. The requirement they were least willing to accept was to formally commit themselves to change the management and use of their forests to the certification standards. For all the certification standards, the higher the level of environmental values the more willing they were to accept them.

Table 119. Basis on which respondents would join a certification system, % of respondents.

Level of certification	Order of preference		
	1st	2nd	3rd
Consider certify forests in conjunction with a small number of other like minded owners	27	28	41
Certify forests with a large number of other owners	19	46	28
Certify forests, but not with other owners.	16	26	32
Would not join a certification system	19		
Don't know	19		

Table 120. Willingness to pay for the costs of certification, % of respondents.

Source of costs	% of timber income ready to spend				
	Nothing at all	0-2%	2-5%	5-10%	>10%
Direct costs (implementation of certification & auditing)	42	41	15	3	0
Indirect costs (reduced net income from forests)	27	36	21	10	5

Table 121. Willingness to adapt to behavioural requirements of certification, % of respondents. Not willing at all (1): very willing (6).

Certification requirements	1	2	3	4	5	6	Mean
Allow the certifying body to inspect your forests and related documents	22	8	9	21	17	24	3.8
Make changes in the forest management and use of the forests when they are judged not to be up to standard in the audit.	22	14	18	23	15	7	3.2
Report in advance to the certifying body of actions undertaken in your forests (e.g. felling)	31	14	11	19	13	13	3.1
Allow inspection of your forest's ecological value prior to carrying out major operations (e.g. felling)	31	11	14	21	11	12	3.0
Formally commit yourself to change the management and use of your forests to the certification standard.	41	16	13	19	6	6	2.5

Willingness to adapt forest management to certification requirements

The forest owners' willingness to adapt forest management to the requirements of certification was studied by asking if they were ready to perform certain actions in order to have their forests certified. Respondents were generally willing to implement certification standards in their forest management (Table 122). More than 80% were willing to: a) use local contractors where possible, b) follow the Forest Authority's guidelines and practice wherever applicable, c) minimise soil disturbance and d) generally encourage mixed stands, native species and diversity of species where this did not unduly undermine management objectives and revenues.

Table 122. Willingness to adapt to forest management to the requirements of certification, % of respondents. Not willing at all (1); very willing (6).

Requirement	1	2	3	4	5	6	Mean
Use local contractors where possible	2	1	3	9	25	61	5.4
Follow the Forest Authority's guidelines and practice wherever applicable	2	3	7	16	26	46	5.0
Minimise soil disturbance	3	3	8	21	27	39	4.8
Generally encourage mixed stands, native species and diversity of species where this does not unduly undermine management objectives and revenues.	4	5	9	18	28	36	4.7
Maintain 5% of total forest area in an old age class	8	9	6	13	25	38	4.5
Retain 10% of your total forest area undisturbed for 5-10 years when carrying out major operations in the rest of the forest	11	8	5	18	24	33	4.3
Leave decaying trees in forests	9	7	13	19	23	29	4.3
Leave buffer zones around important biotypes	7	6	12	23	28	24	4.3
Allow some public access to forests	16	14	11	16	17	26	3.8
Where forests occupy previous semi-natural habitats encourage change to that habitat over time (e.g. plantations on ancient woodland sites gradually converted to native local species)	15	9	18	22	20	15	3.7
Leave your forests unfertilised and use non-chemical weed and pest control whenever possible	18	15	13	18	18	19	3.6
Set aside 3% of your total forest area for permanent retention and non-intervention	23	16	11	13	18	19	3.4

An unexpected result was that more than 70% of respondents were willing to: a) maintain 5% of total forest area in an old age class, b) retain 10% of their total forest area undisturbed for 5-10 years when carrying out major operations in the rest of the forest, c) leave decaying trees in forests and d) leave buffer zones around important biotypes. The requirements respondents were least willing to carry out were the last four in Table 122, with 40% or more not willing to comply.

Respondents were generally most keen on those practices already outlined by the Forestry Commission. However, respondents were less willing to implement the more ecological requirements of certification.

With the exception of the three requirements noted later, for all the requirements of certification, the higher the level of environmental values the more respondents were willing to comply with them. The exceptions where a significant difference was not noted were; a) following the Forest Authority's guidelines and practice wherever applicable, b) using local contractors where possible and c) allowing some public access to forests.

8. DECISIONS ON APPLYING FOR FOREST CERTIFICATION

Factors affecting application for certification

Factors affecting the forest owners' decisions on whether or not to apply for certification were studied by asking how important the given factors were.

All factors affecting forest owners taking part in certification were considered important (Table 123). With six of the seven factors considered as very important, forest owners consider the participation of forest owners in the planning process of certification as very important indeed. The next four factors were also considered extremely important. Of less importance but still a considerable influence on the decision was whether they were going to profit from having their forests certified. By a large margin whether or not other local forest owners have had their forests certified was not considered to be of much importance when applying for certification.

Small forest owners (less than 40 ha of forest) were less concerned in having their preferred certification body than medium and large owners. Owners of medium sized forests felt it was more important to profit from certification and that the cost of certification should be met in part by a grant than the other size bands.

Inclinations towards forest certification

Interestingly, about half of the respondents were interested in certifying their forests (Table 124). However, virtually all of those wish to examine it further. Of the other half, most were currently not interested in applying for their forest's certification at the moment, but 14% were never likely to want their forests certified.

The higher the environmental values of the respondent the more inclined they were to be interested in applying for certification. Those with low environmental values were

the predominant group in the 'never will certify' category, though the majority of respondents with these values were in the 'not interested at present' category.

9. PRICE PREMIUM NEEDED FOR FOREST CERTIFICATION

Only 7% of respondents would never certify their forests whatever the premium (Table 125). An equal percentage would certify the forests for no premium at all. The remaining 86% would all certify their forests if a price premium were available. A quarter of respondents would be inclined to certify their forests for a 1-5% premium, a further quarter for a 5-10% premium and the last 35% for a price premium in excess of 10%.

Table 123. Factors affecting participation in certification, % of respondents. Not important (1); very important (6).

Factors	1	2	3	4	5	6	Mean
Forest owners have participated in the designing of the timber certification system	1	1	1	6	14	77	5.6
The certification of your forests does not require much time or paperwork from you	2	2	2	9	21	63	5.3
The certification body is the one you prefer	2	0	5	17	23	53	5.2
The cost of certification is met in part by a grant	3	3	2	13	22	56	5.2
You don't have to change your forest management much to get your forests certified	1	2	4	18	30	45	5.1
You know that you are going to profit from having your forests certified	6	3	4	19	23	45	4.8
Other local owners have had their forests certified	23	11	11	21	17	18	3.5

Table 124. Willingness to apply for certification of own forests.

Alternatives	% of respondents
I am ready and want to apply for my forest's certification	4
I am interested in my forest's certification but wish to examine it further	45
I am not interested in applying for my forest's certification at the moment	37
I am never likely to want my forest's to be certified	14

Table 125. Price premium needed for forest certification.

Alternatives	% of respondents
Nothing at all	7
0-2% price premium	10
2-5% price premium	14
5-10% price premium	26
10-15% price premium	18
Over 15% price premium	17
I would not certify my forests whatever the premium	7

10. UK FOREST OWNERS CONCLUSIONS

Overall respondents view certification positively, though with some serious reservations. These reservations can be described under three headings:

1. The benefits of certification both to their forests and to them
2. The costs of certification
3. Governance of the certification system

General attitudes towards certification were that there would be few benefits to their forests from certification, with three-quarters thinking it would make their forestry operations more difficult, and an overwhelming majority thinking it would only be profitable if there were a rise in timber prices, which they did not foresee. However, the principle reasons they saw for certification were economic, in that the more directly the potential reasons for certification related to sales the more important they were seen to be. Despite this, respondents saw all certification objectives as important in the achievement of sustainable forest management. These aspects point to the need for a scientific assessment of the costs, benefits, advantages and disadvantages of the implementation and working of forest certification in the UK.

The preferred certifying body for a majority of forest owners' was a governmental organisation. This gives the EU some encouragement in its potential role as a certification body. By a large margin, respondents most preferred to negotiate the issues for the application of forest certification with representative of a forest owners association. Even though the sample was taken from the Timber Growers Association address list, this suggests that the TGA has an important role to play in certification issues in the UK. It may therefore be able to influence certification systems on behalf of its members.

Surprisingly, a majority of forest owners indicated they would consider joining a certification system. The most popular basis was with a small number of like minded owners. Such group certification is available under the FSC certification procedures and should reduce direct certification costs. As respondents indicated, very few were willing to spend more than 2% of their timber income on the direct costs induced by certification, but they were more willing to forgo timber income to meet the indirect costs of certification.

Forest owners were generally not willing to adapt to behavioural requirements of certification, such as notification of major forest activities. Such commitments are part of the certification quasi-contractual process and so would be a major obstacle in the adoption of widespread forest certification. Respondents were on the whole, willing to adapt their forest management and implement certification standards. This suggests they saw some of the potential benefits of certification to their forests eco-system. However, they were most willing to follow those practices already outlined in some of the Forestry Commissions guidelines and practice, but less keen on the more overtly ecological management practices.

All the factors listed affecting forest owners' participation in certification were considered important. However, none of their requirements are unlikely to materialise. If these are truly important to forest owners their absence may be a potentially major disincentive to forest owners. An example of this is that as certification is a "top down" approach, forest owners are not directly involved in the designing of the certification system, which they thought was important. Despite this, about half the respondents were interested in certifying their forests, with only 14% never likely to want their forests certified.

When asked what price premium certified timber would need to be over non-certified to encourage them to certify their forests less than a tenth of respondents would certify their forests with no premium and an equal number would never certify their forests. The remainder would require premiums mostly between 1-15%. Therefore, as noted above, if there are no economic incentives or reasons for forest owners to certify their forests, then widely adopted voluntary certification may not happen. The consequences of this could be very serious for private British forestry if a large proportion of the UK forest industry decide to buy only certified timber.

RESULTS OF THE UK INDUSTRY AND TRADE SURVEY

1. BACKGROUND INFORMATION PARTICULAR TO THE UK

As mentioned before there are already buyer and supplier groups involved with timber certification. Table 126 shows membership by responding companies to three key schemes

50% of companies in the survey belonged to a scheme, the most popular being the Forests Forever Campaign. The survey interviewed 17 WWF '95+ members out of a total in the UK of 82 large and small companies which belong to the WWF '95+ group. Some companies belonged to more than one of the organisations, generally both the Timber Trades Federation (TTF) Forests Forever Campaign and the Forest Industry Council of Great Britain (FICGB) Woodmark scheme.

Table 126. Membership of certification / pressure groups.

Organisation	Distribution of companies
Timber Trades Federation Forests Forever Campaign	25
FICGB Woodmark	14
WWF '95+ Group	17
Total number of companies belonging to one or more schemes	49

2. VALUES AND EXPECTED DEVELOPMENT OF MARKET ENVIRONMENT IN THE UK

Environmental Business Values

Companies feel they have a responsibility for the social and environmental impacts of their businesses and that governments do have a regulatory role. However, they recognise that their profits were more important than environmental friendliness in their decision making. Almost all respondents supported consumer demands and industry competition as measures influencing the quality of the environment. Over 70% also saw eco-labels and government regulations as desirable measures, and 60% felt taxes on pollution were desirable. Consumer boycotts and pressure by ENGOs, however, were not regarded desirable ways of influencing the quality of environment.

76% of companies had no or very little interest in 'redirecting consumers' needs and wants towards less consumption, but there was a stronger interest in directing

Table 127. Companies interest in redirecting consumers' needs and wants, %. Strong interest (5); no interest at all (1).

Interest in redirecting consumers' needs and wants towards...	5	4	3	2	1	Mean
less consumption	1	9	14	20	56	1.8
less environmentally harmful consumption	15	27	29	15	13	3.2

consumers needs and wants towards less environmentally harmful consumption (Table 127). There was a significant difference when industry size was examined. Smaller companies tended to have less interest in 'redirecting consumers' needs and wants towards less environmentally harmful consumption' compared to medium and large companies.

3. ENVIRONMENTAL MICRO AND MACRO ENVIRONMENT AND CUSTOMER BEHAVIOUR

The environmental micro and macro environment of the UK forest industry were studied by asking questions on three subjects: how environmental related issues were expected to develop in the future, how environmentally aware the most important customers were and how they rate the importance of different product factors. Additionally, the importance of timber certification for customers and perceived interest in it were asked.

Respondents saw a strong development of markets from the environmental standpoint, with an increase in excess of 67% in all phenomena excepting 'Customers willingness to pay higher prices for environmentally friendly products' (Table 128). Particularly strong growth was expected in the 'Supply of environmentally friendly products' at 96%, followed by the 'The public's demand for environmentally friendly products'. Companies' customers were seen as likely to show strong demand for environmentally friendly products (80%). ENGOs were expected to continue to exert a strong influence on the market. However, 'Customers' willingness to pay higher prices for environmentally friendly products' was balanced between those seeing a increase (21%) or a decrease (23%), with most respondents seeing no change (54%). Marketing channel intermediaries, sawmills and panel industries saw large increases in the

'Influence of environmental groups on the market' whilst the pulp, paper and paperboard industries saw on average no change. Large companies saw a significant increase in the 'Influence of environmental groups on the market', whilst medium sized companies on average only saw a very slight increase. Marketing channel intermediaries saw a greater willingness of customers to pay higher prices than pulp, paper and paperboard industries who expect a decrease in the willingness of customers to pay higher prices for environmentally friendly products.

Table 128. Expected development of company's market environment, %. Increases / strengthens (5); Decreases / weakens (1).

Phenomena	5	4	3	2	1	No idea	Mean (> 0)
Supply of environmentally friendly products	59	37	4	0	0	0	4.5
The public's demand for environmentally friendly products	57	32	10	0	1	0	4.4
Environmental standards set by society	48	38	10	2	0	1	4.3
Your customers' demands for environmentally friendly products	45	35	16	2	0	1	4.3
Genuine consumer concern for the environment	40	31	25	1	2	0	4.1
Consumers' environmentally friendly life-style	33	48	15	3	0	0	4.1
Influence of environmental groups on the market	37	30	23	6	1	2	4.0
Competition based on the environmental strengths of companies	26	49	20	2	0	2	4.0
Customers' willingness to pay higher prices for environmentally friendly products	8	13	54	17	6	2	3.0

Table 129. Perceived customer importance rating when buying products.

Factor	Mean of given points
Price	41
Quality	21
Delivery (time/reliability)	18
Specification	12
Environmentally friendliness of the products	8
Others	1
Total	100

The companies perceived price as by far the most important factor customers looked for when buying products, with a contribution of 41% (Table 129). Quality and delivery were seen as about as half as important with weights of 21% and 18% respectively. Environmentally friendly products was rated the lowest buying factor in importance, receiving just 8%. Surprisingly, despite their very different products and businesses, there were few differences in the importance between types of industry and sizes of company.

46% of companies felt that their customers were not environmentally aware (answers 1 & 2), whilst 32% felt that they have some or considerable awareness (answers 4 & 5) (Table 130). Medium size companies had significantly more customers who were very environmentally aware. However, all sizes had similar levels of customers who were considered to be unaware.

Companies feel fairly neutral overall about the importance their customers would attach to a certification system. 28% thought their customers would find it of some importance (answers 4 & 5) against 33% thinking they would find it unimportant (Table 131). 16% had no idea how important their customers would find a certification system. Paper buyers thought 71% of their customers would find certification unimportant with none finding timber certification important, whereas other sectors had a relatively even split between customers who would find a certification system important (answers 5 & 4) and those who would not (answers 2 & 1). Two-thirds of medium and large companies felt of their customers would find a certification system of some importance (answers 5 & 4) against a third of small companies.

64% of companies had not experienced customers showing much interest in certified wood products, against 23% who had shown some or strong interest (Table 132). The larger the company the more interest their customers had shown in certified products. 77% of small company customers had shown little or no interest, whilst 40% of medium and 59% of large company customers had shown some interest in certified products.

4. ECOLOGICAL MARKETING AND ENVIRONMENTAL ACTIVITY

Decisions for Marketing Strategies

This section contained several questions not always well understood by respondents. These questions generally related to marketing strategies and customer selection, neither of which are practised consciously by many companies.

Product Strategies. The strategic product decisions typically describe what kind of products the company wants to produce. The product characteristics and orientation (for example, a commodity product or a special product or a customer product), are defined in product strategies. Environmental friendliness may, for instance, be one strategic characteristic that can convert a commodity product to a special product.

Overall companies had an even spread of environmental friendliness emphasis when making strategic product decisions (decisions about what a companies' makes or produces) (Table 133). Very few, 4%, thought it the most emphasised product characteristic, while 31% gave environmental friendliness little or no emphasis. However, one third gave some emphasis to their product's environmental friendliness in their strategic product decisions.

When companies were asked to assess the importance of the four life phases of their main product, nearly 50% of the overall importance was allocated to the raw materials (Table 134). A mean importance of 23% was given to the production technologies

Table 130. Environmental awareness of the most important customer group(s), %. Very aware (5); not aware at all (1).

Question	5	4	3	2	1	Mean
How environmental aware are your most important customer group(s)?	10	22	24	38	8	2.9

Table 131. Companies' perception of the importance of a certification system to their customers. Very important (5); not important at all (1).

Question	5	4	3	2	1	No idea	Mean (> 0)
If a timber certification system were introduced in the near future, how important would your most important customer group(s) find the certification system?	13	15	22	26	7	16	3.0

Table 132. Customers' interest in certified products, %. Strong interest (5); no interest at all (1).

Question	5	4	3	2	1	Mean
Have your customers shown any interest in certified products?	11	12	14	34	30	2.4

Table 133. The emphasis of the product's environmental friendliness (EF) in the strategic product decisions, %. EF most emphasised product characteristic (5); no emphasis at all (1).

Question	5	4	3	2	1	Mean
In your strategic product decisions, how much is the environmental friendliness (EF) of the product emphasised?	4	29	35	18	13	2.9

Table 134. The importance of four phases of a product's life to the overall environmental friendliness of a companies' main product

Phase	Mean of given points
Raw materials used (good forest management etc.)	49
Production technologies (energy, emissions, recycled content etc.)	23
Consumption of product (safety, recyclability, efficient packaging etc.)	18
Transport during the product's whole life	10
Total	100

involved. The responses of the pulp and paper industries and the paper buyers were significantly different from other sectors in that they allocated a greater weight of importance of production technologies and consumption of the product. This probably reflects the growing emphasis that has been placed on increasing the proportion of recycled fibre in the total paper market.

The results shown are quite surprising, considering the commonly voiced views of the wood industries towards timber certification. Some 63% feel that timber certification would support the decisions about the future products and markets of the company to larger or lesser extent (Table 135).

Customer and Supplier Strategies. Customer strategies typically describe what type of customer groups the company wants to concentrate their sales and marketing effort on. The majority of companies feel that if and when they select their customers, the level of the customers environmental awareness does not effect their choice (Table 136). However, more than 50% of interviewed companies felt that a timber certification system would strongly influence their choice of raw material suppliers (Table 137).

Competitive Advantage Strategies. Environmental friendliness was seen to have some importance when planning competitive emphasis for the most important products and markets. 24% of companies felt that environmental friendliness had some importance (answers 5 & 4) when planning the competitive emphasis, 35% thought it had little or no importance (Table 138).

Furthermore, the majority of companies (54%, answers 5 & 4) thought that good forest management could be regarded as a source of competitive advantage, where as 28% thought it had no or little advantage to offer (Table 139). 57% of companies would use certified raw material as a source of competitive advantage, or 19% might and 23% would not.

Decisions for Marketing Structures. The values and philosophy of management was the business aspect that was thought to be most influenced by environmental issues (answers 5, 4 & 3) (Table 141). The impact on planning / information systems, recruitment training and distribution channels was weaker. A significantly stronger impact of environmental issues on the values and philosophy of management was noted in the pulp, paper and paperboard industries and the marketing channel intermediaries than in the other sectors, in particular in sawmills and panel industries.

The most commonly used environmental management system was ISO 9000 / BS 5750 which was employed by three-quarters of companies (Table 142). However, a company environmental policy statement was used nearly as commonly. 57% of small companies used a company environmental policy statement, against 83% of medium and 78% of large companies. The majority of UK companies had no plans to use the ISO 14000 / BS 7750 environmental management system and only 8% actually used it. The size of company was significant at 0.01, with 70% of small companies not planning to use it compared with 68% of medium sized and 70% of large companies were either planning to use it or actually using it. Few companies either used or planned to use EMAS.

Table 135. Support of a timber certification system in the company's strategic product decisions, %. Would support fully (5); would not support at all (1).

Question	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future would it support your strategic product decisions?	23	40	22	6	9	3.6

Table 136. The importance of customers' environmental awareness in customer selection. Very important (5); not important at all (1).

Question	5	4	3	2	1	Mean
When selecting your most important customer group(s), how important is their level of environmental awareness in your decision making	9	13	24	26	29	2.5

Table 137. Impact of timber certification in deciding on suppliers of the raw materials and products. Strong impact (5); no impact at all (1).

Question	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, how strong an impact would it have in deciding on suppliers of your raw materials and products	24	29	23	15	9	3.4

Table 138. The importance of EF in the planning of competitive emphasis for the most important products and markets. Very important (5); not important at all (1).

Question	5	4	3	2	1	Mean
How important is environmental friendliness when planning the competitive emphasis for your most important products and markets?	8	16	41	26	9	2.9

Table 139. Perceptions of the good forest management as a source of competitive advantage. Definitely yes (5); absolutely not (1).

Question	5	4	3	2	1	Mean
In your opinion, could good forest management be regarded as a source of competitive advantage?	21	33	19	22	6	3.4

Table 140. Perceptions of the use of certified raw material as a source of competitive advantage, %. Definitely yes (5); absolutely not (1).

Question	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, would you try to use the certified raw material as a source of competitive advantage?	14	43	19	14	9	3.4

Table 141. The impact of environmental issues in the marketing and business management, %. Strong impact (5); no impact at all (1).

Aspect	5	4	3	2	1	Mean
Values and philosophy of management	5	26	39	23	6	3.0
Planning and information systems (type of information used etc.)	2	11	33	29	24	2.4
Personnel recruitment and training	3	7	26	31	32	2.2
Distribution channels	2	9	22	35	32	2.2

Table 142. Company's environmental management system, %.

Environmental management system	Used	Under planning	No plans
ISO 9000 / BS 5750 Quality Management System	74	6	20
Company environmental policy statement	69	15	17
Other Environmental Management System (EMS)	11	5	17
ISO 14000 / BS 7750 Environm. Management System	8	39	53
EMAS (EU Eco Management and Audit Scheme)	2	14	84

Decisions for Marketing Functions

Communication and Market Information. The majority of companies take account of environmental concerns and information in their strategic planning and decision making and also use customer surveys for their marketing plans (Table 143). However, these are mostly done on an occasional basis. By contrast only about 30% of companies invited inputs from consumer or environmental groups to their management decision making and 70% never do this. Larger companies tended to make more frequent use of these procedures than smaller companies.

One quarter of respondents considered environmental issues had had an effect (answers 5 & 4) on their advertising and communication campaigns while 50% considered they had not (Table 144). Similarly, only one quarter had seen environmental issues in-

Table 143. Frequency of company procedures. Always (4); often (3); occasionally (2); never (1).

Procedure	4	3	2	1	Mean
Consider environmental concerns in strategic planning	14	34	40	12	2.5
Examine environmental information in business decision making	9	30	49	11	2.4
Carry out customer surveys for marketing plans	10	22	40	28	2.1
Invite input from consumers groups when making environmental business decisions	4	8	19	69	1.5
Invite input from environmental groups when making environmental business decisions	2	3	31	64	1.4

Table 144. The impact of environmental issues on advertising and personal selling, %. Strong impact (5); no impact at all (1).

Function	5	4	3	2	1	Mean
Advertising and communication campaigns	7	19	24	25	25	2.6
Personal contacts / selling	4	20	33	31	12	2.7

Table 145. Intentions to use timber certification in the advertising, %. Definitely yes (5); definitely not (1).

Question	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future, would you try to use it in your advertising?	33	29	19	11	8	3.7

fluencing their personal contacts and sales while 43% had not. All sectors saw some impact of environmental issues on their personal contacts and sales except paper buyers, 85% had seen no or little impact. 62% of companies (answers 5, & 4) would use a timber certification in advertising, if a timber certification system were introduced in the future, against 19% who would not (Table 145).

Pricing and Distribution. Environmental issues seem to have had little influence on the pricing of products (answers 2 & 1). More than half of the respondents (answers 5 & 4) thought that there was little or no chance in getting higher prices for environmentally friendly products, whereas one third thought it was possible (answers

2 & 1) (Table 127). Less than one third of the respondents thought that timber certification would lead to a price premium for products and one quarter that environmental friendliness could convert an ordinary product into a special product.

Companies split into three groups when asked what they would have to pay for certified raw materials. One third of companies did not expect to pay a price premium for certified products, 27% of companies expect a 1-5% price premium for certified products. 32% felt it was impossible to say or that it was not relevant to define the share of timber certification in the price (Table 148).

57% of companies felt they would not be able to pass on any cost increases arising from certification to their customers, 27% felt it was impossible to say (Table 148). Only 16% saw some possibility of passing on the cost increase.

Table 146. The impact of the environmental issues on pricing, %. Strong impact (5); no impact at all (1).

Question	5	4	3	2	1	Mean
Up to now how strong an impact have environmental issues had on the pricing of your products (e.g. green premium)?	0	4	11	22	63	1.6

Table 147. The influence of certification on the pricing, %. Completely agree (5); completely disagree (1).

Statement	5	4	3	2	1	Mean
It is not possible to get higher prices for environmentally friendly products	30	25	18	19	8	3.5
Certification is a part of an environmentally friendly product which leads to a price premium for that product	10	17	20	24	29	2.6
Environmental friendliness can convert a commodity/ordinary product into a special product and that is reflected in the price	7	17	18	27	31	2.4

Table 148. Expected price rise companies would have to pay for certified products.

Price rise, %	0	1-5	6-10	11-15	16-20	above 20	Total
	33	27	5	1	0	1	100
Impossible to say / It is not relevant to define the share of timber certification in the price 32%							

62% of companies thought segregating certified products from non-certified products down the whole supply chain would be very difficult or impossible (answers 2 & 1), while only 18% thought it would be relatively straightforward (answers 5 & 4) (Table 150a). However, during the interviews, several companies said if they were to use certified timber then they would do so exclusively, therefore segregation would be easy and no segregation costs would be incurred. The pulp, paper and paperboard industries and paper buyers had a 50:50 split between those who thought it very difficult or impossible, and those who thought it relatively straightforward to segregate certified from non-certified. 55% of sawmills and panel industries and 63% of secondary wood processors thought it very difficult, whilst only 10% and 8% respectively thought it relatively straightforward. Company size was significant with small companies seeing it much more difficult to segregate than medium sized companies, who in turn, thought it more difficult than large companies.

38% of companies saw little rise (answers 2 & 1) in costs due to segregation, whilst 45% saw a considerable rise (answers 5 & 4). Over 70% of pulp, paper and paperboard industries saw little change in costs but 84% of sawmills and panel industries and about 37% of secondary wood processors and marketing channel intermediaries saw considerable cost increases.

Table 149. Perceived ability to pass on cost increases on to customers, %.

Expected share, %	Not at all	57
	Up to 50% of the cost increase	9
	50%-100% of the cost increase	6
	Over 100% of the cost increase	1
	Impossible to say	27
Total	100	

Table 150. Ease of segregating certified and non-certified timber products and its effect on costs, %. Easily achieved (5); totally impossible (1). Very substantially (5); hardly noticeably (1).

a) question (n=145)	5	4	3	2	1	Mean
If a timber certification system were introduced in the near future it will mean that certified products will need to be segregated from non-certified products down the whole supply chain. Do you think this would be possible?	10	8	20	31	31	2.3
b) question (n=145)	5	4	3	2	1	Mean
How would this effect your costs?	19	26	17	17	21	3.0

Level of Environmental activity

The level of environmental activity, i.e. greenness, was classified into three groups. A sum variable with scale from 8 to 40 was created from eight original variables (Table 151). This measures how environmental issues are seen in the marketing management of companies. Using straight 1/3 limits of the scale, 33% of the UK respondents were not environmentally active, 55% slightly active and 12% active. However, the adjusted limits were used in the comparisons made within the UK (Table 152). The distribution of the level of environmental activity and the adjusted limits of environmental activity, ensuring an even spread of UK companies is presented in Figure 39.

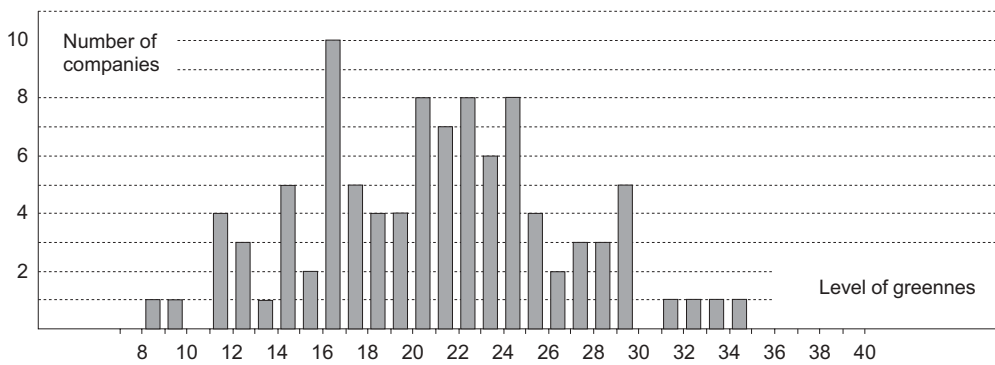


Figure 39. Level of environmental activity of the UK respondents.

The variables were chosen by analysis from a one factor solution from 18 original variables from the sections on the environmental marketing and business values. The one factor solution of the chosen eight variables in Table 151 gives evidence that those variables measure well in only one dimension: the environmental activity.

The level of environmental activity was different between industry sectors (Table 153). The pulp, paper and paperboard industries fall into, on average, the 'Environmentally active' group and the marketing channel intermediaries are nearly in this group. The sawmills and panel industries, secondary wood processors fall into, on average, the 'Slightly Environmentally Active' group but the paper buyers are in the 'Not Environmentally Active' group.

The level of environmental activity was significantly different (0.0007) between company sizes (Table 154). The large companies were on average in the 'Environmentally active' group against the medium and small sized companies were on average in the 'Slightly Environmentally Active' group.

Membership of any of the schemes does not relate significantly to the level of environmental activity in the company (Table 155). However, companies belonging to a scheme tend to populate the slightly environmentally active and environmentally active groups rather than the non-environmentally active group.

Table 151. The measure instrument of the level of environmental activity.

Variable	Factor I	Communality
<u>Frequency of company procedures:</u>		
Examine environmental information in business decision making	0.699	0.488
Impact of environmental issues in advertising and communication campaigns	0.640	0.409
The impact of environmental issues in the planning and information systems (type of information used etc.)	0.639	0.408
The impact of environmental issues in the values and philosophy of management	0.619	0.383
Impact of environmental issues in personal contacts / selling	0.531	0.282
The impact of environmental issues in the personnel recruitment and training	0.527	0.277
How important is environmental friendliness when planning the competitive emphasis for your most important products and markets?	0.519	0.269
Consider environmental concerns in strategic planning	0.778	0.605
Eigenvalue	3.122	
Total variance, %	39	
Reliability Coefficients-Alpha	0.825	

Table 152. Classification of environmental activity for the analyses.

Level of greenness (Points in the sum variable)	Number	%
Not Environmentally Active (8-17)	32	32
Slightly Environmentally Active (18-23)	37	37
Environmentally Active (24-38)	29	29
Missing Information	1	1
Total	99	100

Table 153. Divergence of environmental activity means by industry sectors. Level of environmental activity (Scale 8-38).

Industry sector		
	Pulp and paper industry	24.0
	Sawmills and panels	19.5
	Secondary wood processing	19.5
	Marketing channels	22.9
	Paper and paperboard buyers	17.4
	F Prob. 0.0182	

Table 154. Divergence of environmental activity means by industry size (Scale 8-38). Level of greenness (Scale 8-38).

Company size by wood use	Small	19.2
	Medium	19.5
	Large	24.3

Table 155. Relationship between level of environmental activity and membership of types of certification systems. Number of Companies belonging or intending to join some type of certification system.

Level of Environmental Activity	TimberTrades Federation / Forests Forever	FICGB Woodmark	WWF 95+ Group
Not Environmentally Active	5	1	4
Slightly Environmentally Active	12	9	6
Environmentally Active	8	4	7

Significance 0 .84476

4. NEED FOR AND ACCEPTANCE OF TIMBER CERTIFICATION IN THE UK

General Attitudes and Needs towards Timber Certification

68% of companies thought that a widely used timber certification system for good forest management was needed (answers 5 & 4), with only 13% who did not (answers 2 & 1) (Table 156). The larger the company, the more strongly this was felt. 57% of small companies thought that a widely used timber certification system for good forest management was needed against 76% of medium and 87% of large companies. Equally 20% of small companies did not want a certification system against 8% of medium and 4% of large companies.

The majority of companies agreed (answers 6, 5 & 4) with the first four statements, and disagreed (answers 3, 2 & 1) to the last four statements given to study the attitudes and needs concerning timber certification (Table 157). 84% of companies thought that demands for certification are mainly created by environmental groups, 75% that the majority of consumers pay no attention to the origin of timber, 77% that timber certification was needed to respond to the criticism of the forest industry by environmental groups and 65% that industry will only use certified wood if the consumer pays a higher price for the product.

Views were split 50:50 over whether companies would benefit from the existence of a credible certification system. 95% thought that the majority of customers would not be prepared to pay a higher price for certified products. Just over half the companies thought that timber certification would be relevant for forest products markets in general rather than just niche markets', would not enhance the competitiveness of wood

Table 156. The need for a timber certification system for good forest management, %. Definitely yes (5); absolutely not (1).

Question	5	4	3	2	1	Mean
Do you think that a widely used timber certification system for good forest management is needed?	45	23	18	9	4	4.0

Table 157. Attitudes and needs concerning timber certification, %. Completely agree (6); completely disagree (1).

Statement	6	5	4	3	2	1	Mean
Demands for certification are mainly created by environmental groups	28	30	26	10	3	4	4.6
The majority of consumers pay no attention to the origin of timber	24	36	15	16	8	1	4.5
Timber certification is needed to respond to the criticism of the forest industry by environmental groups	16	33	28	7	11	4	4.2
Industry will only use certified wood if the consumer pays a higher price for the product	17	32	16	11	18	7	4.0
Our company would benefit from the existence of a credible certification system	25	13	13	17	23	10	3.7
For our purposes a mark of origin is enough to guarantee good forest management	10	15	19	22	18	16	3.3
Timber certification will be relevant only for eco-market-niches, not for forest products in general	13	14	14	14	27	16	3.2
Timber certification will enhance the competitiveness of wood products over other materials	10	12	21	14	24	19	3.1
The majority of our customers would be prepared to pay a higher price for certified products	1	0	4	9	31	55	1.7

products over other materials, and that for their purposes a mark of origin was not enough to guarantee good forest management.

Marketing channel intermediaries saw significantly more benefit from certification than did the secondary wood processors. Small companies saw significantly lower benefits from timber certification than medium sized companies who in turn saw

significantly lower benefits than large companies. Non-environmentally active companies saw significantly smaller benefits from timber certification than slightly environmentally active or environmentally active companies.

Preferences concerning Timber Certification

General planning and implementation. The respondent companies gave a relatively even spread of percentage points to the various organisations (Table 158). This was possibly prompted by the question, the first part of which said: "Planning and implementation of certification requires expertise, credibility and representation of various interests." It could also reflect a genuine feeling of the companies that all such organisations need to have relative balance, such that a certification system would be credible to all parties in the UK.

The organisation the companies most wished to see planning and implementing certification in the UK were the forestry and environmental authorities with 23%. In the UK context this would mean the various national agencies such as English Nature and Scottish Natural Heritage as well as the Forestry Commission. A close second came the forest industry with 21% of the mean of allocated points. The remaining organisations are all within 4% of each other in popularity. The differences between the background variables and the organisations varied only by 2% to 7%.

Goals of Certification. Approximately two thirds of the companies considered that certification would be important in the roles of a) marketing tool, b) promotion of good forest management, c) responding to environmental groups and d) improving performance. However, only about 40% considered it important for a) securing raw materials, b) gaining competitive advantage and c) being able to offer products from well-managed forests (Table 159).

As all the statements in Table 159 concern some aspect of marketing management excepting the mark of origin question, and the factor analysis produces a 1 factor solution (Table 160). These can form a sum variable called 'timber certification as a marketing tool' with a variable score scale from 6 to 30. Table 160 presents the results of the factor analysis.

Table 158. The desired influence of various interest groups in the implementation and planning of certification.

Organisation	Mean of given points (total 100)
Forestry and environmental authorities	23
Forest industry	21
Scientists	15
Forest owners	14
Environmental groups	13
Consumer organisations	11
Others	3

Table 159. The importance and role of timber certification for the company, %. Very important (5); not at all important (1).

Aspect	5	4	3	2	1	Mean
Your company can use certification as a marketing tool (e.g. in advertising)	33	33	16	15	3	3.8
Your company can be seen to be promoting and implementing good forest management	27	40	20	11	2	3.8
Your company can respond to criticism by environmental groups concerning the origin of the wood products you sell	25	41	26	6	2	3.8
Your company can improve its present environmental management performance	22	28	29	15	6	3.4
Your company can secure its raw material resources	17	28	32	13	11	3.3
Your company can gain competitive advantage through certified forest products	21	22	26	10	21	3.1
Your company can offer customers products from well managed forests	10	29	32	19	10	3.1

Table 160. Dimensions of timber certification for the company.

Variable	Factor 1	Communality
Your company can use certification as a marketing tool (e.g. in advertising)	0.831	0.636
Your company can be seen to be promoting and implementing good forest management	0.780	0.568
Your company can gain competitive advantage through certified forest products	0.749	0.553
Your company can improve its present environmental management performance	0.682	0.433
Your company can offer customers products from well managed forests	0.669	0.475
Your company can respond to criticism by environmental groups concerning the origin of the wood products you sell	0.537	0.284
Total variance, %		51.80
Eigenvalue	3.060	

Small companies saw significantly less importance in timber certification as a marketing tool than did large companies. Non-environmentally active companies attached significantly less importance to timber certification as a marketing tool than did slightly active and active companies.

Governing of Certification. By far the most popular choice of certification system governing body was the International Standards Organisation with 59% of the first choice vote (Table 161). The second choice was an Intergovernmental organisation such as the EU, both in terms of first and second choice vote. The least popular international governing certification system body was an organisation strongly supported by international environmental and citizens' organisations such as the Forest Stewardship Council (FSC). It was notable that some interviewees wanted to choose one body, indicating that it was the only body they were ready to accept. This was generally the ISO. Marketing channel intermediaries put an Intergovernmental organisation such as the EU in first place and International Standards Organisation in second place against all the other sector who placed them the other way round.

Criteria. The most important criterion for sustainable forest management was seen as 'Maintaining and enhancing wood production potential' with a mean of 33% (Table 162). The remaining prompted criteria means were all within a 7 percentage point band, with the "other" option not being utilised by any of the respondents. Interestingly, the protective and water supply role of forests was seen as the third most important criterion. This will be for their role in the supply of water as in Britain erosion is not generally seen as a problem. The non-economic aspects of sustainable forest management (biodiversity, protection / water, and landscape / recreation, summing to 51%) were seen about as important as the economic aspects (wood production and livelihood summing to 48%).

Implementation. The most popular auditing body for forest management was a 'Certifying organisation of the forest industry' (Table 163). The second most popular was a 'Governmental organisation' both in its second placing as a first preference and highest support in the second preference. The least popular auditing body for forest management was a 'Private certifying company' or one supported by environmental organisations.

Companies clearly believed that consumers would prefer 'Certifying organisation supported by environmental organisations' to carry out forest audits (Table 164). They thought consumers would least like 'private certifying companies placing them even below 'Certifying organisation of the forest industry'. Companies therefore think consumers would most trust institutions not directly involved with forestry.

Intentions to use Certified Wood Products

Though the answers were generally the personal opinions of respondents, not necessarily the official policy of the company, 72% of companies will buy some certified wood products in the next five years of which 33% will use mostly certified

Table 161. Preferred international certification system governing body.

Governing body	Order of preference, %		
	1st	2nd	3rd
International standards organisation (e.g. ISO)	59	26	10
An intergovernmental organisation (e.g. EU)	23	46	28
An organisation strongly supported by international environmental and citizens' organisations (e.g. FSC)	13	23	61
Any other body	4	5	1
Total number of answers	94	78	70

Table 162. The importance of the criteria of sustainable forest management.

Criteria	Mean of given points
Maintaining and enhancing wood production potential	33
Maintaining and enhancing biodiversity of nature	20
Maintaining and enhancing the protective role of the forests against erosion and in the supply of water	18
Maintaining local people's forest-based means of livelihood	15
Maintaining and enhancing landscape and recreational values	13
Other	0
Total	100

Table 163. Companies' preferred body to audit forest management.

Auditing body	Order of preference, %				
	1st	2nd	3rd	4th	5th
Certifying organisation of the forest industry	34	24	20	10	11
Governmental organisation	23	35	17	19	8
Certifying organisation affiliated with universities and research institutes	17	18	33	19	12
Private certifying company	13	13	10	29	36
Certifying organisation supported by environmental organisations	13	11	20	22	32

wood products by the year 2000 (Table 165). Only 9% of companies did not think that they would have any need to use certified wood products in the near future.

The companies were given a hypothetical situation where certified timber or timber products were available in quantity and at a reasonable price. The respondents were

asked to estimate their percentage purchase of certified timber or timber products in the near future (Table 166). Over half of the respondents, who felt able to answer, gave an estimate of 50% of certified purchases in the first year, 67% in the second year and 90% in the fifth year.

Table 164. Perception by companies of the general public's preferred body to audit forest management.

Auditing body	Order of preference, %				
	1st	2nd	3rd	4th	5th
Certifying organisation supported by environmental organisations	48	19	14	11	6
Governmental organisation	26	27	21	11	13
Certifying organisation affiliated with universities and for research institutes	9	34	26	23	7
Certifying organisation of the forest industry	6	14	25	31	25
Private certifying company	11	6	14	25	48

Table 165. Companies intentions to use certified wood or wood based products (total 100).

Plan	%
We intend to at least try using certified wood products but we do not expect them to play a major role in our future buying over the next 5 years	39
We have made decision and work is under way to use mainly certified wood products by the year 2000	21
We are considering whether using certified wood products suits our business	19
We have made decision and work is under way to use only certified wood products by the year 2000	12
We do not think that we shall have any need to use certified wood products in the near future	9

Table 166. Estimated future percentage purchase of certified timber if available in quantity and at a reasonable price.

	Mean, %	no.	Can't say / don't know, no.
First year	50	53	39
After second year	67	52	40
After fifth year	90	49	43

5. UK FOREST INDUSTRY CONCLUSIONS

General conclusions

Nearly all companies in the survey feel responsible for the social and environmental impacts of their businesses. They also believe both the supply of and demand for environmentally friendly products, and general environmental awareness will increase in the near future. Paradoxically however, most companies rated environmental friendliness as an unimportant factor in their customers' decision making. Additionally, companies did not think their customers would pay more for environmentally friendly goods. In their own decision making, companies considered their profitability as a more important factor than the environmental friendliness of their activities.

Most companies thought that timber certification would support their decisions about potential future products and markets. Half also felt that a timber certification system would strongly influence their choice of raw materials. However, only half of the companies thought that evidence of good forest management could be regarded as a source of competitive advantage for them. Most companies did not think they could pass on cost increases due to certification on to their customers and only a third felt timber certification would lead to a price premium for their products.

Most companies thought a widely used timber certification system for good forest management was needed. Despite this, they thought industry would only use certified materials if customers paid a higher price for their products, and most respondents were definite that they did not think this would happen.

The ISO was the first choice as a body to govern certification and a governmental organisation such as the EU was placed second. Most companies wanted an organisation associated with the forest industry to audit forest management. There was little support for the involvement of environmental organisations (e.g. FSC) in either the governing of certification or the auditing of forest management. However, companies believe that their customers would overwhelmingly want environmental organisations involved in the auditing of forest management.

Despite their reservations, most companies intended to buy some certified timber in the next five years, with a third saying they would mostly be using certified materials by then.

Industry sector conclusions

The conclusions can roughly be divided into the paper chain and the wood chain. In the paper chain, though the pulp, paper and paperboard industries were the only sector to fall into the 'Environmentally active' group, they saw a decrease in customers' willingness to pay higher prices for environmentally friendly products' and felt certification would have little influence on their choice of raw material suppliers. However, 50% of them would use all or mostly certified materials in five years time. Their customers, the paper buyers, had virtually the opposite points of view and fell into the 'non-environmentally active group'. Over 70% of paper buyers saw no price premium for certified products and thought about three quarters of their customers would find a certification system unimportant.

In the wood chain, generally the closer to the consumer market the sector was, the greater was the perceived customers' willingness to pay higher prices for environmentally friendly products. The sectors whose choice of suppliers was most strongly influenced by timber certification were the secondary wood processors and marketing channel intermediaries. 40% of marketing channel intermediaries saw a 1 - 5% price premium for certified products whilst 46% of sawmills and panel industries saw a 1-15% price premium. However, 84% of sawmills and panel industries and about 37% of secondary wood processors and marketing channel intermediaries saw considerable cost increases due to segregating certified and non-certified materials. Despite this 45% of marketing channel intermediaries would use all or mostly certified materials in five years time against 23% of sawmills and panel industries and 32% of secondary wood processors.

Company size conclusions

The larger the company the more interest their customers had shown in certified products, the more easy they saw segregation of certified from non-certified products, the larger the perceived benefits of timber certification were, the higher the was the expressed need for a widely used timber certification system for good forest management, and so the more they predicted the use of certified materials in five years time.

The large companies were on average in the 'Environmentally active' group against the medium and small sized companies who were, on average, in the 'Slightly Environmentally Active' group. Large companies were also the most interested in 'redirecting consumers' needs and wants towards less environmentally harmful consumption'. However, large companies were the least keen to see governments balancing environmental and economic values by policies which regulate markets. Also a smaller percentage of large companies saw a price premium for certified products compared with small or medium sized companies.

Small companies saw significantly less importance in timber certification as a marketing tool than did large companies. They also felt their customers would not tend to find a certification system important, whilst, medium and large companies tended to feel their customers would find a certification system of some importance. Additionally, smaller companies thought cost increases due to segregation would be much higher than larger companies.

Policy Implications

Over 70% of companies wanted governments to balance environmental and economic values by policies which regulate markets, and did not think the free market system would take care of global environmental problems with no governmental interference. Over 70% also thought that governmental regulations were a desirable way to influence the quality of the environment, while 60% thought taxes on products and processes that burden the environment was a desirable way to influence the quality of the environment.

While 68% of companies thought a widely used certification system for good forest management was needed, they did not want the EU as a certification governing body, placing the ISO first, by a long way. However, the EU was placed second out of four options, some ten percent above an organisation strongly supported by international environmental and citizen's organisations (e.g. FSC). Companies did however, place a governmental organisation in second place out of five options as the body both they and consumers would want to audit forest management.

The study has therefore shown that UK companies in the forest industry see a role for national and supra-national governments in the control of the environment, but specifically do not want them to be directly in control of a certification system. There was however, a demand for a certification system in which governments had influence and in which they oversaw the auditing of certified forest management.

UK FORESTRY-WOOD CHAIN CONCLUSIONS

1. KEY ATTITUDES AND INTENTIONS

Forest owners and the forest industry generally view timber certification as a potentially beneficial system. However, they have serious reservations regarding its costs, governance and implementation.

There is clear evidence of the demand from industry for a timber certification system which will provide environmental guarantees of sustainable forest management and use.

Industry also wants a widely recognised timber certification system and clearly wants the certification system to be under the governance of the ISO. However, it is questionable whether an ISO management process system rather than a performance based system would be acceptable to consumers and environmental organisations and also whether it would be a suitable method for guaranteeing sustainable forest management.

Forest owners felt there were few potential benefits as far as quality of forest management was concerned from certification and that there was little reason to certify their forests as national standards were an adequate guarantee of forest management standards. However, nearly half of owners either intend to certify or are interested in certifying their forests.

2. ECONOMIC ASPECTS

The surveys indicate that among forest owners and the forest industries there is considerable uncertainty about the costs of certification and how these costs will be covered.

Forest owners expect cost increases from certification which require price increases to cover these costs. However, the industry survey indicates a general unwillingness to pay higher prices when purchasing certified materials and an expectation that cost increases due to certification cannot be passed on to customers.

In the forest industry the cost of segregating certified from non-certified products is seen to be highest at the forest end of the forestry-wood chain. Generally small and medium companies at the beginning of the wood chain operate on small margins and will find it difficult to absorb the increased costs they expect in segregating products unless certification significantly increases market access for their products.

Finally these major uncertainties about the economics of certification may well prove to be the biggest obstacle to the adoption of certification by forest owners and the wood based industries.

VIII

SUMMARY AND COMPARISONS OF THE FORESTRY-WOOD CHAIN STUDY

John Samuel, Roger Cooper and Jari Kärrnä

SUMMARY AND COMPARISON OF THE FOREST OWNERS AND EXPERTS SURVEYS

1. FOREST OWNERS' SURVEY IN FINLAND AND THE UK

a) Forest owners' views on the use of forests and their objectives of ownership

Though the history of forestry in Finland is very different from that of Britain, forest owners from both countries had similar attitudes on the use of forests and their objectives of ownership. Both emphasised the economic use of forests. However, ecological aspects were also seen to be of considerable importance.

b) Forest owners' knowledge of forest certification

British forest owners had heard more about certification than their Finnish counterparts, with 43% of UK owners feeling they had heard a large amount about the subject compared with only 14% of Finnish owners. Knowledge of certification was weak in both countries, with only 28% of British owners and 9% of Finnish owners feeling they were reasonably knowledgeable about certification.

c) General attitudes towards forest certification

Forest owners in Finland and Britain generally felt that there would be few benefits from the certification of their forests. Most of them felt that certification would only be profitable to them if there was a rise in timber prices. Most also considered that following national forestry regulations and laws was a sufficient guarantee of good forest management. The majority of respondents felt that certification would neither increase the demand for their timber, nor that a premium would exist for certified timber. Over 60% did not see the condition of their forests improving due to certification.

d) Objectives for certification

The principal reasons for Finnish and British owners to certify their forests were economic. The more directly the reasons related to sales of timber, the more important they were. The ecological reasons for certification were the least important aspects, though they were still judged to be important to the majority of owners.

e) Preferred certification system

Most trusted certifying body. Both in Finland and the UK the first choice of forest owners was for certification to be controlled by a governmental organisation. In Finland a scientific organisation was a very close second, whilst in Britain the second choice was a private organisation. In both countries, consumer and especially environmental organisations scored poorly and therefore were not considered by forest owners to be trustworthy to function as a certifying body.

Preferred certification negotiating organisation. Overwhelmingly in both countries respondents would most prefer a representative of a forest owners' association with which to negotiate the issues for the application of forest certification. It was notable in both countries that forest owners rejected environmental organisations, private certifying companies and industrial timber buyers as certifying negotiators.

Importance of some certification criteria. Increasing the productive capacity of forests was considered to be the most important aspect in sustainable forest management in both countries. In the UK this was closely followed by maintaining local people's forest-based means of livelihood, whilst in Finland, increasing the protective role of the forests against erosion and in the supply of water was a close second. However, in both countries all the stated social and ecological objectives were considered to be important in sustainable forest management.

Preferred level of certification. The basis on which forest owners would join a certification system in both countries was in a group certification, together with smaller or larger number of other forest owners. Finnish forest owners preferred group certification at the level of the local forestry association, whilst 19% of forest owners in Finland and 16% in the UK preferred certification of their forests separate from other owners. About 20% were not willing to join on any basis and almost 20% were unsure of their views.

f) Willingness to adapt to certification

Willingness to pay for the costs of certification. In both countries, the vast majority of forest owners were either not willing to spend anything, or up to a maximum of 2% of their timber income, on the direct costs of auditing and certifying their forests. Respondents were slightly more willing to forgo timber income to meet the necessary forest management standards to attain certification, but very few were willing to forgo more than 5% of their timber income for this.

Willingness to adapt to certification system behavioural requirements. Generally, over half the forest owners in both countries were not willing to conform to all the management system requirements of certification. Over a quarter of respondents indicated they were not willing to follow one or more of the requirements. In both countries there was only one requirement a majority was willing to accept which was for the certifying body to inspect their forests and related documents. The one aspect the majority of Finnish and British forest owners were not willing to follow was formally to commit themselves to change the management and use of their forests to meet the certification standards.

Willingness to adapt forest management to certification requirements. Because of the different certification standards in the two countries, only limited comparison was possible of owners' willingness to adapt to forest management requirements. An unexpected result was that in both countries more than 70% of respondents were

willing to maintain part of their forest area in an old age class, leave decaying trees in forests and leave buffer zones around important biotypes. The requirement owners were least willing to carry out in both countries was to leave part of their forests for permanent retention and non-intervention.

g) Decisions on applying for forest certification

Factors affecting application for certification by forest owners. In both countries, forest owners considered all of the following factors to be important in deciding whether to certify their forests:

- Forest owners had participated in the designing of the timber certification system
- The certification of forests does not require much time or paperwork
- The certification authority is the preferred authority
- Substantial changes to forest management are not needed to obtain certification
- Forest owners will profit from having their forests certified

However, these factors were seen as more important by UK forest owners, with many of them rated as being very important. In both countries, owners agreed that their participation in the planning process of certification was very important indeed.

h) Inclinations toward forest certification

About 50% of UK forest owners were interested in certifying their forests, whereas only 32% of Finnish owners were interested. However, virtually all of those interested in certifying their forests wished to examine certification further. 52% of Finnish and 37% of British forest owners were not currently interested in applying for certification, and about 14% stated they were never likely to want their forests certified.

2. FOREST 'EXPERT' SURVEY IN GERMANY

Basic attitudes towards timber certification. German forest experts were split relatively evenly as to whether they are for, against or undecided about certification.

Timber market expectations. 80% of German forest Experts believe there will be no price premium for certified forest products and there will only be a small demand for certified wood products.

Other Expectations. German forest experts generally do not think there will be any benefits through certification to either management of forests or to the forest eco-systems.

Acceptable costs. Though half of the German forest experts did not give an answer, the average cost acceptable to the remainder of the initial certification inspection of documents and forests was 6.10 DM / ha and for an annual inspection, 1.18 DM / ha.

Mark of Origin versus certification of forest enterprises. German forest experts thought only a mark of origin will be used in Germany to guarantee sustainable forest management. Only 14% thought an FSC system would be used and 8% an ISO system would be used, but 24% thought an EU level certification system would be used.

Participation of German forest owners in development of certification schemes. Two thirds of experts thought that the participation of forest owners and their associations in certification systems was necessary.

Willingness to adapt forest management to certification requirements. Of the eleven potential forest management requirements for certification in Germany only four were acceptable to a majority. Over 70% of German forest experts thought the following were acceptable:

- Mixed stands based on native species are strived for
- Regeneration of shade bearing trees over long periods (30 years minimum)
- Natural regeneration of native species is the standard silvicultural system
- To preserve soils, permanent skidding tracks and cable strips have to be established

SUMMARY AND COMPARISON OF THE INDUSTRY AND TRADE SURVEYS

1. VALUES AND EXPECTED DEVELOPMENT OF THE MARKET ENVIRONMENT

a) Environmental Business Values

Respondents in all three countries generally felt that companies have a responsibility for the social and environmental impacts of their businesses and that governments have a regulatory role in balancing environmental and economic values. Companies in Finland tended to have slightly higher environmental business values than German and British companies. Companies in all countries agreed that consumer demand and industry competition were the most desirable measures for influencing the quality of the environment. Over 70% also saw eco-labels and government regulations as desirable measures, and about 60% felt taxes on pollution were desirable. Consumer boycotts and pressure by ENGOs, however, were not regarded desirable ways of influencing the quality of the environment. Whilst over two-thirds of German and Finnish companies had a reasonably strong interest in redirecting consumers towards less environmentally harmful consumption, only two fifths of UK companies were as interested.

b) Environmental Micro and Macro Environment and Customer Behaviour

Companies in all three countries expected strong increases in the demand for and supply of environmentally friendly products. They also foresaw increasing consumer concern for the environment and environmentally friendly lifestyles. However, most companies agreed that customers would not be willing to pay higher prices for environmentally friendly products.

The companies in the three countries unanimously agreed that price was by far the single most important factor to customers in their buying decisions, but product quality was an important factor as well. Environmental friendliness on the other hand was rated as the lowest factor (around 8%) in customers' buying criteria.

Finnish companies considered 37% of their customers were 'environmentally aware', against 32% of British companies, and 27% of German companies. However, German companies thought fewer of their customers were 'environmentally unaware' (21%) than did Finnish companies (30%), and UK companies who thought that nearly a half of their customers were 'environmentally unaware'.

Many more Finnish companies than British or German ones, though not the majority, thought their customers would find a certification system important. The number of companies who had no idea about how their customers would view certification was 6% in Finland but more than twice that in Germany and Britain.

Only about 20% of companies had experienced reasonably strong interest in certified products from their customers.

2. ECOLOGICAL MARKETING AND TIMBER CERTIFICATION

a) Decisions for Marketing Strategies

Product strategies. British companies gave much less emphasis to the environmental friendliness of products when they made decisions about their products, than did Finnish or German companies. Nearly 60% of German companies emphasised environmental friendliness heavily against 52% of Finnish and 33% of British companies.

Companies in all three countries considered that in the overall environmental friendliness of a product, the most important aspect was the raw material used in its manufacture.

More than 50% of Finnish and British companies felt that timber certification would support their decisions about the future products and markets of the company, against 40% of German companies.

Customer and Supplier Strategies. While 60% of German companies felt that the level of their customers' environmental awareness was important in their choice of customers, only 30% of the Finnish and 22% of the British companies thought similarly. The difference may lie in the perception that many companies feel they cannot choose their customers.

More than 50% of companies in Britain and Germany felt that a timber certification system would strongly influence their choice of raw material suppliers, compared with 40% of Finnish companies.

Competitive Advantage Strategies. Environmental friendliness was seen to be the most important factor by Finnish companies (54%) when planning the competitive emphasis for the most important products and markets, but 39% of German and only 24% of British companies felt similarly. Four-fifths of Finnish companies thought that good forest management could be regarded as a source of competitive advantage, against just over half of German and British companies. Around 60% of companies in the three countries thought that they would try to use certified raw material as a source of competitive advantage.

b) Decisions for Marketing Structures

Marketing and business management has been very much less influenced by environmental issues in British companies compared with German or Finnish companies. Specifically, Finnish and German companies said the values and philosophy of management had been particularly influenced by environmental issues. In the UK, these had been much less influenced, but UK companies use ISO 9000 and company environmental policy statements to a much higher degree than Finnish or German companies.

c) Decisions for Marketing Functions

Communication and Market Information. Few companies in the three countries always look at environmental issues or customer wishes as a matter of course when making decisions, but most do occasionally.

Environmental issues have had an effect on the company's advertising or personal sales in 50% of Finnish companies, 40% of German and 25% of British companies. However, more than 60% of companies in all countries would use timber certification in their advertising.

Pricing and Distribution. Whilst 55% of the UK respondents thought that there was little or no chance of getting higher prices for environmentally friendly products, 40% of German and Finnish companies thought similarly. Over half of German and British companies felt environmental friendliness could not convert a commodity / ordinary product into a special product which is reflected in the price, against 40% of Finnish companies.

Questions relating to respondents' own experience revealed environmental issues seem to have had little influence on pricing in the UK, with 85% seeing no 'green premium' for their products. In Finland nearly 70% and in Germany just over half the companies have seen no 'green premium' for their products. 90% of companies in all countries thought that the majority of their customers would not be prepared to pay a higher price for certified products.

In all countries, when asked what price premium they thought they would have to pay for certified raw materials, a third of companies saw a price rise of 1-5% and about a tenth saw price rises above 5%. However, 40% of German, a third of British and a fifth of Finnish companies would not pay any premium. 40% of Finnish, a third of British and 20% of German companies were uncertain of the price effect of certification on their purchases.

Few companies thought they could pass on any cost increases induced by the use of certified materials. Interestingly, nearly a third of Finnish companies, who are mainly nearer the beginning of the forestry-wood chain, felt they could pass on some of the costs, against about 16% of British and German companies.

Over two thirds of companies in each of the countries thought segregating certified from non-certified timber down the whole supply chain would be very difficult or impossible. The cost effect of segregation was seen by over 70% of Finnish companies as substantial, whereas about 45% of German and British companies felt similarly.

3. NEED FOR AND ACCEPTANCE OF TIMBER CERTIFICATION

a) General Attitudes towards Timber Certification

One of the most striking results of the survey was that 75% of Finnish, 68% of British and 60% of German companies thought that a widely used timber certification system for good forest management was needed. About 10% of Finnish and British, but a third of German companies thought it was not needed.

However, 80% of British and Finnish and 60% of German companies thought timber certification was needed mainly to respond to the criticism of the forest industry by environmental groups. Despite this clear concern with the influence of environmental groups, when asked whether the majority of consumers paid any attention to the origin of timber, three quarters of British and Finnish and two-thirds of German companies thought they did not. There was a notable difference in the acceptability of marks of origin, with 73% of Finnish, 59% of German and 44% of British companies thinking that for their purposes, a mark of origin would be sufficient to guarantee good forest management. 64% of British, and about 45% of German and Finnish companies agreed that the forest industries will only use certified wood if consumers pay higher prices for the end products.

b) Preferences concerning Timber Certification

General planning and implementation. There was little difference between the countries in how they wished to see timber certification planned and implemented. All agreed that they would least like the consumer organisations or environmental groups to have much influence. German and Finnish companies preferred scientists, forest industry and forest owners to have the greatest influence in the planning and implementation of certification and British companies preferred the governmental forestry and environmental authorities and the forest industry.

Goals of Certification. Companies in all three countries saw all suggested positive aspects of timber certification as important to themselves, particularly being able to use it in marketing, promoting good forest management and responding to environmental groups criticism. However, being able to offer customers products from well managed forests, was much more important in Germany and Finland than Britain.

Governing of Certification. In all countries, the ISO was the first choice (60%) of a certification system governing body. The second choice some way behind was an intergovernmental organisation such as the EU (25%). Very few companies wanted an international environmental organisation such as the FSC (12%).

Criteria. Companies in Finland and Britain thought that maintaining and enhancing wood production potential was the most important criterion for sustainable forest management by a considerable margin. However, German companies thought maintaining and enhancing the protective role of the forests for soils and maintaining the quality of water supplies was the most important. German companies also placed maintaining and enhancing biodiversity of nature above enhancing wood production potential. Companies in Finland and Britain also felt the environmental aspects were important and there was only a 20% difference between the most and least important aspect.

Implementation. In the auditing of forest management, German forest industries expressed a clear preference for auditing to be carried out by an organisation affiliated with universities and research institutes. Finnish companies placed the universities / research institutes and governmental organisations as first equal whilst the first choice

of British companies was a certifying organisation of the forest industry followed by a governmental organisation. However, German and British companies thought end consumers would definitely prefer auditing to be carried out by a certifying organisation supported by environmental organisations, whilst Finnish companies thought the general public would prefer a governmental organisation.

c) Intentions to use Certified Wood Products

In all three countries, nearly three quarters or more of respondents thought their companies would buy some certified wood products in the next five years. A higher proportion of Finnish and British companies (approximately one third) compared with German companies (12%) expect to use mostly certified wood products in the next 5 years. However, 65% of German companies expected to buy some certified wood next 5 years. Only about 10% of companies in any of the countries did not think they would use any certified products in the near future.

4. SIMILARITIES BETWEEN THE VIEWS OF FOREST OWNERS AND FOREST INDUSTRIES.

The following paragraphs summarise similarities between forest owners and the forest industries where there were common questions in the surveys.

Certifying body. This question asked what kind of organisation they would want to audit forest management and to certify forests. Forest owners in Finland preferred equally governmental, scientific and private organisations. In the UK forest owners preferred a governmental organisation as a certifying body, as did British forest industry companies.

Importance of some certification criteria. The forest owners and the forest industry in the UK and Finland thought the most important aspect in sustainable forest management was increasing the productive capacity of forests. However, German companies thought maintaining and enhancing the protective role of the forests for the protection of soils and in the supply of water was the most important. However, in all three countries in the industry survey and the UK and Finland in the forest owners' survey, all the stated objectives below, were considered to be important in sustainable forest management.

- Increasing wood production potential
- Maintaining local people's forest-based means of livelihood
- Increasing the protective role of the forests for soil quality and in the supply of water
- Increasing the biodiversity (varieties of plants & animals)
- Increasing landscape and recreational values

Price premium for certified products. The questions though phased differently in the two surveys, gives an indication of the price premium the forest industries would be

willing to pay for certified timber, and what price premium UK forest owners would need to certify their forests. Generally a third of the industries in the three countries were not prepared to offer a premium for certified timber, a third of companies would pay a price premium of 1-5% and about a tenth saw a premium above 5%. A quarter of UK forest owners would need a 1-5% premium, a further quarter for a 5-10% premium and 35% a price premium in excess of 10% in order to induce them to seek certification for their forests. 7% would certify their forest without a premium and 7% would never certify their forests whatever the premium.

5. CONCLUSIONS

In the surveyed countries, forest owners and the forest industry generally view timber certification as a potentially beneficial system. However, they have very serious reservations regarding its costs, governance and implementation. This could mean that for small private forest owners and the industries they supply, timber certification in its present guise may not be widely implemented.

There is clear evidence of the demand from industry for a timber certification system to provide environmental guarantees of sustainable forest management and use. Industry also wants a widely used and recognised timber certification system. The forest industry clearly wants the certification system to be under the governance of the ISO. However, it is questionable whether an ISO management process system rather than a performance based system would be acceptable to consumers and environmental organisations and also whether it would be a suitable method for guaranteeing sustainable forest management. The wood using industries believed that price premiums for 'green' or environmentally friendly products do exist. However, when applied to certified products they did not see much opportunity of charging higher prices

Forest owners and experts felt there were few potential benefits from certification and that there was little reason to certify their forests as national standards were an adequate guarantee of forest management standards

Cost is probably the largest factor in preventing the widespread adoption of timber certification. From the evidence of the survey, virtually all the costs of forest certification are likely to be borne by the forest owners, but the main reason for owners certifying their forest was for better timber prices. The absence of price premiums may dissuade them from certifying their forests. The survey indicated that costs of implementing the chain of custody for certified timber and of segregating certified from non-certified materials in the forest industry, are unlikely to be passed on to customers. This may not be a hindrance to the adoption of certification to large companies, especially those close to the end of the forestry-wood chain because margins are considered to be higher. However, for low margin smaller companies near the beginning of the wood chain, for example small and medium sized sawmills, such costs may not be acceptable unless certification significantly increases market access for their products.

IX

STATEMENTS OF PANELISTS, DISCUSSION AND CONCLUDING REMARKS

Panel Discussion on Timber Certifications

Roger Asserståhl
AssiDoman, Sweden

AssiDoman has 3.2 billion hectares of productive forest land and we will have these forests certified according to the Swedish national FCS-standard latest during the second quarter of 1998. There is an obvious demand in the market for certified timber and we try to meet this demand in selected countries, segments and customers where the possibilities to gain market shares and premium are good.

We are convinced that we will see an increasing demand for certified timber and we support the FSC-process and FSC-alike processes and systems.

Still there is much to do in developing efficient and cost-effective systems for establishing standards and procedures for certification even if the system we have today works very well. I am very hopeful that FSC-International will cooperate with various interests in a good way in this development.

Our production for lumber and sawn products is 1.2 billion m³ per year and we have today good possibilities to certify at least 50% of this production according to chain-of-custody. My recommendation is despite this, that the rules for getting a “chain-of-custody” certificate in the short term have to be more adapted to the realities within our industry-operations. Otherwise the cost for controlling various timber-flow will be too high and act as a barrier for increased use of certified timber.

I am also convinced that various interests have cooperate in a good way to develop and increase the use of wood as an environmentally friendly material also in the field of questions concerning certification. There is of course competition between the wood-and lumber actors but our biggest competition comes from other materials like steel, plastics and so on. We need a well established system for timber certification with good support from ourselves to secure strong demand and good market for timber in the future.

BRIEF NOTES ON DEVELOPMENT ASPECTS OF CERTIFICATION

Stephen Bass

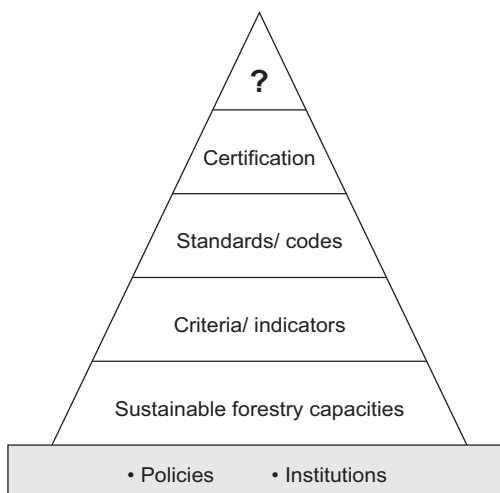
Director Forestry and Land Use Programme, IIED, UK

The EC-Fair survey showed clearly that most people agree that the primary purpose of certification is to improve the productivity and sustainability of forests. Furthermore, most people think the problems are primarily in the tropics, and partly in Eastern Europe. It is then a legitimate question to ask:

how can market-based certification help development – of the productivity and sustainability of forests, of the livelihoods of forest-dependent people, and the economies of forested countries, especially those which are poorer?

Building sustainable forestry:

It is worth looking briefly at the “structure” of a forest sector in the context of sustainable development. This is illustrated as a “pyramid” in the figure below.



The pyramid cannot be built unless there is a solid foundation of sound policies and institutions for the long-term production of multiple goods and services. If we do have reasonably mature policies and institutions, then we can start to build a sustainable forest sector, through installing the “steps” a. to e., which are progressively more refined:

- a) good SFM capacities – groups with knowledge and resources to manage forests well
- b) criteria/indicators of SFM – agreed key dimensions of local forest management
- c) standards and commitments (at national level as e.g. the regulatory environment, or at industry level as e.g. a voluntary code of practice)
- d) certification, that proves that all the foregoing is in place (or not)
- e) and – illustrated by the question mark – perhaps a further instrument or means that has yet to be developed

Certification as an incentive?

Two questions then arise:

1. Can certification help sustainable development only when policies/institutions are mature and a. to d. all the other prerequisites are in place? In other words, is it nothing more than a proof – or a prize – for those who are already practising good forestry?
2. Or can certification fast-track policy and institutional development, and the other stages in the pyramid, a. to d.? In other words, does it have an incentive effect, on the producer and wider?

The answer at present is probably that certification is doing both – perhaps 80 per cent to question 1 and 20 per cent to question 2.

Market systems always have their winners and losers, and most certified companies are “winners” who are already practising good forestry. For others, the lack of a real premium (perhaps due in part to the dominance of buyers’ groups in the market) constrains the incentive effect to get better. It is important to monitor the impacts of certification – what has been the impact of certification on forest management, stakeholder benefits/costs, and trade? IIED has just started a major project to do this, in cooperation with FSC and others.

Does certification improve equity?

Those of us who concerned about sustainable development acknowledge that certification is not principally a development tool; but we are concerned to ensure it maximises its contribution to development. There are some worries that there is an inherent inequity in certification – that it will only enhance the winners and won’t assist the losers. We are concerned about inequity at the international level – small and

developing countries. We are also concerned about inequity at the national level – small producers. Inequity might be a function of:

- a) the nature of any market (competition)
- b) the nature of certification generally (how much is this the case? – note that it aims for a level playing field)
- c) the nature of any specific approach to certification (procedures and standards of FSC, ISO, national approaches)
- d) particular policies and laws surrounding certification
- e) differential access to certification, and to information on it

It is important, where possible, to redress the imbalance between the potential “winners” and “losers” of certification. This is principally a concern of development assistance agencies such as DGs I and VIII of the European Commission, and indeed these have a framework for development support to certification – to reduce the risks, and realise the potentials – of certification for developing countries. And FSC has many procedures in place to keep tabs on development aspects.

Development benefits of certification

Some clear development advantages that have already come from certification include:

- the stopping of harmful boycotts to tropical timber
- the building of management capacity (especially associated with ISO 14000 certification)
- the debate and agenda-setting of (FSC-supported) national certification working groups – which have focused attention more strongly on the other stages in the pyramid – and may even go on to address other forest issues than certification
- community groups getting secure tenure for their land, because they can prove their management is as good/better than a large company (Bolivia)
- government using certification as a competitive means for down-sizing industry to fit the annual allowable cut (Ghana’s plans)

Areas for improved attention

Areas which should receive more attention include:

- being able to certify the complex land use systems employed by small/poorer groups for forest production (agroforestry, rotational shifting cultivation)
- making distinctions between the responsibilities of local family groups and multinational companies – surely the former (which might harvest wood once in a generation only) should be held differently accountable to the latter (which might be harvesting millions of M3 annually)?
- impact assessment of certification (as noted above, IIED will be coordinating this in partnership with local stakeholders and key certification actors)

CEI-BOIS POSITION ON “SUSTAINABLE FOREST MANAGEMENT (SFM)” AND CERTIFICATION

Adrian Bastiaansen
CEI-Bois, Belgium

1. More than 40% of the European Union’s land is covered by productive forest (ca. 98 mil. ha) and by other wooded land, up to a total of 129.8 million ha. The area covered by forests in the EU and even the growing stock volume has been expanding, with a level of felling well below annual growth. Approximately 12 mil. forest owners are responsible for the forest management in the EU. Forestry is a highly sensitive environmental issue and much of the criticism on current forest practises is based on an unscientifically derived information.
2. CEI-Bois expressed the full support of its members for SFM, taking account of the highly varied ecological, economical and social functions of the forests. This support for SFM is driven by the ecological awareness of forest and forest-based industry sector, but equally by the belief into the global competitiveness and in the future well-being of the forest products industry, millions of people in Europe depend on.
CEI-Bois thus supports all actions towards SFM. Taking into account the economic value of the forests, they should form an incentive towards increased use of wood as one of the few renewable raw materials, rather than penalise wood.
3. In the view of CEI-Bois, agreements on the basic principles of SFM should be reached under a suitable recognised international institution, that should provide the global international framework (= umbrella) under which any system would have to work. The European countries have to implement the commitments undertaken in the UNCED (Rio) and Ministerial Conferences in Strasbourg and Helsinki on the Protection of European Forests by developing national criteria and performance indicators.
4. Forests, however, widely vary from north to south and east to west. Thus, a universal “blueprint” is not applicable and sustained forestry can only be practically achieved through various levels (i.e. transnational, national, regional, subregional) implementation. Thus, the subsidiarity principle should be applied. Only in so

doing, one can remain flexible and respect the diversity in forest types, structure of ownership, social and external environments, etc., without endangering the global objectives. At the subnational level, detailed criteria should be agreed that fully define sustained forestry for that region. These criteria should be established by working groups, consisting of national representatives of forest services, private forest ownership, forest industries and environmental organisations. The composition in each country should be agreed by the interested parties.

5. Public authorities (e.g. national forest services), have an important role, as they are the appropriate vehicles for implementing control of forest management practices. In other words, SFM should be implemented at regional level by means of forest management plans, forest laws etc.
6. With a view to increasing public awareness of these actions, authentication of SFM could be a useful tool. Certification* or other tools to assure a sustainable forest management should, however, remain voluntary. The systems should be simple, transparent and cost effective, as one has to look to it that the use of forest products is not penalised as against other less environmentally friendly materials. Existing systems and structures for the set-up and monitoring should be used as far as possible, rather than creating more bureaucracy. Some of the tools that are mentioned could be given further consideration (e.g. forestry register).
7. In order not to create barriers to trade it is essential to aim at mutual recognition of the national systems. In so doing, a basic “SFM hallmark” would be created that guarantees to customers and consumers that the wood resources used for manufacturing the end product originate from regions where a sustainable forest management is practised and controlled.

Take the initiative in setting up the bases of Mutual Recognition within a global framework would reinforce the internal market requirements by ensuring that national authentication procedures would be recognised across borders, and might provide a single stamp to indicate that the source of supply was managed according to the established principles of SFM.

8. CEI-Bois therefore request the European Commission to:
 - coordinate the participation of the Member States in the discussions on the establishment of international principles of sustained forestry;
 - encourage national implementation of UNCSD criteria and Helsinki process principles in accordance with the forestry conditions, prevailing in each member state.
 - set up a framework under which mutual recognition of authentication for forests could be possible.
9. In so doing, SFM authentication could become a market tool, insuring compliance with the regulations, encouraging the positive relationship between producers and consumers and facilitating trade.

* Certification in this context is defined as action by a third party, demonstrating that adequate confidence is provided, that a duly identified product or service is in conformity with a specific standard. Forest certification examines the management system and impacts of forestry against forest management standards. Forest certification is only one of many instruments in the Sustainable Forest Management “tool-box”.

SUMMARY OF REMARKS MADE TO CERTIFICATION WORKSHOP REGARDING RESEARCH NEEDS

Ian Hunter

European Forest Institute, Finland

1. The study carried out relating to the potential markets for certified forest products in Europe has provided some of the first clear, publicly-available information about the likely situation. Certain key issues are thereby highlighted.
2. The study has revealed very large differences in both understanding and willingness to participate between forest owners, forest industries and the consuming public. The attitudes forest owners showed, based on other information from their representative organisations, seem to be generally held and well-considered. Given the very tight profitability environment in which they operate these attitudes are also very understandable. The attitude of forest industries revealed by the survey also seems to coincide with their behaviour in joining things like the Buyers Groups. However, the attitude of the public that was revealed by this study is based on samples in a sub-sample of European countries at one point of time. The weak understanding revealed of the term “sustainable forest management” seems to strike at the root of any certification scheme. That public understanding and demand was so weak was challenged from the floor of the meeting. This is therefore an area that needs further attention.
3. Certification is an extra operation to be carried out in the context of forest management and as such, must carry a cost. This issue is of vital importance because the forest industry has only a limited ability to pay. A matter not discussed at the seminar is that forest industry products are under price-sensitive substitution pressure – usually from products which, paradoxically, are manifestly less environmentally-friendly. It has been very difficult to obtain reliable estimates of the true cost of certification (i.e. the cost of the actual inspection plus the cost of any remedial work required). However narrative descriptions by involved parties of actual certification activities leads to the suspicion that it may be fairly expensive. This study has, very usefully, set the

probable bounds of a “box” of willingness-to-pay in which cost-viable options may exist. It is very necessary to see if indeed there exists a feasible solution within those bounds.

4. In the context of cost-efficiency, there currently exists a difficult situation in which there are several possible certification approaches which to a certain extent compete with one another – national, eco-label, life-cycle analysis, label-of-origin, FSC-based and ISO-based. It is very difficult, if not impossible, for the typical private forest owner in Europe to be apprised of all these options or to afford multiple registration. It is probably a gross oversimplification to say that one scheme (FSC) is criteria-based while the other (ISO) is systems-based. Nevertheless there is an element of truth in that assertion and a possible mechanism for a reduction in complexity. Studies exploring these options are needed.
5. The forest industry is not alone in facing problems related to various aspects of product certification, nor is it alone in having aspects of a “chain-of-custody” problem. There could be considerable benefits in networking with other industries to see how they have tackled these problems.
6. A crucial issue in certification is credibility. The stated aim of FSC is to bring about sustainable forest management by certification (Synnott in public fora). Now that an appreciable area of forest has been certified independent studies are needed as to the extent to which certification and SFM have interacted. Key questions include the extent to which national policy has been influenced by certification activity; the extent to which actual forest management has changed and whether the trade-offs that have emerged during the process have affected its impact.

INTRODUCTORY STATEMENT IN THE PANEL DISCUSSION

Martin Lillandt

**Central Union of Agricultural Producers and Forestry Owners,
MTK, Forestry Group, Finland**

In most EU countries forest ownership is dominated by non-industrial private forest owners. The total number of private forest owners in Europe is estimated at 12 million. It is evident that in a group that large forest and timber certification is an issue of dispersed opinions. Also, the intensity of forest management, significance of income derived from forestry and whether the production is directed to domestic markets or export markets affects the opinions. However, some common views can be mentioned.

At least the nordic forest owners tend to think that SFM certification should be seen as a key to the market. Its aim is to tell the consumers of forest products that the forests are managed well in terms of socio-economic, ecological and cultural aspects. It is also in the interest of family forest owners that certification can help to promote the consumption of wood and wood-based products. In future, it will be increasingly important that wood products have an environmental competitive advantage over ecologically unsound products such as cement, steel and plastics.

On the other hand, it is generally considered that following national forestry legislation and regulations is a sufficient guarantee of good forest management. The primary objective of most private forest owners is financial security. As there are vague signs that consumers demand certified products or are willing to pay a green premium for certified forest products, the private forest owners have questioned the relevance of forest certification. Forest owners are not convinced of the benefits of certification to sustainable forestry. Neither do they believe that certification could bring them any economic benefits.

Forest owners are not prepared to go into any significant expense to have their forests certified. However, forest owners are willing to implement sustainable and ecologically sound forest management, if it does not significantly reduce their net income from forests. For example in Finland, although the average annual income from individual forest owner's plot is only about FIM 15 000 (ECU 2500) before taxes, the forest owner reinvests about 10 to 20% back into forestry.

To be accepted by family forest owners a certification system, if such is to be adapted, must be cost-effective. Generally speaking, the certification standards should

not be set at a higher level than necessary to achieve the legitimate environmental objective and to reach credibility among the consumers. We must remember that SFM certification is only one way, and not probably the most effective, to promote sustainable forestry. Certification and auditing must be easy to implement in practice and certification must not harm economically sound and sustainable family forestry. Only when forestry is financially profitable, can the forest owner afford to promote the other values of nature.

Comments during the panel discussion

Certification is a complex issue to put into practice in the forest end compared to the market end. Those who have developed the concept of forest certification have apparently not really understood how high costs a reliable certification system causes to the small-scale family forestry.

The FSC certification is not a working concept for family forestry in Europe; the FSC has not been able to produce credible solutions for the chain-of-custody verification, group certification and harmonisation of the different standards. The basic problem with the FSC is that it tries to replace the democratic institutions that we have in Europe. According to the European practice it is not acceptable that the same body is responsible for several dimensions in certification and labelling. Standard setting and endorsement, accreditation of certification bodies and mechanisms of dispute settlement should be separated.

OPENING COMMENTS

Rupert Oliver
Timber Trade Federation, UK

The Timber Trade Federation is the representative trade association of timber and panel products importers and agents in the United Kingdom. The United Kingdom consumes around 14 million m³ of timber and panel products each year, of which about 70% is imported. Most is imported through TTF members.

My comments relate specifically to the TTF's perceptions of the market situation for certified timber in the United Kingdom. From our perspective, the market position is complicated and is characterised by very different demands in different sectors. The following points should be emphasised:

1. The demand for certified products is clearly being generated at corporate level, by the introduction of “green” timber purchasing policies for marketing reasons. It is not a response to direct demand from the general public. Demand is particularly strong in the retailer sector as these companies have a large incentive to present a “green” image to the general public. This situation is reflected in the strong domination of the 1995 Plus Group by retailing companies. These companies claim around 15% of the total UK market for wood products.
2. The main motivation of these companies is not to derive a premium from the sale of certified products, but to avoid damaging public demonstrations by environmental groups. Much of the demand for certified products has effectively been generated by concerted environmentalist campaigns which have linked criticism of forest management in all areas of the world, with positive promotion of the FSC as the “solution”.
3. The appeal of product based certification schemes like the FSC is considerably less outside the retailing sector, notably the construction sector. The construction market accounts for between 60% and 70% of the market for imported products. As things stand, price and availability remain overwhelmingly dominant factors in determining purchasing decisions in this sector.

4. In the construction sector, there are signs that the environmental issue will become increasingly important in the years to come. A combination of national and European Community legislation; local government environmental action plans; growing concern for environmental impact from lenders, share holders and employees; and developments in environmental management standards, will have a profound effect. However, the demands in this sector will be different. The level of detail provided by product certification, which seeks to trace timber from certified forest to point of sale, will be less necessary. Instead, there will be greater demand for assurances that suppliers are providing a quality service which will include their handling of environmental issues. We believe there will be a much greater role for certification based on ISO 14001, linked to codes of environmental practice, within the construction sector.

As a final comment, I should emphasise that the Timber Trade Federation is a great supporter of the concept of independent certification. We believe in an international approach based on the concept of mutual recognition of a diversity of different but equivalent national or regional schemes. This is the only way that certification will effectively accommodate the tremendous diversity of forestry situations around the world.

STATEMENTS OF PANEL DISCUSSION ON TIMBER CERTIFICATION

Justin Stead
Timber Trade Federation, UK

Many people approach the discussion on forest certification believing that there are still many issues to be addressed and problems to be solved. It is worth pointing out therefore that the Forest Stewardship Council (FSC) has established a framework for forest certification which is already in operation all over the world. There are now over 8 million hectares of forest certified within the FSC framework. The certified forests are in more than 20 countries. They are in tropical, temperate and boreal forests. They are natural forests and plantations. The ownership of the forests is diverse – private, public, communal, royal. Many of the problems and issues raised today are either solved, or are being addressed in the field, and those with queries should approach the accredited certifiers of the FSC for answers.

The work of the survey presented today has been well done and will be very valuable. It must be noted however, that much of the survey work was done over the last twelve months during which time the certification debate has moved on a lot. The area of forest certified within the FSC framework was less than 3 million hectares at the start of the survey and, as already noted above, has now reached over 8 million hectares. One important function of the survey will be to act as a 'bench mark'. The work should be repeated in 3-5 years time to monitor changing attitudes as FSC labelled products reach the market and the FSC begins to function as a market mechanism to improve the quality of forest management.

The survey has generated a huge amount of data which will repay further study and should guide discussions in the future. There is one enormous paradox which I should like to highlight. The survey shows that consumers in the target countries are greatly concerned about the world's forests and are not convinced that the forest industry is looking after forests. The survey also shows that consumers would like a certification system which is backed by environmental groups. Meanwhile forest owners and industry are only prepared to consider a certification system if it costs nothing and brings financial reward to them, and they want a system that they control. They clearly rejected the idea of a system backed by environmental groups. As I recall the data, industry demonstrated that they want one certification system whilst at the same time recognising that the consumers, their customers, want a different system!

The work of the WWF 1995 + Group has shown that there is a clear need for a certification system which can show consumers that the products they buy come from well managed forests. The system used must have the backing of environmental groups, as does the FSC. All parties along the supply chain of forest products, should use the clear results of this survey to reassess their approach to certification and the FSC. They should remember that successful businesses give the consumers what they want.

STATEMENT FOR THE PANEL DISCUSSION OF THE EFI CERTIFICATION

Martin Strittmatter
German Forestry Council, Germany

From a forestry representatives point of view, the following points are of importance in the certification debate:

1. Forestry and forest owners are closest to forest management and have the most profound self interest in a sustainable management of the forest resources. On the other hand forestry is far away from the consumer markets, where the decisions on certified products are made.
Demands for certification put forward by environmental and industrial organisations, which can be seen as the key players in the certification debate, are often felt as a threat to the economic performance of the small structured forestry in Europe and are seen as an unjustified declaration of mistrust in management practices of the forest owners. The more or less unanimous reluctance of European forest owners to the concept of certification can partly be explained with this perception.
2. Forestry in Germany and in Europe fully supports the principle of sustainability. The development of criteria and indicators are a valuable tool to explain and to further develop the concept of sustainable forest management and to make it transparent to the public.
3. The labelling of sustainably produced forest products may help to raise customers awareness for the advantages of a most environmentally friendly raw material and to give relevant “green product information” in an increasingly environmentally sensitive market.
4. Nevertheless the research results which have been presented today indicate that consumers willingness to pay a premium for labelled products can be estimated to be rather low. And even the concept of sustainability and sustainable forest management is widely unknown to the majority of customers. The idea of

labelling as a means to communicate the concept of sustainable forest management to the public is therefor supported by German forestry.

4. The competition between different certification systems has become very obvious and it seems that for the moment more emphasis is put on the political discussion of advantages and inconveniences of different systems than on the common goal, that is to promote and support sustainable forest management.

Having that in mind, a labelling and certification systems which may be useful for forestry under European conditions can be summarised as follows:

It is essential to avoid unnecessary costs and a duplication of control mechanisms just for the purpose of certification. Existing legal and administrative frameworks should be taken into account. Due to the very limited expectations for a “green premium” for certified products expensive certification systems risk to weaken the competitiveness of wood and tend to discriminate against small forest owners.

A public debate of “good wood” and “bad wood” may damage the positive image of wood as environmentally friendly raw material. Certification should therefor not be communicated as being the only way to guarantee sustainable forest management.

The important work which has already been done within the context of the Helsinki-process in developing criteria and indicators for SFM on the different levels are widely accepted and can be seen as a product of a participatory process on the European level. They should be integrated into a European system to proof sustainable forest management.

Last but not least, the system should be tailored to the specific European situation with a small ownership structure and should be applicable in the European context without creating unnecessary barriers to trade. Many aspects of sustainable forest management cannot be addressed or assessed on the level of small individual forest holdings. The European system should therefor address the regional level rather than the level of individual forest owners.

“SLEEPING” MARKETS FOR CERTIFIED FOREST PRODUCTS IN EUROPE

Peter Schwarzbauer

Institute of Forest Sector Policy and Economics, Austria

The presentations included survey results of consumer markets in five European countries (Germany, France, Italy, UK and Austria) as well as of national business markets within the forestry wood chain in three countries (Finland, Germany, UK). A general conclusion which can be drawn is that currently the situation of certified forest products is that of a “sleeping” market, at least in terms of actually traded quantities. There is some demand from the final consumers’ side, but it is not overwhelming. Neither in recent years nor currently the classical consumer demand has been the driving force for certification. This can be mainly attributed to the fact that most of the consumers don’t know what “sustainable forest management” is or means. On the producers’ and traders’ side (forestry wood chain) the majority of actors seem to rely on a “wait and see” attitude. While a surprisingly large share of them would use or produce certified forest products, very few are actively pushing for certification. The majority on both sides – consumers and producers – are passive.

A panel discussion brought together a wide range of stakeholders in timber certification. The ten panellists represented very diverse views from forestry, forest industry, forest products trade, publishing, development, science and the Commission’s Services. Within the forest sector and industrial forest products users two major types of attitudes and reactions are emerging. One group favouring certification of sustainable forest management and forest products does this mainly for marketing reasons; to distinguish their products as being more environmentally friendly from others and therefore increase market shares – not so much because they expect higher prices for their products or because they see certification as a tool to improve forest management. The other group being more reluctant towards or clearly against certification base this reaction on the expected cost-/benefit-ratio. They are simply afraid that the costs would outweigh the benefits.

The future of certified forest products markets therefore will not so much depend on demand or supply reactions in a classical sense, but largely on the activities of a few, but prominent actors within the forestry wood chain, industrial users and – outside of this chain – environmental NGOs (e.g. WWF Buyers Groups).

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PROGRAMME

Potential Markets for Certified Products in Europe Results of extensive European market research Brussels, Belgium, March 13, 1998

- 8.00 Registration
- 9.15 Official welcome and opening of the meeting
*Chairman of the meeting: Mr. Tim Peck, Chairman of the Board,
European Forest Institute*
- 9.35 Introduction
*Associate Professor Peter Schwarzbauer,
Universität für Bodenkultur Wien, Austria*

Session I: EU consumer markets and certification

- 9.50 EU consumers and markets for certified forest products
Mr. Ewald Rametsteiner, Universität für Bodenkultur Wien, Austria
- 11.00 EU citizens and their attitude towards forests, forestry and wood
Mr. Ewald Rametsteiner, Universität für Bodenkultur Wien, Austria
- 11.30 Discussion

Session II: Business to business markets, marketing and certification in key countries in Europe

13.00 Introduction

Professor Heikki Juslin, University of Helsinki, Finland

13.15 The forestry-wood chain in Finland

Professor Heikki Juslin and Mr. Jari Kärnä, University of Helsinki, Finland

13.40 The forestry-wood-chain in the U.K.

*Mr. Roger Cooper and Mr. John Samuel,
University of North-Wales, Bangor, U.K.*

14.15 The forestry-wood chain in Germany

Professor Michael Becker, Albert Ludwigs-Universität Freiburg, Germany

14.40 Summary and conclusions

15.05 Discussion

Session III: Panel Discussion

APPENDIX II

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The Consumer Survey Questionnaire

**FAIR – PROJECT
TIMBER CERTIFICATION**

**QUESTIONNAIRE
CONSUMER SURVEY**

November 1996

Timber Certification Study: INFORMATION SHEET:

Who is conducting the study?

The study is being conducted jointly by four European university institutes. The coordinating institute is the Institute of Forest Sector Socioeconomics in Vienna, Austria.

Who is sponsoring the study?

The European Commission's General Directorate for Science, Research and Development

What is the purpose of the study?

The purpose of the study is to obtain a representative picture of the attitude of citizens towards the purchase of furniture and fixtures and the need for specific product information. Knowing whether European consumers want and make use of such product information will help policy makers in deciding whether and how to set up certification programmes and thus use your tax money efficiently.

What kinds of questions will be asked?

Questions in connection with the purchase of furniture and fixtures, about product information and about forests and forestry.

How long will it take?

The average time necessary to complete the interview is about 20 minutes

Will my answers remain confidential?

Yes. Your answers will be combined with others to make a statistical report. Your answers can never be used in any way that would identify you.

VERSION A

Question 1

The following part will deal with your opinions as regards purchases. Let us assume you are going to buy some new furniture. Please tell me, how much you personally pay attention to each of the following aspects. Number 1 means that you personally pay special attention to that aspect and 7 that you pay no attention at all to that aspect. Between 1 and 7 you can fine tune your judgement. *INT: PRESENT CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	special attention				no attention at all		
a - that it is made of an appealing material	1	2	3	4	5	6	7
b - that it is economically priced	1	2	3	4	5	6	7
c - that it has an appealing shape	1	2	3	4	5	6	7
d - that it is environmentally (ecologically) compatible	1	2	3	4	5	6	7
e - that it is durable	1	2	3	4	5	6	7
f - that it is in style, modern	1	2	3	4	5	6	7
g - that it is something exclusive	1	2	3	4	5	6	7
h - that it is a product made in [home country]	1	2	3	4	5	6	7
i - that it is a natural product	1	2	3	4	5	6	7
j - that on the whole the quality is high	1	2	3	4	5	6	7

Question 2

The environmental (ecological) compatibility of a material is often differently rated. How would you rate the general environmental compatibility of the following materials? Number 1 means that the material is very environmentally friendly and 7 that the material is very environmentally harmful. Between 1 and 7 you can again fine tune your judgement. **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	very environmentally friendly				very environmentally harmful			d.k.
a – steel	1	2	3	4	5	6	7	0
b – glass	1	2	3	4	5	6	7	0
c - wood from tropical countries	1	2	3	4	5	6	7	0
d – aluminium	1	2	3	4	5	6	7	0
e - wood from [home country]	1	2	3	4	5	6	7	0
f – plastic	1	2	3	4	5	6	7	0

Question 3

Please indicate with regard to each pair of the following characteristics which characteristic you would rather associate with a piece of furniture made of solid wood? Number “1” means that the characteristic on the left applies precisely, and “7” means that the characteristic on the right applies precisely. In between you can fine tune your judgement. *INT: SHOW CARD! READ PAIR OF CHARACTERISTICS ALOUD/LET RESPONDENT READ THROUGH

Do you associate a piece of furniture made of solid wood with:

	applies precisely							
	1	2	3	4	5	6	7	
high quality	1	2	3	4	5	6	7	low quality
expensive	1	2	3	4	5	6	7	economically priced
old fashioned	1	2	3	4	5	6	7	modern, in style
healthful	1	2	3	4	5	6	7	harmful to health
appealing material	1	2	3	4	5	6	7	not of an appealing material
not very durable	1	2	3	4	5	6	7	durable
environmentally harmful	1	2	3	4	5	6	7	environmentally friendly
not of an appealing shape	1	2	3	4	5	6	7	appealing shape
decidedly a natural product	1	2	3	4	5	6	7	not a natural product
ordinary	1	2	3	4	5	6	7	exclusive
something that is of interest to my friends and colleagues	1	2	3	4	5	6	7	something that is not of interest to my friends and colleagues

Question 4

Suppose you are in a furniture store. You find a label on a piece of wooden furniture with the text “wood from sustainably managed forests“.

a) Have you already heard of this term, or not yet heard of it?

1 already heard of it	2 not yet heard of it
-----------------------	-----------------------

b) Do you associate “sustainable forest management“ with something: **INT: READ CATEGORIES 1 - 4 ALOUD**

1 very positive	2 rather positive	3 rather negative	4 very negative	0 d k
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**INT: READ DEFINITION AFTERWARDS: “Sustainable forest management“ means: the forest in question is being carefully managed, and in that forest less wood is cut than regrows.

Question 5

Furthermore, suppose that you find a piece of wooden furniture, i.e. a table, cupboard, bed or similar which you would like to buy.

a) If this piece of wooden furniture costs [rounded equivalent of E 780] , up to which price would you pay at most for the same piece of furniture when the wood it is made of comes from sustainably managed forests? **INT: SHOW CARD! MARK THE CODE ACCORDING TO THE ANSWERS FOR a) AND b) HERE:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----

b) If this piece of wooden furniture cost [rounded equivalent of E 1,870] up to which price would you pay at most for the same piece of furniture when the wood it is made of comes from sustainably managed forests?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----

Question 6

The next questions deal with forests in [home country]. Please indicate how you assess the development of forests according to each of the following points: In this instance “1” means increasing/improving considerably, “2” means increasing/improving moderately, “3” means stable/no change, “4” means decreasing/worsening moderately, “5” means decreasing/worsening considerably. **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	incr. cons.	incr. mod.	stable	decr. mod	decr. cons	d.k.
a - the area of forest land	1	2	3	4	5	0
b - the numbers of animal and plant species in forests	1	2	3	4	5	0
c - the condition of forest health in general	1	2	3	4	5	0

Question 7

*INT: SHOW CARD - READ ALOUD *

	very	quite	only a little	not at all	d.k.
How satisfied are you with the state/development of forests in [home country] in general?	1	2	3	4	0
In your opinion to what extent is the current forest management responsible for the state/development of forests in [home country]	1	2	3	4	0
In your opinion: how sustainably are forests currently managed in [home country]?	1	2	3	4	0
"Sustainable forest management" means: the forest in question is being carefully managed, and in that forest less wood is cut than regrows.					

Question 8

Forests can serve for different purposes. In your opinion, how important are the following aspects for the society in [home country] in general? Number "1" means particularly important and "7" means not at all important. Between 1 and 7 you can fine tune your judgement. *INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH*

	particularly important			not at all important			
a - the long-term ensuring of wood supply	1	2	3	4	5	6	7
b - the long-term preservation of the diversity of animal and plant species in forests	1	2	3	4	5	6	7
c - the long-term preservation of the total forest area	1	2	3	4	5	6	7
d - the long-term supply of the population with recreational services	1	2	3	4	5	6	7
e - the protection of the population from negative natural effects like erosion, floods, landslides or similar	1	2	3	4	5	6	7

Question 9

How often were you in a forest over the past three months? *INT: READ CATEGORIES ALOUD**

1) never	2) 1-2 times	3) 3-5 times	4) >5 times
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Question 10

People often have very different opinions about the following statements on the environment. Please tell me your opinion. Number "1" means agree completely, "2" means rather, "3" neither /nor, "4" rather not, "5" means agree not at all. **INT: SHOW CARD! READ ALOUD/LET RESPONDENT READ THROUGH

Agree	com- pletely	rather	Neither/ nor	rather not	not at all
a - The importance of environmental problems is greatly exaggerated by many environmentalists.	1	2	3	4	5
b - Even if it costs me a considerable amount of additional money and effort, I do what is good for the environment	1	2	3	4	5
c - It worries me when I think about the state of the environment that our children and grandchildren will most probably have to live in.	1	2	3	4	5
d - The government and the industry should start with environmental protection, not the ordinary man	1	2	3	4	5
e - When I read newspaper reports or see TV broadcasts about environmental problems, it often makes me angry or indignant.	1	2	3	4	5
f - Environmental protection and fighting against environmental pollution are less urgent than is often claimed	1	2	3	4	5
g - If we continue our present course, we are headed for an environmental catastrophe	1	2	3	4	5
h - We worry too much about the future of the environment, and not enough about prices and jobs	1	2	3	4	5

Question 11

To which degree do the following groups represent your opinion regarding how society should treat the environment: "1" means exactly and "7" means not at all. You can fine tune your judgement in-between. **INT: SHOW CARD! READ ALOUD/LET RESPONDENT READ THROUGH

	exactly			not at all			
A - governments/political parties	1	2	3	4	5	6	7
B - environmental pressure groups	1	2	3	4	5	6	7
C - lobby groups of the economy	1	2	3	4	5	6	7

A: CARD QUESTION 1	special attention				no attention at all			
a - that it is made of an appealing material	1	2	3	4	5	6	7	
b - that it is economically priced	1	2	3	4	5	6	7	
c - that it has an appealing shape	1	2	3	4	5	6	7	
d - that it is environmentally (ecologically) compatible	1	2	3	4	5	6	7	
e - that it is durable	1	2	3	4	5	6	7	
f - that it is in style, modern	1	2	3	4	5	6	7	
g - that it is something exclusive	1	2	3	4	5	6	7	
h - that it is a product made in [home country]	1	2	3	4	5	6	7	
i - that it is a natural product	1	2	3	4	5	6	7	
j - that on the whole the quality is high	1	2	3	4	5	6	7	

A: CARD QUESTION 2	very environmentally friendly				very environmentally harmful			
a - steel	1	2	3	4	5	6	7	
b - glass	1	2	3	4	5	6	7	
c - wood from tropical countries	1	2	3	4	5	6	7	
d - aluminium	1	2	3	4	5	6	7	
e - wood from [home country]	1	2	3	4	5	6	7	
f - plastic	1	2	3	4	5	6	7	

A: CARD QUESTION 3	applies precisely				applies precisely			
high quality	1	2	3	4	5	6	7	low quality
expensive	1	2	3	4	5	6	7	economically priced
old fashioned	1	2	3	4	5	6	7	modern, in style
healthful	1	2	3	4	5	6	7	harmful to health
appealing material	1	2	3	4	5	6	7	not of an appealing material
not very durable	1	2	3	4	5	6	7	durable
environmentally harmful	1	2	3	4	5	6	7	environmentally friendly
not of an appealing shape	1	2	3	4	5	6	7	appealing shape
decidedly a natural product	1	2	3	4	5	6	7	not a natural product
ordinary	1	2	3	4	5	6	7	exclusive
something that is of interest to my friends and colleagues	1	2	3	4	5	6	7	something that is not of interest to my friends and colleagues

A: CARD QUESTION 6	incr. cons.	incr. mod.	stable	decr. mod	decr. cons
a - the area of forest land in [home country]	1	2	3	4	5
b - the numbers of animal and plant species in forests in [home country]	1	2	3	4	5
c - the condition of forest health in general in [home country]	1	2	3	4	5

A: CARD QUESTION 7	very	quite	only a little	not at all
How satisfied are you with the state/development of forests in [home country]in general?	1	2	3	4
In your opinion to what extent is the current forest management responsible for the state/development of forests in [home country]	1	2	3	4
In your opinion: how sustainably are forests currently managed in [home country]?	1	2	3	4
“Sustainable forest management“ means: the forest in question is being carefully managed, and in that forest less wood is cut than regrows.				

A: CARD QUESTION 8	particularly important				not at all important		
a - the long-term ensuring of wood supply	1	2	3	4	5	6	7
b - the long-term preservation of the diversity of animal and plant species in forests	1	2	3	4	5	6	7
c – the long-term preservation of the total forest area	1	2	3	4	5	6	7
d – the long-term supply of the population with recreational services	1	2	3	4	5	6	7
e - the protection of the population from negative natural effects like erosion, floods, landslides or similar	1	2	3	4	5	6	7

A: CARD QUESTION 10	agree				
	com- pletely	rather	neither /nor	rather not	not at all
a - The importance of environmental problems is greatly exaggerated by many environmentalists.	1	2	3	4	5
b - Even if it costs me a considerable amount of additional money and effort, I do what is good for the environment	1	2	3	4	5
c - It worries me when I think about the state of the environment that our children and grandchildren will most probably have to live in.	1	2	3	4	5
d - The government and the industry should start with environmental protection, not the ordinary man	1	2	3	4	5
e - When I read newspaper reports or see TV broadcasts about environmental problems, it often makes me angry or indignant.	1	2	3	4	5
f - Environmental protection and fighting against environmental pollution are less urgent than is often claimed	1	2	3	4	5
g - If we continue our present course, we are headed for an environmental catastrophe	1	2	3	4	5
h - We worry too much about the future of the environment, and not enough about prices and jobs	1	2	3	4	5

A: CARD QUESTION 11	exactly							not at all						
	a – governments/political parties	1	2	3	4	5	6	7	1	2	3	4	5	6
b – environmental pressure groups	1	2	3	4	5	6	7	1	2	3	4	5	6	7
c - lobby groups of the economy	1	2	3	4	5	6	7	1	2	3	4	5	6	7

VERSION B

Question 1

The following part will deal with your opinions as regards purchases. Let us assume you are going to buy some new furniture. Please tell me, how much you personally pay attention to each of the following aspects. Number 1 means that you personally pay special attention to that aspect and 7 that you pay no attention at all to that aspect. Between 1 and 7 you can fine tune your judgement. *INT: PRESENT CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	special attention				no attention at all		
a - that it is made of an appealing material	1	2	3	4	5	6	7
b - that it is economically priced	1	2	3	4	5	6	7
c - that it has an appealing shape	1	2	3	4	5	6	7
d - that it is environmentally (ecologically) compatible	1	2	3	4	5	6	7
e - that it is durable	1	2	3	4	5	6	7
f - that it is in style, modern	1	2	3	4	5	6	7
g - that it is something exclusive	1	2	3	4	5	6	7
h - that it is a product made in [home country]	1	2	3	4	5	6	7
i - that it is a natural product	1	2	3	4	5	6	7
j - that on the whole the quality is high	1	2	3	4	5	6	7

Question 2

Suppose you are in a furniture store. You find a label on a piece of wooden furniture with the text "wood from sustainably managed forests".

a) Have you already heard of this term, or not yet heard of it?

1 already heard of it	2 not yet heard of it
-----------------------	-----------------------

b) Do you associate "sustainable forest management" with something:

INT: READ CATEGORIES 1 -4 ALOUD

1 very environmentally friendly	2 rather environmentally friendly	
3 rather environmentally harmful	4 very environmentally harmful	0 d. k.

**INT: READ DEFINITION AFTERWARDS: "Sustainable forest management" means: the forest in question is being carefully managed, and in that forest less wood is cut than regrows.

Question 3

Furthermore, suppose that you find a piece of wooden furniture, i.e. a table, cupboard, bed or similar which you would like to buy.

a) If this piece of wooden furniture cost [rounded equivalent of E 780], up to which price do you think people would pay at most for the same piece of furniture when the wood it is made of comes from sustainably managed forests? **INT: SHOW CARD! MARK THE CODE ACCORDING TO THE ANSWERS FOR a) AND b) HERE:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
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b) If this piece of wooden furniture cost [rounded equivalent of E 1,870], up to which price do you think people would pay at most for the same piece of furniture when the wood it is made of comes from sustainably managed forests?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
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Question 4.

Please indicate with regard to each pair of the following characteristics which characteristic you would rather associate with a piece of furniture made of solid wood originating from sustainably managed forests. Number “1” means that the characteristic on the left applies precisely, and “7” means that the characteristic on the right applies precisely. In between you can fine tune your judgement. *INT: SHOW CARD! READ PAIR OF CHARACTERISTICS ALOUD/LET RESPONDENT READ THROUGH

Do you associate a piece of furniture made of solid wood originating from sustainably managed forests with

	applies precisely	applies precisely	
high quality	1 2 3 4 5 6 7		low quality
expensive	1 2 3 4 5 6 7		economically priced
old fashioned	1 2 3 4 5 6 7		modern, in style
healthful	1 2 3 4 5 6 7		harmful to health
appealing material	1 2 3 4 5 6 7		not of an appealing material
not very durable	1 2 3 4 5 6 7		durable
environmentally harmful	1 2 3 4 5 6 7		environmentally friendly
not of an appealing shape	1 2 3 4 5 6 7		appealing shape
decidedly a natural product	1 2 3 4 5 6 7		not a natural product
ordinary	1 2 3 4 5 6 7		exclusive
something that is of interest to my friends and colleagues	1 2 3 4 5 6 7		something that is not of interest to my friends and colleagues

Question 5

How important would the origin of wood from sustainably managed forests be for you, if purchasing one of the following products? **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	very important	quite	only a little	not at all important
a - furniture such as bedroom furniture, kitchen- or sitting room furniture	1	2	3	4
b - fixtures such as flooring, doors, windows or similar	1	2	3	4
c - paper products such as writing paper, magazines/books	1	2	3	4

Question 6

a) If “sustainable forest management“ means that the forest in question is being carefully managed, and in that forest less wood is cut than regrows. In your opinion: how sustainably are forests currently managed in [home country]? **INT: READ CATEGORIES 1-4

1 very	2 quite	3 only a little	4 not at all	0 d k
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b) And how sustainable do you consider forest management to be in the following forests of the world? Number “1“ means very, “2“ quite, “3“ only a little and “4“ not at all sustainable. **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	very sustainable	quite	only a little	not at all sustainable	d.k.
a - forests in tropical countries (Asia, Africa, South America)	1	2	3	4	0
b - forests in Central Europe (Germany, Austria, Switzerland)	1	2	3	4	0
c - forests in Eastern Europe	1	2	3	4	0
d - forests in Scandinavia (Norway, Sweden, Finland)	1	2	3	4	0
e - forests in North America (Canada, USA)	1	2	3	4	0

Question 7

People often have very different opinions about the following statements on environmental information. Please tell me your opinion. Number "1" means agree completely, "2" means rather, "3" neither /nor, "4" rather not, "5" means agree not at all. **INT: SHOW CARD! READ ALOUD/LET RESPONDENT READ THROUGH

agree	comple -tely	rather	neither /nor	rather not	not at all
a - In general, there is sufficient information about environmental friendliness on products	1	2	3	4	5
b – Environmental labels on products are very often not trustworthy	1	2	3	4	5
c - The great variety of different environmental labels is confusing	1	2	3	4	5
d - The environmental information on products is generally clear and easy to understand	1	2	3	4	5
e – Environmental information is one of the most important aspects of product information	1	2	3	4	5

Question 8

How credible would a certificate be that guarantees that the product is from a sustainably managed forest if it is attested and controlled by one of the following organisations? Number "1" means very credible, "2" rather credible, "3" not so credible and "4" not at all credible. **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

credible	very	rather	not so	not at all	d.k.
a – interest group of forestry/timber industry in [home country]	1	2	3	4	0
b – international environmental pressure groups (Greenpeace, WWF,...)	1	2	3	4	0
c - the competent Ministry in [home country]	1	2	3	4	0
d - the manufacturers of the wood products	1	2	3	4	0
e - the EU administration	1	2	3	4	0
f – European interest group of forestry/imber industry	1	2	3	4	0
g - the competent Ministry in the respective tropical country of origin	1	2	3	4	0

Question 9

The next questions deal with forests in tropical countries like Asia, Africa or South America. Please indicate how you assess the development/state of forests according to each of the following points: In this instance "1" means increasing/improving considerably, "2" means increasing/improving moderately, "3" means stable/ no change, "4" means decreasing/worsening moderately, "5" means decreasing/worsening considerably. **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	incr. cons.	incr. Mod.	stable	decr. mod	decr. cons	d.k.
a - the area of forest land in tropical countries	1	2	3	4	5	0
b - the numbers of animal and plant species in forests in tropical countries	1	2	3	4	5	0
c - the condition of forest health in general in tropical countries	1	2	3	4	5	0

Question 10 a

How satisfied are you with the state/development of forests in tropical countries in general? **INT: READ CATEGORIES 1-4 ALOUD

1 very	2 quite	3 only a little	4 not at all	0 d. k.
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**INT: ANSWER 1, 0 SKIP 10 b; ANSWER 2, 3, 4 GO TO QUESTION 10b

Question 10 b

To which degree do you consider the following to be responsible for the current state/development of the forests in tropical countries. "1" means very much so, "2" quite a lot, "3" only a little and "4" not at all responsible. **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

responsible	very	rather	not so	not at all	d.k.
A - environmental pollution by the industry	1	2	3	4	0
B - forestry and harvesting of timber for the timber industry	1	2	3	4	0
C - clearing of land for agricultural production	1	2	3	4	0
D - tourism and recreation activity	1	2	3	4	0
E - construction activity (roads, settlements, power plants,..)	1	2	3	4	0
F - environmental pollution due to traffic	1	2	3	4	0
G - natural catastrophes (storms, etc.)	1	2	3	4	0

Question 10

People often have very different opinions about the following statements on the environment. Please tell me your opinion. Number "1" means agree completely, "2" means rather, "3" neither /nor, "4" rather not, "5" means agree not at all. **INT: SHOW CARD! READ ALOUD/LET RESPONDENT READ THROUGH

agree	com- pletely	rather	neither /nor	rather not	not at all
a - The importance of environmental problems is greatly exaggerated by many environmentalists.	1	2	3	4	5
b - Even if it costs me a considerable amount of additional money and effort, I do what is good for the environment	1	2	3	4	5
c- It worries me when I think about the state of the environment that our children and grandchildren will most probably have to live in.	1	2	3	4	5
d - The government and the industry should start with environmental protection, not the ordinary man	1	2	3	4	5
e - When I read newspaper reports or see TV broadcasts about environmental problems, it often makes me angry or indignant.	1	2	3	4	5
f - Environmental protection and fighting against environmental pollution are less urgent than is often claimed	1	2	3	4	5
g - If we continue our present course, we are headed for an environmental catastrophe	1	2	3	4	5
h - We worry too much about the future of the environment, and not enough about prices and jobs	1	2	3	4	5

B: CARD QUESTION 1	special attention		no attention at all				
a - that it is made of an appealing material	1	2	3	4	5	6	7
b - that it is economically priced	1	2	3	4	5	6	7
c - that it has an appealing shape	1	2	3	4	5	6	7
d - that it is environmentally (ecologically) compatible	1	2	3	4	5	6	7
e - that it is durable	1	2	3	4	5	6	7
f - that it is in style, modern	1	2	3	4	5	6	7
g - that it is something exclusive	1	2	3	4	5	6	7
h - that it is a product made in [home country]	1	2	3	4	5	6	7
i - that it is a natural product	1	2	3	4	5	6	7
j - that on the whole the quality is high	1	2	3	4	5	6	7

B: CARD QUESTION 4	applies precisely	applies precisely	
high quality	1	2	3
expensive	4	5	6
old fashioned	7		
healthful	1	2	3
appealing material	4	5	6
not very durable	7		
environmentally harmful	1	2	3
not of an appealing shape	4	5	6
decidedly a natural product	7		
ordinary	1	2	3
something that is of interest to my friends and colleagues	4	5	6

B: CARD QUESTION 5	very importa nt	quite	Only a little	not at all importa nt
a - furniture such as bedroom furniture, kitchen- or sitting room furniture	1	2	3	4
b - fixtures such as flooring, doors, windows or similar	1	2	3	4
c - paper products such as writing paper, magazines/books	1	2	3	4

B: CARD QUESTION 6	very sustain- able	quite	only a little	not at all sustainable
a - forests in tropical countries (Asia, Africa, South America)	1	2	3	4
b - forests in Central Europe (Germany, Austria, Switzerland)	1	2	3	4
c - forests in Eastern Europe	1	2	3	4
d - forests in Scandinavia (Norway, Sweden, Finland)	1	2	3	4
e - forests in North America (Canada, USA)	1	2	3	4

B: CARD QUESTION 7	agree				
	com- pletely	rather	neither/ nor	rather not	not at all
a - In general, there is sufficient information about environmental friendliness on products	1	2	3	4	5
b – Environmental labels on products are very often not trustworthy	1	2	3	4	5
c - The great variety of different environmental labels is confusing	1	2	3	4	5
d - The environmental information on products is generally clear and easy to understand	1	2	3	4	5
e – Environmental information is one of the most important aspects of product information	1	2	3	4	5

B: CARD QUESTION 8	very	rather	not so	not at all
	credible			
a - interest group of forestry/timber industry in [home country]	1	2	3	4
b - international environmental pressure groups (Greenpeace, WWF,..)	1	2	3	4
c - the competent Ministry in [home country]	1	2	3	4
d - the manufacturers of the wood products	1	2	3	4
e - the EU administration	1	2	3	4
f – European interest group of forestry/imber industry	1	2	3	4
g - the competent Ministry in the respective tropical country of origin	1	2	3	4

B: CARD QUESTION 9	incr. cons.	incr. mod.	stable	decr. mod	decr. cons
	a - the area of forest land in tropical countries	1	2	3	4
b - the numbers of animal and plant species in forests in tropical countries	1	2	3	4	5
c - the condition of forest health in general in tropical countries	1	2	3	4	5

B: CARD QUESTION 10b	very	rather	not so	not at all
	responsible			
a – environmental pollution by the industry	1	2	3	4
b – forestry and harvesting of timber for the timber industry	1	2	3	4
c – clearing of land for agricultural production	1	2	3	4
d – tourism and recreation activity	1	2	3	4
e – construction activity (roads, settlements, power plants,...)	1	2	3	4
f – environmental pollution due to traffic	1	2	3	4
g – natural catastrophes (storms, etc.)	1	2	3	4

B: CARD QUESTION 11	agree				
	com- pletely	rather	neither/ nor	rather not	not at all
a - The importance of environmental problems is greatly exaggerated by many environmentalists.	1	2	3	4	5
b - Even if it costs me a considerable amount of additional money and effort, I do what is good for the environment	1	2	3	4	5
c - It worries me when I think about the state of the environment that our children and grandchildren will most probably have to live in.	1	2	3	4	5
d - The government and the industry should start with environmental protection, not the ordinary man	1	2	3	4	5
e - When I read newspaper reports or see TV broadcasts about environmental problems, it often makes me angry or indignant.	1	2	3	4	5
f - Environmental protection and fighting against environmental pollution are less urgent than is often claimed	1	2	3	4	5
g - If we continue our present course, we are headed for an environmental catastrophe	1	2	3	4	5
h - We worry too much about the future of the environment, and not enough about prices and jobs	1	2	3	4	5

VERSION C

Question 1

The following part will deal with your opinions as regards purchases.
 Have you purchased in the past six weeks, or are you currently considering to purchase:

a) Furniture such as a dining table and chairs, sitting room furniture, bedroom furniture, kitchen furniture, cupboards or similar

1 yes	2 no
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b) Fixtures like flooring, doors, windows, staircases, wall or ceiling panelling or similar

1 yes	2 no
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Question 2

Let us assume you are going to buy some new fixtures like a new flooring, a door or similar. Please tell me, how much you personally pay attention to each of the following aspects. Number 1 means that you personally pay special attention to that aspect and 7 that you pay no attention at all to that aspect. Between 1 and 7 you can fine tune your judgement. *INT: PRESENT CARD - READ ALOUD/LET RESPONDENT READ THROUGH

		special attention				no attention at all	
a – that it is made of an appealing material	1	2	3	4	5	6	7
b – that it is economically priced	1	2	3	4	5	6	7
c – that it has an appealing shape	1	2	3	4	5	6	7
d - that it is environmentally (ecologically) compatible	1	2	3	4	5	6	7
e - that it is durable	1	2	3	4	5	6	7
f - that it is in style, modern	1	2	3	4	5	6	7
g - that it is something exclusive	1	2	3	4	5	6	7
h - that it is a product made in [home country]	1	2	3	4	5	6	7
i - that it is a natural product	1	2	3	4	5	6	7
j - that on the whole the quality is high	1	2	3	4	5	6	7

Question 3

Suppose you find a label on a wood product with the text “wood from sustainably managed forests”.

a) Have you already heard of this term, or not yet heard of it?

1 heard of it	2 not yet heard of it
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b) Do you associate “sustainable forest management” with something: **INT: READ CATEGORIES ALOUD**

1 very positive	2 rather positive	3 rather negative	4 very negative	0 d k
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c) If you had the choice between two otherwise identical wood products, which of the following products would you choose?

1 - the wood product that bears the label “made of wood from forests of [home country].“
2 - the wood product that bears the label “made of wood from sustainably managed forests“

Question 4

In the following question number “1“ means yes, “2“ rather yes, “3“ rather not and “4“ not at all.

Do you consider “sustainable forest management“ to mean, that: *INT: PRESENT CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	yes	rathe r yes	rathe r not	not at all	d.k.
a - less wood is cut than regrows in the forest/trees are replanted	1	2	3	4	0
b - the forest is exploited	1	2	3	4	0
c - the diversity of animal and plant species in forests is taken care of	1	2	3	4	0
d - forest ecosystems are being destroyed	1	2	3	4	0
e - the interest of the people living in the surrounding of the Forest are recognised (protection from negative natural effects, recreation)	1	2	3	4	0

**INT: READ DEFINITION AFTERWARDS: “Sustainable forest management“ means: the forest in question is being carefully managed, and in that forest less wood is cut than regrows.

Question 5

How important would the origin of wood from sustainably managed forests be for you, if purchasing one of the following products: *INT:* PRESENT CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	very important	quite	only a little	not at all important
a - furniture such as bedroom furniture, kitchen- or sitting room furniture	1	2	3	4
b - fixtures such as flooring, doors, windows or similar	1	2	3	4
c - paper products such as writing paper, magazines/books	1	2	3	4

Question 6

The environmental (ecological) compatibility of the following aspects is often differently rated. How would you rate the environmental compatibility of these aspects? Number 1 means that the aspect is very environmentally friendly and 7 that the aspect is very environmentally harmful. Between 1 and 7 you can again fine tune your judgement. **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	very environmentally friendly				very environmentally harmful				d.k.
a – forestry and harvesting of timber	1	2	3	4	5	6	7	0	
b - the production of wooden furniture	1	2	3	4	5	6	7	0	
c - the disposal of wooden furniture	1	2	3	4	5	6	7	0	
d - the production of paper	1	2	3	4	5	6	7	0	
e - the disposal of paper	1	2	3	4	5	6	7	0	

Question 7

The next questions deal with forests in [home country]. Please indicate how you assess the development of forests according to each of the following points: In this instance “1” means increasing/improving considerably, “2” means increasing/improving moderately, “3” means stable/no change, “4” means decreasing/worsening moderately, “5” means decreasing/worsening considerably. **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

	incr. cons.	incr. mod.	stable	decr. mod.	decr. Cons	d.k.
a - the area of forest land	1	2	3	4	5	0
b - the numbers of animal and plant species in forests	1	2	3	4	5	0
c - the condition of forest health in general	1	2	3	4	5	0

Question 8a

How satisfied are you with the state/development of forests in [home country] in general?

1 very	2 quite	3 only a little	4 not at all	0 d. k.
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**INT: ANSWER 1, 0 GO TO QUESTION 9; ANSWER 2, 3, 4 GO TO QUESTION 8b

Question 8b

To which degree do you consider the following to be responsible for the current state/development of the forests in [home country]. "1" means very much so, "2" quite a lot, "3" only a little and "4" not at all responsible. **INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH

responsible	very	rather	not so	not at all	d.k.
A - environmental pollution by the industry	1	2	3	4	0
B - forestry and harvesting of timber for the timber industry	1	2	3	4	0
C - clearing of land for agricultural production	1	2	3	4	0
D - tourism and recreation activity	1	2	3	4	0
E - construction activity (roads, settlements, power plants,..)	1	2	3	4	0
f - environmental pollution due to traffic	1	2	3	4	0
G - natural catastrophes (storms, etc.)	1	2	3	4	0

Question 9

Forests can serve for different purposes. Please rank the following aspects according to your opinion about their importance for society [home country], whereby rank number "1" is the most important aspect, number "2" is the secondmost and so forth.

**INT: SHOW CARD - READ ALOUD/LET RESPONDENT READ THROUGH/LET RESPONDENT RANK*

A - the long-term ensuring of wood supply	Rank no. _____
B - the long-term preservation of the diversity of animal and plant species in forests	Rank no. _____
C - the long-term preservation of the total forest area	Rank no. _____
D - the long-term supply of the population with recreational services	Rank no. _____
E - the protection of the population from negative natural effects like erosion, floods, landslides or similar	Rank no. _____

Question 11

People often have very different opinions about the following statements on the environment. Please tell me your opinion. Number "1" means agree completely, "2" means rather, "3" neither /nor, "4" rather not, "5" means agree not at all. **INT: SHOW CARD! READ ALOUD/LET RESPONDENT READ THROUGH

agree	com- pletely	rather	neither/ nor	rather not	not at all
a - The importance of environmental problems is greatly exaggerated by many environmentalists.	1	2	3	4	5
b - Even if it costs me a considerable amount of additional money and effort, I do what is good for the environment	1	2	3	4	5
c- It worries me when I think about the state of the environment that our children and grandchildren will most probably have to live in.	1	2	3	4	5
d - The government and the industry should start with environmental protection, not the ordinary man	1	2	3	4	5
e – When I read newspaper reports or see TV broadcasts about environmental problems, it often makes me angry or indignant.	1	2	3	4	5
f - Environmental protection and fighting against environmental pollution are less urgent than is often claimed	1	2	3	4	5
g - If we continue our present course, we are headed for an environmental catastrophe	1	2	3	4	5
h - We worry too much about the future of the environment, and not enough about prices and jobs	1	2	3	4	5

Question 12

To which degree do the following groups represent your opinion regarding how society should treat the environment: "1" means exactly and "7" means not at all. You can fine tune your judgement in-between. **INT: SHOW CARD! READ ALOUD/LET RESPONDENT READ THROUGH

	exactly			not at all			
a - governments/political parties	1	2	3	4	5	6	7
b - environmental pressure groups	1	2	3	4	5	6	7
c - lobby groups of the economy	1	2	3	4	5	6	7

C: CARD QUESTION 2	special attention				no attention at all		
a - that it is made of an appealing material	1	2	3	4	5	6	7
b - that it is economically priced	1	2	3	4	5	6	7
c - that it has an appealing shape	1	2	3	4	5	6	7
d - that it is environmentally (ecologically) compatible	1	2	3	4	5	6	7
e - that it is durable	1	2	3	4	5	6	7
f - that it is in style, modern	1	2	3	4	5	6	7
g - that it is something exclusive	1	2	3	4	5	6	7
h - that it is a product made in [home country]	1	2	3	4	5	6	7
i - that it is a natural product	1	2	3	4	5	6	7
j - that on the whole the quality is high	1	2	3	4	5	6	7

C: CARD QUESTION 4	yes	rather yes	rather not	not at all
a - less wood is cut than regrows in the forest/trees are replanted	1	2	3	4
b - the forest is exploited	1	2	3	4
c - the diversity of animal and plant species in forests is taken care of	1	2	3	4
d - forest ecosystems are being destroyed	1	2	3	4
e - the interest of the people living in the surrounding of the forest are recognised (protection from negative natural effects, recreation)	1	2	3	4

C: CARD QUESTION 5	Very important	quite	only a little	not at all important
a - furniture such as bedroom furniture, kitchen- or sitting room furniture	1	2	3	4
b - fixtures such as flooring, doors, windows or similar	1	2	3	4
c - paper products such as writing paper, magazines/books	1	2	3	4

C: CARD QUESTION 6	very environ- mentally friendly				very environ- mentally harmful		
a - forestry and harvesting of timber	1	2	3	4	5	6	7
b - the production of wooden furniture	1	2	3	4	5	6	7
c - the disposal of wooden furniture	1	2	3	4	5	6	7
d - the production of paper	1	2	3	4	5	6	7
e - the disposal of paper	1	2	3	4	5	6	7

C: CARD QUESTION 7	incr. cons.	incr. mod.	stable	decr. mod	decr. cons
a - the area of forest land in [home country]	1	2	3	4	5
B - the numbers of animal and plant species in forests in [home country]	1	2	3	4	5
c - the condition of forest health in general in [home country]	1	2	3	4	5

C: CARD QUESTION 8b	very	rather	not so	not at all
	responsible			
a - environmental pollution by the industry	1	2	3	4
b - forestry and harvesting of timber for the timber industry	1	2	3	4
c - clearing of land for agricultural production	1	2	3	4
d - tourism and recreation activity	1	2	3	4
e - construction activity (roads, settlements, power plants,...)	1	2	3	4
f - environmental pollution due to traffic	1	2	3	4
g - natural catastrophes (storms, etc.)	1	2	3	4

C: CARD QUESTION 9	
a - the long-term ensuring of wood supply	Rank no. _____
b - the long-term preservation of the diversity of animal and plant species in forests	Rank no. _____
c - the long-term preservation of the total forest area	Rank no. _____
d - the long-term supply of the population with recreational services	Rank no. _____
e - the protection of the population from negative natural effects like erosion, floods, landslides or similar	Rank no. _____

C: CARD QUESTION 10	agree				
	com- pletely	rather	neither /nor	rather not	not at all
a – The importance of environmental problems is greatly exaggerated by many environmentalists.	1	2	3	4	5
b - Even if it costs me a considerable amount of additional money and effort, I do what is good for the environment	1	2	3	4	5
c- It worries me when I think about the state of the environment that our children and grandchildren will most probably have to live in.	1	2	3	4	5
d - The government and the industry should start with environmental protection, not the ordinary man	1	2	3	4	5
e - When I read newspaper reports or see TV broadcasts about environmental problems, it often makes me angry or indignant.	1	2	3	4	5
f - Environmental protection and fighting against environmental pollution are less urgent than is often claimed	1	2	3	4	5
g - If we continue our present course, we are headed for an environmental catastrophe	1	2	3	4	5
h - We worry too much about the future of the environment, and not enough about prices and jobs	1	2	3	4	5

C: CARD QUESTION 11	exactly					not at all	
a - governments/political parties	1	2	3	4	5	6	7
b - environmental pressure groups	1	2	3	4	5	6	7
c - lobby groups of the economy	1	2	3	4	5	6	7

Prices in Pound**Example of Price card: UK**

499.-	1	1.190.-	1
509.-	2	1.220.-	2
519.-	3	1.250.-	3
529.-	4	1.280.-	4
539.-	5	1.310.-	5
549.-	6	1.340.-	6
559.-	7	1.370.-	7
569.-	8	1.400.-	8
579.-	9	1.430.-	9
589.-	10	1.460.-	10
599.-	11	1.490.-	11
609.-	12	1.520.-	12
619.-	13	1.550.-	13
629.-	14	1.580.-	14
639.-	15	1.610.-	15
649.-	16	1.640.-	16
659.-	17	1.670.-	17
669.-	18	1.700.-	18
679.-	19	1.730.-	19
689.-	20	1.760.-	20
699.-	21	1.790.-	21

The Forest Owner Survey Questionnaire (UK)



UNIVERSITY OF HELSINKI
DEPARTMENT OF FOREST ECONOMICS



UNIVERSITÄT FREIBURG, INSTITUT FÜR
FORSTPOLITIK, ARBEITSBEREICH MARKT
UND MARKETING



UNIVERSITY COLLEGE OF NORTH WALES
SCHOOL OF AGRICULTURAL AND FOREST
SCIENCES

Policy Analysis of Timber Certification as a Market-based Instrument of Forest Policy to Promote Sustainable Multifunctional Management of Forests

- Shared Cost Project financed by European Commission: FAIR - CT95 - 766

Forestry-wood Chain Survey

ATTITUDES AND NEEDS OF FORESTRY-WOOD CHAIN TOWARDS TIMBER
CERTIFICATION

Forest Owners Questionnaire

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Question 1

The following statements concern forests and their use. How do you feel about these statements?

	Completely disagree			Completely agree		
The use of non-plantation forests should be considerably reduced in order to preserve them for future generations	1	2	3	4	5	6
Forest management should be more natural, changing forests over time to be similar to ancient natural forests, even though it would reduce the income and increase the costs of forest owners.	1	2	3	4	5	6
Forest owners should only fell areas after the interests of other users of the area have been taken into account. (neighbours, walkers, ect.)	1	2	3	4	5	6
Harvesting of trees should be permitted, even when it seriously damages wildlife and plants.	1	2	3	4	5	6
Forests should be utilised as much as is needed to maintain and increase the forest owners income.	1	2	3	4	5	6
Ancient and semi-ancient natural woodlands should be conserved and not exploited economically at all.	1	2	3	4	5	6

Question 2

How important do you think the following objectives for forest ownership are when considering your own forests?

	not at all important			very important		
Protection and enhancement of wildlife, bio-diversity	1	2	3	4	5	6
Protection and enhancement of landscape and scenery	1	2	3	4	5	6
Recreational usage	1	2	3	4	5	6
Generating income from timber sales	1	2	3	4	5	6
Gaining economic security	1	2	3	4	5	6
Emotional and traditional values of forest ownership	1	2	3	4	5	6
Investment opportunity	1	2	3	4	5	6

Question 3

Knowledge of forest certification

	Nothing at all		A moderate amount		A great deal	
Before this questionnaire, had you heard of forest or timber certification?	1	2	3	4	5	
In your own opinion, how much do you know about forest or timber certification and the issues related to it?	1	2	3	4	5	

Question 4

Increasing attention has been given to the environmental friendliness of wood products. In your opinion how desirable do you think the following are?

	Not at all desirable				Very desirable	
Consumer choice of timber labelled as originating from certified forests	1	2	3	4	5	6
Labelled, certified timber used as a competitive tool for wood products	1	2	3	4	5	6
Most forest owners obtain certification of their forests and thus their timber	1	2	3	4	5	6
The forest industry only buys timber from certified forests	1	2	3	4	5	6
Forest owner associations encourage and help members to certify their woodlands	1	2	3	4	5	6

Question 5

For forest certification to succeed it is important that it is carried out in a way that is acceptable to all parties. Who would you trust to be responsible for carrying out certification? Please rank your top five choices

- Private organisation _____
- Governmental organisation _____
- Scientific organisation _____
- Environmental organisation _____
- Consumer organisation _____
- Other, _____

Question 6

The cost per hectare of certification decreases with the size of the area certified. However, if groups of owners join together, so reducing the cost of certification, their individual management influence might decrease. On what basis would you consider joining a certification scheme? *Please rank your best three alternatives*

- I would consider certifying my forests, but not with other owners. _____
- I would consider certifying my forests in conjunction with a small number of other like minded owners _____
- I would consider certifying my forests with a large number of other owners _____
- I would not certify my forests at all _____
- I do not know _____

Question 7

What do you think the effects of forest certification will be on your own woodlands?

	Completely disagree			Completely agree			Don't know
Forest certification would make forestry activities more difficult	1	2	3	4	5	6	7
As a forest owner I would benefit from the certification of my forests	1	2	3	4	5	6	7
Timber buyers would be ready to pay a premium for my certified timber	1	2	3	4	5	6	7
Fulfilling the conditions of certification would improve my forests	1	2	3	4	5	6	7
Fulfilling the conditions of certification would improve the biodiversity of my forests	1	2	3	4	5	6	7
Consumers will choose certified timber	1	2	3	4	5	6	7
Certification would increase the demand for my timber	1	2	3	4	5	6	7
Certification will be profitable only if it increases timber prices	1	2	3	4	5	6	7
Obeying British forestry laws and following Forestry Authority guidelines is a sufficient Guarantee of good forest management	1	2	3	4	5	6	7

Question 8

How important do you think the following objectives are when the main objective is sustainable and responsible forest management.

	Not at all important			Very important		
Increasing wood production potential	1	2	3	4	5	6
Increasing the biodiversity (varieties of plants and animals)	1	2	3	4	5	6
Increasing the protective role of the forests against erosion and in the supply of water	1	2	3	4	5	6
Increasing landscape and recreational values	1	2	3	4	5	6
Maintaining local people's forest-based means of livelihood	1	2	3	4	5	6

Question 10. If you were to apply for certification of your forest, how important would the following reasons be in making your decision?

	Not at all important			Very important		
Achieve better forest management	1	2	3	4	5	6
Securing the health and timber production potential of my forests	1	2	3	4	5	6
Securing markets for my timber	1	2	3	4	5	6
Enabling me to get a better price for my timber	1	2	3	4	5	6
Securing the biodiversity of my forests	1	2	3	4	5	6
Giving a better habitat to animals	1	2	3	4	5	6
Improving the recreational and landscape features of my forest	1	2	3	4	5	6
Other reason _____	1	2	3	4	5	6

Question 10

How much would you be ready to spend of your timber income in gaining certification for your woodlands (implementation and auditing)?

- Nothing at all _____
- 0 - 2 % of timber income _____
- 2 - 5 % of timber income _____
- 5 - 10 % of timber income _____
- Over 10 % of timber income _____

Question 11

How willing would you be for the following to occur in order to get your forests certified?

	Not at all willing				Very willing	
Formally commit yourself to change the management and use of your forests to the certification standard.	1	2	3	4	5	6
Allow the certifying body to inspect your forests and related documents	1	2	3	4	5	6
Make changes in the forest management and use of the forests when they are judged not to be up to standard in the audit.	1	2	3	4	5	6
Report in advance to the certifying body of actions undertaken in your forests (e.g. felling)	1	2	3	4	5	6
Allow inspection of your forest's ecological value prior to carrying out major operations (e.g. felling)	1	2	3	4	5	6

DRAWN FROM FSC NAT. STANDARDS FOR GB (2nd draft)**Question 12**

Would you be willing, in the management and use of your own forests, to:-

	Not at all willing				Very willing	
Follow the Forest Authority's guidelines and practice wherever applicable	1	2	3	4	5	6
Leave your forests unfertilised and use non-chemical weed and pest control whenever possible	1	2	3	4	5	6
Generally encourage mixed stands, native species and diversity of species where this does not unduly undermine management objectives and revenues.	1	2	3	4	5	6
Retain 10% of your forest undisturbed for 5-10 years when carrying major operations in the rest of the forest	1	2	3	4	5	6
Maintain 5 % of forests in an old age class	1	2	3	4	5	6
Minimise soil disturbance	1	2	3	4	5	6
Leave decaying trees in forests	1	2	3	4	5	6
Leave buffer zones around important biotypes	1	2	3	4	5	6
Set aside 3 % of your forests for permanent retention and non-intervention	1	2	3	4	5	6
Use local contractors where possible	1	2	3	4	5	6
Allow some public access to forests	1	2	3	4	5	6
Where forests occupy previous semi-natural habitats encourage change to that habitat over time (e.g . plantations on ancient woodlands site gradually converted to native local species)	1	2	3	4	5	6

Question 13

The actions in the last question (12) may reduce your income or further increase your costs. How much of your timber income would you be willing to spend to implement these actions?

- Nothing at all _____
- 0 - 2 % of timber income _____
- 2 - 5 % of timber income _____
- 5 - 10 % of timber income _____
- Over 10 % of timber income _____

Question 14

What are your present inclinations towards your forest's certification?

- I am ready and want to apply for my forest's certification _____
- I am interested in my forest's certification but wish to examine it further _____
- I am not interested in applying for my forest's certification at the moment _____
- I am never likely to want my forest's to be certified _____

Question 15

With whom would you most wish to negotiate the issues related to the certification of your forests? Please rank your top five choices (1= first choice, 2 = second choice, ...)

- A representative of an forest owners association _____
- A representative of a government organisation _____
- A representative of a private certifying company _____
- A representative of an industrial timber buyer _____
- A representative of an environmental organisation _____
- Other, _____

Question 16

When making decisions on whether or not to apply for forest certification, how important do you think it is that:-

	Not at all important			Very important		
Forest owners have participated in the designing of the timber certification system	1	2	3	4	5	6
The certification body is the one your prefer	1	2	3	4	5	6
You don't have to change your forest management much to get your forests certified	1	2	3	4	5	6
Other local owners have had their forests certified	1	2	3	4	5	6
You know that you are going to profit from having your forests certified	1	2	3	4	5	6
The certification of your forests does not require much time or paperwork from you	1	2	3	4	5	6
The cost of certification is met in part by a grant	1	2	3	4	5	6

Finally we would like the following information to put the answers given into the context of you and your forest holdings.

Question 17

What percentage price premium for certified timber over non-certified timber would you need to certify your forests?

- Nothing at all _____
- 0 - 2 % price premium _____
- 2 - 5 % price premium _____
- 5 - 10 % price premium _____
- 10 - 15 % price premium _____
- Over 15% price premium _____
- I would never certify my forests what ever the premium _____

Question 18

Are you a member of the FICGB Woodmark scheme yes _____ no _____

Question 19

What kind of forestry related qualifications do you have

- No forestry related qualification _____
- I have participated in forestry courses _____
- Forestry training related to agriculture, land or estate management _____
- Actual forestry qualifications
(e.g. diploma, degree, professional qualification [ICF]) _____

Question 20

How would you describe your current employment

- Salaried / Wage earner _____
- Agricultural / Forestry entrepreneur _____
- Other entrepreneur _____
- Retired _____
- Currently unemployed _____
- Other _____

Question 21

Your total forestry area is _____ ha _____ acres
 Of which _____ ha _____ acres is/will be commercially productive conifers
 Of which _____ ha _____ acres is/will be commercially productive broadleaves
 Your total agricultural area is _____ ha _____ acres

Question 22

Forest ownership

- I own the estate _____
- I have joint ownership of the estate _____
- The estate owned by an organisation not an individual _____
- I am employed to manage the forestry affairs of the estate _____

Question 23

Does your estate have a dedication or a 5 or 10 year plan of operations with the Forestry Authority?
 yes _____ no _____

Question 24

How large a proportion of your total income has on average come from your forests in the last five years?

I have lost money on my forests	___	11 - 20 %	___
Less than 1 %	___	21 - 40 %	___
1 - 5 %	___	over 40%	___
6 - 10 %	___		

Question 25

In what kind of area do you live?

Rural Area	___
Large Village / Town	___
City	___
I live near my woodlands	___
I live a long way from my woodlands	___

Question 26

Do you feel the questionnaire will represent your views? yes ___ no ___

The German Forest Expert Survey Questionnaire



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Fragebogen für Experten aus der deutschen Forstwirtschaft zu

**MARKTCHANCEN UMWELTVERTRÄGLICHER HOLZPRODUKTE UND
KENNZEICHNUNG VON HOLZ AUS NACHHALTIGER FORSTWIRTSCHAFT**

Schriftliche Befragung im Rahmen des Projektes: EU-FAIR-CT95-766

Professor Dr. M. Becker
FR Tobias Kühn

Dieser Fragebogen ist für eine schriftliche Befragung konzipiert. Sie können Ihre Meinungen und Bewertungen äußern, indem Sie **vorgegebene Antwortmöglichkeiten auswählen** oder **Skalenwerte ankreuzen**. In einigen Fällen werden Sie auch in einer offenen Fragestellung um **kurze schriftliche Angaben** gebeten. Das Ausfüllen des Fragebogens wird etwa 30 Minuten beanspruchen. Ihre ergänzenden Kommentare und Einschätzungen sind uns sehr erwünscht.

1. Rahmenbedingungen einer Kennzeichnung von Holz aus nachhaltiger Forstwirtschaft in Deutschland

Als Wissenschaftler verfolgen wir die Aktivitäten zur Kennzeichnung von Holz aus nachhaltiger Forstwirtschaft seit mehreren Jahren. Einige unserer Einschätzungen zu den Rahmenbedingungen der Kennzeichnung haben wir in den Fragen 1.1 bis 1.3 zusammengefaßt. Uns interessiert, inwieweit Fachleute aus der forstwirtschaftlichen Praxis diese Vorstellungen teilen oder ob sie zu anderen Einschätzungen gelangt sind.

1.1 Inlandsmärkte

Was meinen Sie zu folgenden Aussagen? (**Bitte kreuzen Sie Ihre Meinung in der Skala an!**)

	Stimme voll zu				Lehne voll ab	Weiß nicht
	1	2	3	4	5	6
1. Märkte mit Nachfrage nach besonders umweltverträglich gestalteten Holzprodukten (bezogen auf Rohstoff, Produktionsweise, Verwendung, Transport und Entsorgung/Re-cycling) sind in Deutschland langsam wachsende Nischenmärkte						
2. Holzprodukte mit Nachhaltigkeits-Kennzeichen werden am stärksten von Konsumenten nachgefragt werden, die insgesamt besonders umweltverträglich gestaltete Produkte wünschen						
3. Die Nachfrage nach Massivholzprodukten mit Nachhaltigkeits-Kennzeichen wird in Deutschland in den nächsten Jahren gering bleiben (Marktanteil unter 10%)						
4. Die Nachfrage nach Papierprodukten mit Nachhaltigkeits-Kennzeichen wird in Deutschland in den nächsten Jahren gering bleiben (Marktanteil unter 10%)						
5. Die Kennzeichnung umweltverträglicher Holzprodukte aus nachhaltiger Forstwirtschaft ist derzeit ein "Modethema" und wird in wenigen Jahren von anderen Themen verdrängt werden						

1.2 Außenhandel

Was meinen Sie zu folgenden Aussagen? (**Bitte kreuzen Sie Ihre Meinung in der Skala an!**)

	Stimme voll zu				Lehne voll ab	Wei nicht
	1	2	3	4	5	6
1. In den nchsten Jahren werden in Deutschland in schnell wachsendem Umfang Holzprodukte mit Nachhaltigkeits-Kennzeichen aus <i>Finnland</i> und <i>Schweden</i> angeboten werden						
2. In den nchsten Jahren werden in Deutschland in schnell wachsendem Umfang Holzprodukte mit Nachhaltigkeits-Kennzeichen aus <i>Kanada</i> angeboten werden						
3. In den nchsten Jahren werden in Deutschland in schnell wachsendem Umfang Holzprodukte mit Nachhaltigkeits-Kennzeichen aus <i>Tropenlndern</i> angeboten werden						
4. Aus <i>Finnland</i> und <i>Schweden</i> kommende Nachhaltigkeits-Kennzeichen werden nur beschrnktes Vertrauen inlndischer Nachfrager nach Holzprodukten finden						
5. Aus <i>Kanada</i> kommende Nachhaltigkeits-Kennzeichen werden nur beschrnktes Vertrauen inlndischer Nachfrager nach Holzprodukten finden						
6. Aus <i>Tropenlndern</i> kommende Nachhaltigkeits-Kennzeichen werden nur beschrnktes Vertrauen inlndischer Nachfrager nach Holzprodukten finden						
7. An den <i>westeuropischen Exportmrkten</i> fr Holzprodukte aus Deutschland werden Nachhaltigkeits-Kennzeichen in den nchsten Jahren Bedeutung gewinnen						

1.3 Perspektiven zertifizierter inländischer Forstbetriebe

Was meinen Sie zu folgenden Aussagen? (**Bitte kreuzen Sie Ihre Meinung in der Skala an!**)

	Stimme voll zu				Lehne voll ab		Wei nicht
	1	2	3	4	5	6	
1. Die Aussicht, da inlndische Forstbetriebe fr gekennzeichnetes Holz aus nachhaltiger Forstwirtschaft hhere Preise erhalten, ist gering							
2. Inlndische Forstbetriebe werden Preisvorteile fr gekennzeichnetes Holz aus nachhaltiger Forstwirtschaft am ehesten erreichen, wenn die Absatzketten vom Forstbetrieb bis zum Endverbraucher aus wenigen Gliedern bestehen							
3. Eine begrenzte Zahl inlndischer Forstbetriebe wird sich in den kommenden Jahren durch Zertifizierung von anderen in- und auslndischen Forstbetrieben abheben und dadurch besonders den <i>Stammholzabsatz</i> frdern knnen							
4. Eine begrenzte Zahl inlndischer Forstbetriebe wird sich in den kommenden Jahren durch Zertifizierung von anderen in- und auslndischen Forstbetrieben abheben und dadurch besonders den <i>Industrieholzabsatz</i> frdern knnen							
5. In Deutschland ist die Zertifizierung von Forstbetrieben nicht nur fr deren Holzabsatz von Interesse, sondern auch fr den Absatz von Dienstleistungen							

2. Eingesetzter Rohstoff als Faktor umweltverträglicher Produkte

Die Umweltverträglichkeit von Holzprodukten kommt durch verschiedene Faktoren zustande. Welchen Anteil haben nach ihrer Meinung die folgenden Faktoren an der Umweltverträglichkeit von Holzprodukten? (**Bitte in % angeben!**)

	%
Die Produktionsverfahren der Forstwirtschaft	
Die Produktionsverfahren der Holzwirtschaft	
Transporte (vom Rohstoff bis zum Endverbraucher)	
Entsorgungsmöglichkeiten und Recyclingfähigkeit	
	100

3. Ansätze der Kennzeichnung von Holz aus nachhaltiger Forstwirtschaft

Gegenwärtig werden in Deutschland drei Ansätze der Kennzeichnung von Holz aus nachhaltiger Forstwirtschaft verfolgt oder diskutiert:

(1) das vom DFWR eingeführte, vom Forstabsatzfonds verbreitete Herkunfts- oder Nachhaltigkeitszeichen für die gesamte inländische Forstwirtschaft auf der Grundlage der geltenden Waldgesetze (im folgenden kurz: **Herkunftszeichen**).

(2) die Überprüfung von Forstbetrieben auf nachhaltige Waldbewirtschaftung durch unabhängige Zertifizierer anhand festgelegter Kriterien und Indikatoren (im folgenden kurz: **FSC-Ansatz**)

(3) die Einführung von Umwelt-Management-Systemen in Forstbetrieben (im folgenden kurz: **ISO-Ansatz**)

Die Fragen 3.1 bis 3.6 beziehen sich auf diese drei Ansätze.

3.1 Zum Herkunftszeichen

Was meinen Sie zu folgenden Aussagen? (**Bitte kreuzen Sie Ihre Meinung in der Skala an!**)

	Stimme voll zu				Lehne voll ab		Wei nicht
	1	2	3	4	5	6	
1. Das Herkunftszeichen ist auch fr kleine Forstbetriebe unter 200 haH gut geeignet							
2. Das Herkunftszeichen ist fr Forstbetriebsgemeinschaften gut geeignet							
3. Das Herkunftszeichen kann mit national oder international vereinbarten Nachhaltigkeits-Kriterien kombiniert werden							
4. Das Herkunftszeichen reicht aus, um nachhaltige und umweltvertrgliche Forstwirtschaft zu garantieren							
5. Das Herkunftszeichen reicht aus, um alle Nachfrager nach Stammholz aus nachweislich nachhaltiger Forstwirtschaft zu berzeugen							
6. Das Herkunftszeichen reicht aus, um alle Nachfrager nach Industrieholz aus nachweislich nachhaltiger Forstwirtschaft zu berzeugen							
7. Das Herkunftszeichen wird international im Zusammenhang mit deutschen Holzexporten eine rasche Verbreitung haben							
8. Herkunftszeichen und die Zertifizierung von Forstbetrieben knnen in Deutschland nebeneinander bestehen							
9. Ein Herkunftszeichen sollte einheitlich innerhalb der EU vergeben werden							

3.2 Zum FSC-Ansatz

Zur Bewertung des auf internationaler Ebene festgelegten FSC-Ansatzes aus Sicht inländischer Waldbesitzer finden sich in der deutschen Fachpresse zahlreiche Hinweise. Die folgenden Aussagen greifen die wesentlichen Argumente auf. Uns interessieren Ihre Bewertungen entsprechend dem Stand der Diskussion in Deutschland.

Was meinen Sie zu folgenden Aussagen? **(Bitte kreuzen Sie Ihre Meinung in der Skala an!)**

	Stimme voll zu				Lehne voll ab	Weiß nicht
	1	2	3	4	5	
1. Der FSC-Ansatz ist auch für kleine Forstbetriebe unter 200 haH gut geeignet						
2. Der FSC-Ansatz ist für Forstbetriebsgemeinschaften gut geeignet						
3. Der FSC-Ansatz wird mehr Transparenz in interne Betriebsabläufe bringen und dadurch betriebswirtschaftliche Verbesserungen anregen						
4. Der FSC-Ansatz wird international eine rasche Verbreitung haben						
5. Der FSC-Ansatz bedingt einen starken Einfluß externer Organisationen auf zertifizierte Forstbetriebe						
6. Die Gründung einer FSC-Arbeitsgruppe in Deutschland im Oktober 1997 wird der Zertifizierung auf FSC-Basis in Deutschland zum Durchbruch verhelfen						
7. In der deutschen FSC-Arbeitsgruppe sind Anliegen der deutschen Forstwirtschaft bislang kaum vertreten						
8. Der FSC-Ansatz kann mit national oder international vereinbarten Nachhaltigkeits-Kriterien kombiniert werden						

3.3 Zum ISO-Ansatz

Was meinen Sie zu folgenden Aussagen? (**Bitte kreuzen Sie Ihre Meinung in der Skala an!**)

	Stimme voll zu				Lehne voll ab	Weiß nicht
	1	2	3	4	5	
1. Der ISO-Ansatz ist auch für kleine Forstbetriebe unter 200 haH gut geeignet						
2. Der ISO-Ansatz ist für Forstbetriebsgemeinschaften gut geeignet						
3. Der ISO-Ansatz wird mehr Transparenz in interne Betriebsabläufe bringen und dadurch betriebswirtschaftliche Verbesserungen anregen						
4. Der ISO-Ansatz für Forstbetriebe wird international eine rasche Verbreitung haben						
5. Der ISO-Ansatz bedingt einen starken Einfluß externer Organisationen auf zertifizierte Forstbetriebe						
6. Der ISO-Ansatz kann mit national oder international vereinbarten Nachhaltigkeits-Kriterien kombiniert werden						
7. In der Forstwirtschaft werden ISO - Managementsysteme (z.B. 9000 "Qualitätsmanagement" oder 14000 "Umweltmanagement") zunehmend eingesetzt. Entsprechende Managementsysteme in der Forstwirtschaft wären deshalb von Vorteil						

3.4 Welcher Ansatz setzt sich durch?

Welcher Ansatz oder welche Ansätze, nachhaltige Forstwirtschaft zu garantieren, werden sich in den nächsten drei Jahren in Deutschland durchsetzen? (**Sie können mehrere Möglichkeiten ankreuzen!**)

	Sehr wahr- scheinlich			Sehr unwahr- scheinlich		Weiß nicht
	1	2	3	4	5	6
1. Das Herkunftszeichen wird sich durchsetzen						
2. Der FSC-Ansatz wird sich durchsetzen						
3. Der ISO-Ansatz wird sich durchsetzen						
4. FSC und ISO werden sich kombiniert durchsetzen						
5. Ein auf der Ebene der EU entwickeltes System wird sich durchsetzen						

3.5 Wer beeinflusst die Nachfrage nach zertifiziertem Holz?

Wie stark wird die Nachfrage nach zertifiziertem Holz in Deutschland zukünftig durch folgende Interessenverbände und Marktteilnehmer beeinflusst werden? (**Bitte kreuzen Sie Ihre Meinung in der Skala an!**)

	Sehr stark			Gar nicht		Weiß nicht
	1	2	3	4	5	6
1. von Verbänden der Waldbesitzer						
2. von Umweltverbänden						
3. von Verbänden der Holz- und Papierwirtschaft						
4. von Verbraucherschutzverbänden						
5. von Unternehmen der Holz- und Papierwirtschaft						
6. von Forstbetrieben						

3.6 Gegenwärtiges Verhalten der Forstwirtschaft

Welche der beiden Optionen halten Sie für die inländischen Waldbesitzer gegenwärtig für am besten geeignet? (**Bitte nur eine Antwort ankreuzen!**)

a) Das Herkunftszeichen schützt die inländischen Waldbesitzer gegenwärtig hinreichend vor Marktnachteilen durch nationale und internationale Zertifizierungs-Anstrengungen. Weitere Maßnahmen sind nicht notwendig.	
b) Trotz des Herkunftszeichens sollten sich die inländischen Waldbesitzer und ihre Interessenvertretungen an der Entwicklung von Ansätzen zur Zertifizierung von Holz aus nachhaltiger Forstwirtschaft aktiv beteiligen.	

Falls die Variante b) angekreuzt wurde: Bei welchen Ansätzen sollten sich die Interessenvertretungen der Waldbesitzer beteiligen? (**Sie können mehrere Möglichkeiten ankreuzen!**)

an der Entwicklung des FSC-Ansatzes	
an der Entwicklung des ISO-Ansatzes	
an der Entwicklung eines EU-einheitlichen Kennzeichnungssystems	
an der Entwicklung eines anderen Kennzeichnungs-Ansatzes	

Kommentare dazu bitte hier eintragen!

4. Zertifizierung deutscher Forstbetriebe

Vor- und Nachteile der Zertifizierung werden in der deutschen Forstwirtschaft intensiv diskutiert. Als mögliche Vorteile gelten z.B. die bessere Behauptung im nationalen und internationalen Wettbewerb oder Anreize zur Verbesserung innerbetrieblicher Strukturen durch einen Zertifizierer, der "von außen" den Betrieb begutachtet. Als mögliche Nachteile werden z.B. hohe Kosten, der starke Einfluß von Umweltverbänden auf betriebliche Entscheidungen oder eine schwierige Umsetzung bei kleinen Forstbetrieben genannt.

4.1 Wie stehen Sie grundsätzlich zur Zertifizierung deutscher Forstbetriebe? (Bitte nur eine Antwort ankreuzen!)

Ich lehne eine Zertifizierung von Forstbetrieben in Deutschland grundsätzlich ab	
Ich befürworte eine Zertifizierung von Forstbetrieben in Deutschland grundsätzlich	
Dazu habe ich noch keine abgeschlossene Meinung	

4.2 Kosten der Zertifizierung

Oft wird geäußert, daß Zertifizierung nur bei niedrigen Kosten umsetzbar sei. Welchen Betrag pro Hektar Holzbodenfläche halten Sie für eine Erstzertifizierung sowie für eine periodische Kontrolle für akzeptabel? (**Bitte in DM/haH für "1" und "2" getrennt angeben oder ankreuzen!**)

	Erstzertifizierung	Jährliche Kontrolle
	1	2
1. Akzeptabel sind:	DM	DM
2. Dazu ist keine Aussage möglich		

Kommentare dazu bitte hier einfügen!

4.3 Regeln für die Waldbewirtschaftung

Die Zertifizierung eines Forstbetriebes setzt die Einhaltung von Regeln für die Waldbewirtschaftung voraus. Dies gilt insbesondere für den FSC-Ansatz. Welche Regeln halten Sie für deutsche Forstbetriebe für akzeptabel?

(Bitte kreuzen Sie Ihre Meinung in der Skala an!)

	Voll akzeptabel				Gar nicht akzeptabel	
	1	2	3	4	5	6
1. Verzicht auf alle Pestizide (z.B. gegen "Borkenkäfer" und "Unkräuter")						
2. Mischbestände aus standortsheimischen Baumarten werden angestrebt						
3. Bei Schattbaumarten sind lange Verjüngungszeiträume (> 30 Jahre) die Regel						
4. Naturverjüngung der standortsheimischen Baumarten ist das Standardverfahren						
5. Bei Saat, Wiederaufforstung und Ergänzungen sind nur standortsheimische Baumarten zulässig						
6. Zur Schonung des Bodens wird auf flächige Befahrung bei der Holzernte verzichtet und statt dessen ein dauerhaftes System von Maschinenwegen/Rückegassen/Seiltrassen eingerichtet						
7. Auf den Einsatz von Großmaschinen (z.B. Vollernter) wird bei der Holzernte verzichtet						
8. Ein Totholzanteil (ca. 5% des Holzvorrates, liegend und stehend) bleibt erhalten						
9. Um wichtige Biotop werden Pufferzonen ausgeschieden						
10. Ein Teil des Waldes bleibt sich selbst überlassen (Nutzungsverzicht auf ca. 5-10% der Holzbodenfläche)						
11. Auf Kahlschläge wird verzichtet (Kahlschlag = Fläche, deren Seitenlänge die Baumlänge des Altholzes übersteigt)						

4.4 Erwartungen an die Zertifizierung

Welche Erwartungen verbinden Sie mit einer Zertifizierung deutscher Forstbetriebe?
(Bitte kreuzen Sie Ihre Meinung in der Skala an!)

	Trifft voll zu				Trifft gar nicht zu		Weiß nicht
	1	2	3	4	5	6	
1. Die Zertifizierung fördert die ökologische Vielfalt an Baumarten, Pflanzen und Tieren im Wald							
2. Naturschutzziele können im Wald besser erreicht werden							
3. Die Zertifizierung bringt Vorteile für die innerbetriebliche Organisation							
4. Die Zertifizierung sichert den Absatz der Forstbetriebe							
5. Holzkäufer sind bereit, für Holz aus zertifizierten Forstbetrieben mehr zu bezahlen							
6. Die Zertifizierung lohnt sich, weil die Kosten der Zertifizierung durch höhere Holzpreise mehr als ausgeglichen werden							
7. Die Nachfrage nach zertifiziertem Holz wird zunehmen							
8. Zertifizierung stärkt an Inlandsmärkten die Wettbewerbsposition deutscher Holzzeugnisse gegenüber importierten Holzzeugnissen							
9. Zertifizierung stärkt die Wettbewerbsfähigkeit beim Export deutscher Holzzeugnisse							
10. Andere Erwartungen, welche?							

4.5 Nachfrage nach gekennzeichnetem Holz aus nachhaltiger Forstwirtschaft

Aus welchen endverbrauchsnahe Branchen der Holz- und Papierwirtschaft wird sich nach Ihrer Einschätzung in den nächsten 5 Jahren für inländische Forstbetriebe spürbare Nachfrage nach gekennzeichnetem Holz aus nachhaltiger Forstwirtschaft entwickeln?

(Bitte ankreuzen!)

Möbelindustrie	<input type="checkbox"/>
Fertighausindustrie	<input type="checkbox"/>
Zimmerer- und Holzbaugewerbe	<input type="checkbox"/>
Tischlerhandwerk	<input type="checkbox"/>
Zeitschriften- und Zeitungsverlage	<input type="checkbox"/>
Hersteller von Papier- und Pappeverpackungen	<input type="checkbox"/>
Hersteller von Holzpackmitteln und Paletten	<input type="checkbox"/>
Holzfachhandel mit Endverbraucherundschaft	<input type="checkbox"/>
Bau- und Heimwerkermärkte	<input type="checkbox"/>

Andere, nicht genannte
Branchen? _____

4.6 Erlöse für zertifiziertes Rundholz

Erwarten Sie für zertifiziertes Rundholz höhere, niedrigere oder unveränderte Erlöse? **(Bitte nur eine Antwort ankreuzen!)**

Ich erwarte höhere Erlöse	<input type="checkbox"/>
Ich erwarte niedrigere Erlöse	<input type="checkbox"/>
Ich erwarte keine Veränderung bei den Erlösen	<input type="checkbox"/>

Falls Sie höhere oder niedrigere Erlöse erwarten, welche Veränderungen erwarten Sie proEfm? **Bitte in DM/EFm für "1" und "2" getrennt angeben!**

Industrieholz	Stammholz
1	2
+/-DM	+/-DM

Kommentare dazu bitte hier einfügen!

5. Demografische Angaben

Zum Abschluß bitten wir Sie um einige Daten zu Ihrer Person sowie zu Ihrer Organisation:

Zur Person:

- Ihre
Ausbildung: _____

- Ihre Altersgruppe: (bitte ankreuzen!)

21 – 30	<input type="checkbox"/>
31 – 40	<input type="checkbox"/>
41 – 50	<input type="checkbox"/>
51 – 60	<input type="checkbox"/>
> 60	<input type="checkbox"/>

- Ihre berufliche
Position: _____

Falls Sie Betriebsleiter/ Eigentümer eines Forstbetriebes sind:

Körperschaftswald Privatwald **(Bitte ankreuzen!)**

Holzbodenfläche des Forstbetriebes in
ha: _____

Vermarktbare Menge
Holz/Jahr: _____

Falls Sie Mitarbeiter einer Landwirtschaftskammer sind:

Holzbodenfläche der betreuten Forstbetriebe in ha:
(ca.) _____

Vermarktbare Menge Holz/Jahr:
(ca.) _____

Falls Sie Mitarbeiter einer Landesforstverwaltung sind:

Holzbodenfläche des staatlichen Forstbetriebes in
ha: _____

Vermarktbare Menge
Holz/Jahr: _____

Falls Sie Repräsentant eines forstwirtschaftlichen Verbandes sind:

Mitgliederzahl: _____

Ggf. Waldfläche der
Mitgliedsbetriebe: _____

(Bitte ankreuzen!)

Bundesverband	<input type="checkbox"/>
Regionalverband	<input type="checkbox"/>

Vertretung körperschaftlichen Waldbesitzes	<input type="checkbox"/>
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Vertretung privaten Waldbesitzes	<input type="checkbox"/>
----------------------------------	--------------------------

Vertretung mehrerer Waldbesitzarten	<input type="checkbox"/>
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The Industry and Trade Survey Questionnaire



UNIVERSITY OF HELSINKI
DEPARTMENT OF FOREST ECONOMICS



UNIVERSITÄT FREIBURG, INSTITUT FÜR
FORSTPOLITIK, ARBEITSBEREICH MARKT
UND MARKETING



UNIVERSITY COLLEGE OF NORTH WALES
SCHOOL OF AGRICULTURAL AND FOREST
SCIENCES

Policy Analysis of Timber Certification as a Market-based Instrument of Forest Policy to Promote Sustainable Multifunctional Management of Forests

- Shared Cost Project financed by European Commission: FAIR - CT95 - 766

Forestry-wood Chain Survey

ATTITUDES AND NEEDS OF FORESTRY-WOOD CHAIN TOWARDS TIMBER
CERTIFICATION

QUESTIONNAIRE

Question 1

What are your most important product categories (in terms of wood use volume)?

1. _____
2. _____
3. _____
4. _____

Question 2

Over the course of time perceptions of company's social responsibilities have evolved. What is your opinion about the following statements concerning social responsibility?

	Completely disagree			Completely agree		
The free market system will take care of global environmental problems with no governmental interference	1	2	3	4	5	6
The sole function of marketing is to determine and satisfy the needs of consumers	1	2	3	4	5	6
Adequate social responsibility for company executives is to maintain a profitable business	1	2	3	4	5	6
Companies should redirect their customers towards less environmentally harmful consumption	1	2	3	4	5	6
To operate in a socially responsible way, companies only need to obey laws and regulations.	1	2	3	4	5	6
Companies should use marketing tools to redirect customer behaviour towards environmentally sustainable consumption	1	2	3	4	5	6
In decision making the company profits will carry a heavier weighting than environmental friendliness	1	2	3	4	5	6
Governments must balance environmental and economic values by policies which regulate markets	1	2	3	4	5	6
Environmentally friendly products are a necessity in the future and the price will include the associated costs	1	2	3	4	5	6

Question 3

How desirable do you consider the following measures are in influencing the quality of the environment?

	Not at all desirable			Very desirable		
	1	2	3	4	5	6
Industry competition based on environmentally friendly products	1	2	3	4	5	6
Consumer boycotts	1	2	3	4	5	6
Pressure on industry and trade by environmental groups	1	2	3	4	5	6
Government regulations	1	2	3	4	5	6
Consumer demands for environmentally friendly products	1	2	3	4	5	6
Taxes on products and processes that burden the environment	1	2	3	4	5	6
Developing standards and eco-labels for environmentally friendly products	1	2	3	4	5	6

Question 4

In your opinion, how will the following phenomena develop over time?

	Decreases/ weakens		Remains unchanged		Increases/ strengthens		No idea
	1	2	3	4	5	6	
The public's demand for environmentally friendly products	1	2	3	4	5	6	
Consumers' environmentally friendly life-style	1	2	3	4	5	6	
Supply of environmentally friendly products	1	2	3	4	5	6	
Environmental standards set by society	1	2	3	4	5	6	
Your customers' demands for environmentally friendly products	1	2	3	4	5	6	
Influence of environmental groups on the market	1	2	3	4	5	6	
Genuine consumer concern for the environment	1	2	3	4	5	6	
Competition based on the environmental strengths of companies	1	2	3	4	5	6	
Customers' willingness to pay higher prices for environmentally friendly products	1	2	3	4	5	6	

Question 5

In your strategic product decisions, how much is the environmental friendliness (EF) of the product emphasized?

No emphasis at all	1	2	3	4	5	EF most emphasized product characteristic
--------------------	---	---	---	---	---	---

Question 6

How important are the following four phases of a product's life to the *overall environmental friendliness* of your main product (by wood use volume)?

(Please divide 100 points among the following alternatives.)

Raw materials used (good forest management etc.)	_____
Production technologies (energy, emissions, recycled content etc.)	_____
Consumption of product (safety, recyclability, efficient packaging etc.)	_____
Transport during the product's whole life	_____
Total	100

Question 7

Do you think that a widely used timber certification system for good forest management is needed?

Absolutely not	1	2	3	4	5	Definitely yes
----------------	---	---	---	---	---	----------------

Question 8

a) If a timber certification system were introduced in the near future would it support your strategic product decisions?

Would not support at all	1	2	3	4	5	Would support fully
--------------------------	---	---	---	---	---	---------------------

b) Would you please explain how? _____

Question 9

a) When selecting your most important customer group(s) how important is their level of environmental awareness in your decision making?

Not important at all	1	2	3	4	5	Very important
----------------------	---	---	---	---	---	----------------

b) How does your main customer group(s) rate the importance of the following factors in buying their wood products? Please divide 100 points between the factors

Price	_____
Quality	_____
Delivery (time/reliability)	_____
Specification	_____
Environmentally friendliness of the products	_____
Others, which? _____	_____
Total = 100	

c) How environmentally aware are your most important customer group(s)?

Not aware at all	1	2	3	4	5	Very aware
------------------	---	---	---	---	---	------------

Question 10

If a timber certification system were introduced in the near future, how important would your most important customer group(s) find the certification system?

No idea (___)

Not important at all	1	2	3	4	5	Very important
----------------------	---	---	---	---	---	----------------

Question 11

If a timber certification system were introduced in the near future, how strong an impact would it have in deciding on the suppliers of your raw materials and products?

No impact at all	1	2	3	4	5	Strong impact
------------------	---	---	---	---	---	---------------

Question 12

How important is environmental friendliness when planning the competitive emphasis for your most important products and markets?

EF not important at all	1	2	3	4	5	EF very important
-------------------------	---	---	---	---	---	-------------------

Question 13

In your opinion, could good forest management be regarded as a source of competitive advantage (Please consider your most important products and markets)?

Absolutely not	1	2	3	4	5	Definitely yes
----------------	---	---	---	---	---	----------------

Question 14

If a timber certification system were introduced in the near future, would you try to use the certified raw material as a source of competitive advantage? (Please consider your most important products and markets.)

Absolutely not	1	2	3	4	5	Definitely yes
----------------	---	---	---	---	---	----------------

Question 15

How strong an impact have environmental issues had in the following aspects of your marketing and business management?

	No impact at all		Strong impact		
Values and philosophy of management	1	2	3	4	5
Personnel recruitment and training	1	2	3	4	5
Planning and information systems (type of information used etc.)	1	2	3	4	5
Distribution channels	1	2	3	4	5

Question 16

Which of the following are used in your company?

	Used	Under planning	No plans
Company environmental policy statement	1	2	3
ISO 9000 / BS 5750 Quality Management System	1	2	3
ISO 14000 / BS 7750 Environmental Management System	1	2	3
EMAS (EU Eco Management and Audit Scheme)	1	2	3
Other Environmental Management System (EMS) than above (which?)	1	2	3

Question 17

How often does your company / business unit practice the following procedures?

	Never	Occas- ionally	Often	Always
Consider environmental concerns in strategic planning	1	2	3	4
Carry out customer surveys for marketing plans	1	2	3	4
Examine environmental information in business decision making	1	2	3	4
Invite input from environmental groups when making environmental business decisions	1	2	3	4

Question 18

What impact have environmental issues had on the following? (Please consider your most important products and customer group(s))?

	No impact at all			Strong impact	
Advertising and communication campaigns	1	2	3	4	5
Personal contacts/selling	1	2	3	4	5

Question 19

If a timber certification system were introduced in the near future, would you try to use it in your advertising?

Definitely not	1	2	3	4	5	Definitely yes
----------------	---	---	---	---	---	----------------

Question 20

Does your company have an interest in redirecting consumers' needs and wants towards...

	No interest at all			Strong interest	
a) less consumption	1	2	3	4	5
b) less environmentally harmful consumption	1	2	3	4	5

Question 21

Up to now how strong an impact have environmental issues had on the pricing of your products (e.g. green premium)? (Please consider the most important products and customer group(s))

No impact at all	1	2	3	4	5	Strong impact
------------------	---	---	---	---	---	---------------

Question 22

If a timber certification system were introduced in the near future, how would you expect it to influence the pricing of products?

	Completely disagree			Completely agree		
1. Certification is a part of an environmentally friendly product which leads to a price premium for that product	1	2	3	4	5	6
2. Environmental friendliness can convert a commodity/ordinary product into a special product and that is reflected in the price	1	2	3	4	5	6
3. It is not possible to get higher prices for environmentally friendly products	1	2	3	4	5	6

Question 23

a) What percentage price rise do you expect to have to pay for certified products you purchase? (Please answer for your most important source of certified timber)

1. 0 %
2. 1- 5 %
3. 6-10 %
4. 11-15 %
5. 16-20 %
6. above 20%
7. It is not relevant to define the share of timber certification in the price / Impossible to say

b) How far will you be able to pass on these cost increases on to your customers in the price you charge?

1. Not at all
2. Up to 50% of the cost increase
3. 50% - 100% of the cost increase
4. Over 100% of the cost increase
5. Impossible to say

Question 24

If a timber certification system were introduced in the near future it will mean that certified products will need to be segregated from non-certified products down the whole supply chain.

Do you think this would be possible?

	Totally impossible			Easily achieved	
Segregation would be	1	2	3	4	5

How would this effect your costs?

	Hardly noticeably			Very substantially	
The cost increase would be	1	2	3	4	5

Question 25

What is your opinion about the need for timber certification?

	Completely disagree			Completely agree		
Our company would benefit from the existence of a credible certification system	1	2	3	4	5	6
The majority of our customers would be prepared to pay a higher price for certified products	1	2	3	4	5	6
For our purposes a mark of origin is enough to guarantee good forest management	1	2	3	4	5	6
Demands for certification are mainly created by environmental groups	1	2	3	4	5	6
The majority of consumers pay no attention to the origin of timber	1	2	3	4	5	6
Industry will only use certified wood if the consumer pays a higher price for the product	1	2	3	4	5	6
Timber certification will enhance the competitive-ness of wood products over other materials	1	2	3	4	5	6
Timber certification is needed to respond to the criticism of the forest industry by environmental groups	1	2	3	4	5	6
Timber certification will be relevant only for eco- market-niches, not for forest products in general	1	2	3	4	5	6

Question 26

Planning and implementation of certification requires expertise, credibility and representation of various interests. What influence do you think the following should have in implementing certification? (Please divide 100 points among the following alternatives.)

Environmental groups	_____
Scientists	_____
Forest industry	_____
Forest owners	_____
Forestry and environmental authorities	_____
Consumer organizations	_____
Others, which? _____	_____
	Total = 100

Question 27

Assume a timber certification system were introduced in the near future. How important would the following aspects be to your company?

	Not at all important				Very important	
Your company can be seen to be promoting and implementing good forest management	1	2	3	4	5	6
Your company can gain competitive advantage through certified forest products	1	2	3	4	5	6
Your company can offer customers products from well managed forests	1	2	3	4	5	6
Your company can respond to criticism by environmental groups concerning the origin of the wood products you sell	1	2	3	4	5	6
Your company can use certification as a marketing tool (e.g. in advertising)	1	2	3	4	5	6
Your company can improve its present environmental management performance	1	2	3	4	5	6
Your company can secure its raw material resources	1	2	3	4	5	6

Question 28

In international trade a functional certification system must be international. If an international certification system were introduced what kind of international governing body (coordinating the task) would you prefer? (1 = first choice, 2 = second choice ...)

An organization strongly supported by international environmental and citizens' organizations (e.g. FSC)

An intergovernmental organization (e.g. EU)

International standards organization (e.g. ISO)

Any other body, please name: _____

Question 29

Assume that timber certification becomes widely used in the marketing of forest products. Which of the following alternatives would 1) your company and 2) consumers (the general public) have most confidence in / prefer to audit forest management? (Please again rank in order of preference.)

	1) Your company	2) Consumers
Private certifying company	()	()
Certifying organization supported by environmental organizations	()	()
Governmental organization	()	()
Certifying organization of the forest industry	()	()
Certifying organization affiliated with universities and /or research institutes	()	()

Question 30

A general requirement of timber certification is that timber will only be certified if it comes from sustainably managed forests. Definitions of sustainable forest management include the following criteria. How would you value the importance out of 100 of each criterion for your wood based products?

Maintaining and enhancing wood production potential	_____
Maintaining and enhancing biodiversity of nature	_____
Maintaining and enhancing the protective role of the forests against erosion and in the supply of water	_____
Maintaining and enhancing landscape and recreational values	_____
Maintaining local people's forest-based means of livelihood	_____
Other, please state _____	_____
_____	_____

Total = 100

Question 31

Which of the following statements best describes your current situation concerning the use of certified wood or wood based products? (Choose only one alternative, please)

1. We have made decision and work is under way to use only certified wood products by the year 2000 ()
2. We have made decision and work is under way to use mainly certified wood products by the year 2000 ()
3. We intend to at least try using certified wood products but we do not expect them to play a major role in our future buying over the next 5 years ()
4. We are considering whether using certified wood products suits our business ()
5. We do not think that we shall have any need to use certified wood products in the near future ()

Question 32

Have your customers shown any interest in certified products?

No interest at all	1	2	3	4	5	Strong interest
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Question 33

Assume there was an increasing supply of reasonably priced certified timber / wood products in the near future. What % of your timber purchases would certified wood products account for?

Can't say / don't know

- | | | |
|-------------------|--------|-----|
| First year | _____% | () |
| After second year | _____% | () |
| After fifth year | _____% | () |

Question 34

Please give the following information about your company / business unit.

Name of the company _____

Name of the respondent _____

Position in the company _____

Location _____

Number of employees _____

Industry sector _____

Annual consumption of timber/wood product: Vol. m³/tonnes _____ Cost: £ _____

Percentage of wood purchases that have been certified _____%
under _____ certification scheme

Does your company belong to, or intend to join, any of the following certification schemes?

Timber Trades Federation / Forests Forever ()

FICGB Woodmark ()

WWF 1995+ Group ()

Any other? If so which one? _____

Annual production / turnover: Vol. m³/tonnes _____ Sales: £ _____

Total export share _____%

Origin of wood raw material:

a) Home grown _____%

b) Nordic Countries (Finland, Norway, Sweden) _____%

c) Other EU countries _____%

d) Eastern Europe _____%

e) American boreal/temperate _____%

f) Tropical _____%

g) Origin is not known _____%

Main market areas _____

Most important customer groups _____

Any thing the questionnaire has missed or should have asked?

Do you feel the questionnaire will represent your views reasonably well?

yes	no
-----	----

Would your company like to be acknowledged in the report for its help in providing answers to the questionnaire?

yes	no
-----	----

Would you like a summary report of the conclusion and results of this survey?

yes	no
-----	----

Thank you for your time and effort in filling out this questionnaire.

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