Investing in tomorrow's forests

Authors Rachel Crossley and Jonathan Points
Contributing authors Kirsti Thornber and Frank Dixon
Editor Jonathan Hollow

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Foreword

For more than 30 years WWF has been tackling the root causes of the destruction of the world's forests – on the ground, with policy-makers, and more recently with business.

WWF's Forests for Life Campaign, launched in October 1995 as a response to these problems, has two main targets. The first is to establish an ecologically representative network of legally protected areas covering at least 10% of the world's forests by the year 2000. The second – which was reached in June 1998, six months ahead of schedule – was to see independent certification of at least ten million hectares of well-managed forest, based on sound social, ecological and economic criteria. This second target has subsequently been revised upwards to 25 million hectares by 2001.

The instrument that enabled the second target to be reached was Forest Stewardship Council (FSC)-based certification, the subject of this report. Its success gives WWF confidence that there is now a viable market-based system which gives participating companies a 'right to operate' through high forest management standards and is capable of generating for them gains in market share, premium prices and enhanced reputation. Rapid progress in FSC-based certification is being assisted by the recent World Bank announcement of its support for, and advocacy of, independent certification.

WWF is therefore launching the 'Global Forestry and Finance Initiative' in September 1998 with two aims in mind. First, the initiative will inform investors about recent efforts to raise forest management standards, which seek to ensure healthy forests for future generations. And second, it will show how companies adopting high standards of forest management practice can gain commercial advantage.

Environmental management has become an increasingly important element of business and industry strategy in recent years, and is likely to play an even more significant role in the future. Not only does it offer the potential to reduce business risk, it also offers opportunities for procuring other benefits such as selling new environmentally friendly products, more efficient use of resources and therefore lower production costs, better corporate image and relations with regulators and outside parties, and attracting new customers and increasing market share.

For investors in a sector in which stock market performance has generally been poor, this report should be of particular interest. It details both financial and environmental performance of the forest products industry and concludes that companies following rigorous standards of forest management are well placed to grow their business and generate positive results for investors.

I recommend that investment managers consider the report carefully, and incorporate its findings into their investment criteria.

Dr Claude Martin, Director General, WWF International
Gland, 27 August 1998

1 Environmental performance: risk and opportunity

Summary

In recent years some forest products companies have suffered considerable losses after media exposure of poor environmental management. International environmental disasters such as Exxon Valdez underline the fact that the environment can be a liability for investors. However, it is also an opportunity: good environmental management can bring about gains in productivity, market share, better business relationships and lower costs of capital. When Innovest's environmental analysis was applied to 300 'Fortune 500' companies, it showed the highest-rated companies out-performed their competitors by as much as 5%. Other studies have confirmed the relationship between good environmental performance and profitability. Many investment managers claim that fiduciary duty restricts them from incorporating considerations such as environmental performance into their investment decisions. But in view of the liability *and* opportunity the environment creates, it increasingly seems that fiduciary duty could require assessment of companies' environmental management. If so, simple ways of analysing environmental performance are needed. Some suitable methodologies are emerging, and this report points to the existence of a very simple and effective method in the forest products sector.

1.1 Risks for the forest products industry

In May 1998, the forest product company Louisiana-Pacific was fined US $37 million for a wide range of fraudulent and criminal practices, which included US $5 million for violations of the Clean Air Act – the largest such penalty ever imposed. When the court case was announced three years ago, the company's stock price fell by 20%. The company was also forced to take a US13c per share after-tax charge against second-quarter earnings.[1]

MacMillan Bloedel is one of Canada's largest forest product companies with 1997 sales of $4.5 billion. Recently, several large US and European companies cancelled or reduced orders of forest products from MacMillan Bloedel due to the company's forestry practices in British Columbia. Feeling the pressure as a result of its controversial forest management practices, MacMillan Bloedel announced in June 1998 that it would make major changes in forest management practices to satisfy its critics.

These cases are part of a growing phenomenon, showing that forest product companies face real dangers if they manage forests in a way that is widely considered environmentally unsound. Pressure from legal judgments, consumers and environmental campaigners can affect sales, profits and therefore shareholders' investments.

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1 'Louisiana Pacific fined $37 million', *Wall Street Journal*, 28 May 1998.

All publicly quoted companies are vulnerable to pressure concerning environmental performance, but forest product companies have special problems of their own. By the very nature of their business they are tied to forests, which in turn are closely linked with local communities. Local communities and governments can challenge or even withdraw the company's right to operate, be it moral or legal. Communities can, through consumer boycotts and campaigning, remove the moral right to operate; and governments, through regulation and withdrawal of forestry concessions, can remove the legal right. As well as the right to operate, access to markets is a crucial aspect of a forest product company's successful performance. Consumer pressure and environmental campaigning can also damage this access.

Noting these pressures, and notorious disasters such as the Bhopal incident and the Exxon Valdez spillage, the investment community tends to view the environment above all as a liability.

However, there are clear reasons why the standards of companies' environmental management represent not just a potential liability, but also a business opportunity.

1.2 Environment as a business opportunity

Some industries have been faster than others in recognising the potential benefits of good environmental management, and the forest products industry has arguably been slower than most. Still, many companies have recognised that by incorporating high standards of environmental management, businesses can benefit from the following:

1. **lower costs and higher profits** due to more efficient use of resources, which has a reduced impact on the environment – that is, 'eco-efficiency'
2. **market share gains, quality improvements or premium prices** through product differentiation
3. a **better reputation**, which, in an increasingly brand-conscious world, adds to the value of a business
4. **better relationships** with regulators and local communities, reducing the amount of management time devoted to disputes
5. **lower insurance costs and lower cost of capital** thanks to reduced environmental risk.

Despite the emerging evidence for these types of benefits, financial analysts often view money spent on environmental management as a cost, not a productive investment.

1.3 'Liability' – the prevailing view

Linda Descano, Vice President of Environmental Affairs at Salomon Smith Barney in New York, and Professor Brad Gentry of Yale University have carried out a review of surveys that chart the

investment community's attitudes to the environment.[2] They summarise their findings succinctly in six points:

'*1. The prevailing view within the analytical community is that the environment represents a liability.*

2. Corporate spending on contaminated land clean-ups, litigation and compliance are considered the most influential environmental factors affecting financial performance.

3. A company's history of spills, violations and accidents are viewed as an indicator of management performance.

4. "Beyond compliance" environmental practices, such as pollution prevention and energy efficiency receive limited attention in the valuation process. But while many analysts acknowledge that such practices have the potential to add competitive advantage, *corporate spending for such projects is typically viewed as a "lost cost" rather than a productive investment.*

5. The business rationale for, and expected outcomes (in terms of revenues, competitiveness and similar commercial impacts) of, corporate environmental practices are typically not discussed by companies in their meetings with the analytical community. Consequently analysts have a limited understanding of the immediate and long-term financial implications of such practices.

6. Environmental issues are generally low on the agenda of investment clients, who typically view the environment as a non-financial issue. This further depresses the priority of environmental factors in the assessment process.'

As a result, the great majority of investment managers have not integrated analysis of environmental performance into their decision making. Yet as section 1.1 shows, poor environmental performance can have significant financial impact – and section 1.2 indicates that there are potential advantages to be gained from good environmental performance.

1.4 Obstacles to integration of environmental information into investment decisions

Any investment manager who wants to integrate environmental information into their analysis of financial performance faces two major obstacles:

1 there are major **practical difficulties**. When it is done at all, corporate environmental reporting is usually carried out inconsistently, which makes comparison between companies difficult. So investigating a company's performance in this field can be an uphill struggle

2 investment managers need **good evidence** that good environmental performance is likely to improve profitability to back up the deductive reasoning outlined in section 1.2.

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[2] 'Communicating environmental performance to the capital markets', Linda Descano and Bradford Gentry, *Corporate Environmental Strategy*, Volume 5, Number 3, 1998. See also *Environmental Reporting: What the City Should Ask*, Advisory Committee on Business and the Environment (supported by the British Government's Department of the Environment and Department of Trade and Industry), 1994; *Valuing the Environment: How Fortune 500 CFOs and Analysts Measure Corporate Performance*, Bradford Gentry and Lisa Fernandez, Yale University/UNDP, 1997; *Global Survey on Environmental Policies and Practices of the Financial Services Industry:* The Private Sector, John Ganzi and Julie Tanner, National Wildlife Federation, 1997; *Banking on the Future, A Survey of Implementation of the UNEP Statement by Banks on Environment and Sustainable Development*, Julie Hill, Doreen Fedrigo and Ingrid Marshall, The Green Alliance (UK), 1997.

1.5 Consistency and compatibility

There is nothing unusual about investors taking decisions with less than complete information about companies' financial performance; indeed, one of a good investor's skills is to give a better interpretation of imperfect information. Nevertheless, financial information is usually produced in a standard form that allows direct comparisons. By contrast, it is hard to convince a critical mass of investors that they should work with imperfect information about environmental performance – and this is partly because the data are not yet sufficiently relevant and standardised to capture their interest.

Most investors view corporate environmental reports (CERs) as long, mostly qualitative documents, which do little to show how a company's environmental spending or performance has improved its profitability. The reports are not sufficiently standardised to allow comparison between companies. Most companies have generally aimed these reports at customers and the public, rather than investors. This is not surprising, since the business practice of environmental reporting has only begun in earnest over the last four or five years, and systematic analysis of company performance from such reports is an even more recent development. By contrast, the annual financial report is a well-established framework for key financial data.

Groups such as The Coalition for Environmentally Responsible Economies in the US, and SustainAbility, a UK consulting firm, are working towards the goal of developing standardised CER formats. Then, perhaps, companies could be encouraged to highlight the links between environmental and financial performance in their CERs.

A number of institutions are developing systems of 'green accounting' so that companies and governments can monitor environmental investment and benefits. These include the World Resources Institute in Washington DC, and the Centre for Social and Environmental Accounting Research at Dundee University, Scotland.

To advance the banking and investment community's understanding and involvement in environmental issues, the United Nations Environment Program's Financial Institutions' Initiative (UNEP-FII) was established in 1996. It has developed a Charter now signed by 111 banking industry signatories, and more than 70 from the insurance sector worldwide. UNEP's literature outlines its approach:

> *'UNEP is working with the banking industry to try to promote greater awareness of environmental issues in the business sector and to encourage sound environmental management ... UNEP is convinced that the banking and investment sectors can make many valuable positive contributions to achieving sustainable development while also achieving a healthy bottom line.'*

The initiative has helped to move the debate beyond financial organisations' own recycling policies, and risk issues in real estate, to more substantive and far-reaching issues such as climate change, eco-efficiency and linking the environment with financial reporting. Further, discussion has progressed from liability and risk issues to the investment potential of the environment.[3]

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3 *Tomorrow*, January–February 1998.

These moves are likely to improve the quality of CERs in coming years. At the same time, rating systems are emerging that help investment managers to assess risk.

Innovest, a Toronto-based investment consultancy has been developing an analysis tool called EcoRisc '21. The analysis assigns to a company a 'green rating' (like a green Moody's) from AAA to C. The rating predicts the company's likely environmental performance in view of its environmental liabilities, operating risk exposures, environmental management strength and eco-efficiency. According to Innovest, when this analysis was applied to the performance history of over 300 'Fortune 500' companies, it showed the highest-rated companies outperformed their competitors by as much as 5% and often in the range of 2–3%. This, Innovest claims, is because there is a strong correlation between environmental management and overall performance – and a company that pays attention to the former is more likely to be well-managed overall.

EcoRisk '21 is marketed as a tool that helps analysts and investors assess a company's environmental performance and pick sector 'winners'. An extensive database with completed analyses is already available; it will be developed further. Innovest predicts that the gap between top and bottom-ranked companies will widen as capital markets consider the consequences of eco-efficiency. In its words: 'striving for superior environmental performance can provide another route to unlocking shareholder value.'[4]

However, even with these and other methods,[5] analysing environmental data will still be a complex task. One of the purposes of this report is to show that for forest product companies, a labelling scheme makes an investment manager's analysis simpler still; either a company implements high-quality environmental standards for forestry operations, or it does not.

1.6 Environmental and financial performance

The evidence that better financial performance is associated with better environmental performance is growing. The EcoRisc '21 analysis described above is an example of this. Other studies are pointing to the same conclusions.

In a 1997 study[6] the authors gathered substantial numerical evidence which demonstrated that improving corporate environmental performance pays. It showed that companies adopting or improving their environmental management system and their environmental performance, should be able to add as much as 5% to shareholder value. This is done by reducing the company's risk (measured by beta coefficient), thereby lowering its cost of capital. The authors applied their

4 From Innovest marketing materials.

5 Other ongoing work in this area includes that of the World Resources Institute in Washington DC, which is developing economic value-added and sales-driven franchise value models that try to identify and link sustainability with competitive advantage. Another 'risk-based' assessment methodology was developed, and is available for use, by the Centre for the Study for Financial Innovation in London. Bank Sarasin in Switzerland has also developed a methodology to estimate environmental contributions to shareholder value.

6 'Does improving a firm's environmental management system and environmental performance result in a higher stock price?', SJ Feldman, P Sokya and P Ameer, *Journal of Investing*, Winter 1997.

analysis to a large and representative sample of the most prominent public companies in the US. (They also emphasised the importance of companies communicating the financial benefits to the financial community through deliberate, high quality and targeted communications.)

Another company offering analytical services is Ellipson A.G. based in Switzerland. Using extensive analyses of a company's environmental investment and performance, Ellipson can demonstrate how these elements affect free cash flow and therefore shareholder value.

When given such evidence that good environmental management improves profitability,[7] many investors have discounted it on the grounds that correlation does not prove causality. That better environmental performance tends to show up alongside better financial performance does not prove that the first causes the second. In fact it could be the other way around: superior financial performance means that more money is available to spend on environmental management.

The claim is indeed vulnerable to this argument. However, there is another way of looking at it. If better environmental performance is not proven to predict better financial performance, it is undoubtedly an indicator of higher-quality management. A 1996 MORI survey revealed that 93% of UK institutional investors and analysts listed management quality as one of the most important criteria for investment decisions. Investors and analysts selecting investments should therefore consider integrating corporate environmental management.

Environmental management systems (EMSs) monitor the use of materials and energy within a company – how efficiently they are used, what wastes result. Managers who put an EMS in place need to involve all employees in the process, gathering data and scrutinising activities that previously were taken for granted. Some businesses complain about the initial cost of putting such a system into place but many also notice that it has led to a more efficient use of resources – an obvious indicator of wider good management.

1.7 What does fiduciary duty require?

Many investment managers would say they are personally concerned about environmental issues, but have their hands tied by the concept of fiduciary duty, which restricts them from incorporating non-financial considerations into their investment decisions.[8]

Several legal cases and commissions have judged that pursuing the best returns and high standards of social and environmental performance are compatible.

However, some investors have already begun to screen investments according to social criteria, including the New York City Employee Retirement System funds. They argue that the law need not block an investment strategy consistent with broader social goals, particularly if those goals

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7 A bibliography is available from WWF on this subject.

8 Fiduciary duty is the investment managers' duty to maximise returns for their clients. In the US, for corporate and public pension plan sponsors of defined benefit schemes, fiduciary duty is enshrined in ERISA – the Employee Retirement Income Security Act.

help to minimise potentially dangerous investments. Had environmental screening alerted fund managers to the possibility of a disaster like Exxon Valdez, they might not have invested in such a company.

A study by lawyers published in the *US Journal of Investing* about the duties of non-profit organisations' fiduciaries (for example, private universities with endowments and private charitable foundations) stated that trustees and managers can carry out social investing without violating their legal duty, whether they are bound by the prudent investor rule or the business care rule.[9] The study concludes that:

- whether or not social screening is permissible depends only on the probable or potential effect on the financial health of the investment portfolio
- if two investments would produce the same financial result, a fiduciary may use social factors to decide between them.

That they recognise this flexibility is one of the reasons why universities, religious groups and not-for-profit corporations have been the most active social investors. These developments are likely to encourage many more clients to challenge their investment managers and ask them to uphold ethical policies that mirror the charitable and social aims of the fund's parent organisation.

In the UK, a group of concerned university professors – whose pension assets are managed by the Universities Superannuation Scheme (USS) – has looked into this issue. The USS is the fifth largest occupational pension scheme in the UK, valued at £13.5 billion. A report commissioned by the group[10] cites the following finding of the Goode Committee on Pension Law Reform of 1993. It refers to trustees' duties as follows:

> *'As trustees they are perfectly entitled to have a policy on ethical investment and to pursue that policy, so long as they treat the interests of the beneficiaries as paramount and the investment policy is consistent with the standards of care and prudence required by the law. This means that trustees are free to avoid certain kinds of prudent investment which they consider the [USS] scheme members would regard as objectionable, so long as they make equally advantageous investment elsewhere, and they are entitled to put funds into investment which they believe the members would regard as desirable, so long as these are proper investments on other grounds.'*

As shown in section 1.6, evidence is growing that good environmental performance does improve profitability, and there is already abundant evidence that bad environmental performance can damage shareholder value because of legal action and consumer boycotts. Thus investment managers may well find that they will be considered to have breached fiduciary duty by *not* taking environmental performance into account. They can fulfil fiduciary duty by filtering out companies whose poor environmental management is a risk to shareholders and by positively seeking out good environmental performers that could generate higher returns.

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9 *Tomorrow*, January–February 1998.

10 *Ethics for USS*, Guy Hughes, USS, 1997.

1.8 Conclusion

New methods are emerging to enable investment managers to incorporate environmental information into decision making. As these improve, the links between good environmental performance and profitability are likely to be seen ever more clearly, and fiduciary duty may require investment managers to consider companies' environmental policies and practice. However, this means they will need better, relatively easy methods of examining environmental performance.

As Linda Descano and Bradford Gentry comment:

> *'The growing link between superior environmental and financial performance [also] has important implications for the financial community. If companies demonstrate that progressive environmental behaviour and improved competitiveness go hand in hand, then analysts who understand and act on that information first will enable their investment clients to achieve better returns.'* [11]

This report will show that for the forest products industry, there is a very simple method of assessing forest management practice: FSC-based certification, which will be explained in full in chapter 4. The next chapter will show that the industry presently suffers from major structural weaknesses that are depressing its profitability. FSC-based certification offers companies a way to differentiate their products, gain market share, consolidate their right to operate and guarantee their supply in future years. Such companies are likely to be the winners as the industry changes.

[11] 'Communicating environmental performance to the capital markets', Linda Descano and Bradford Gentry, *Corporate Environmental Strategy*, Volume 5, Number 3, 1998.

2 The forest products industry: weak performance, structural problems

Summary

The forest products industry has been a poor performer for the last 10 years or more: in many cases companies have barely covered their cost of capital, and have generated little free cash flow. Unsurprisingly, share price performance has lagged behind that in other sectors. However, analysis shows that the management of forests and harvesting of trees is very profitable. The explanation for poor performance lies in the other parts of integrated forest products businesses. Pulp and paper mills are very capital intensive. The industry is fragmented and, because they trade an undifferentiated commodity, companies find they have little pricing power. Increased environmental regulation has put further pressure on margins in some parts of the world. In response, the industry has sought economies of scale – in bigger plants, more mergers, acquisitions and alliances. It has also sought out faster-growing overseas markets. However, these strategies cannot address two major structural problems of the industry: the right to operate and the selling of a largely undifferentiated commodity.

2.1 An underperforming industry

The overall performance of the forest products industry since 1988 has been poor. Table 1 reveals this; it shows that publicly traded companies in the US have been barely covering the cost of their capital. This is also true of European and Japanese stock exchange listed forest products companies.

Table 1: Profitability of the US forest products industry relative to other sectors

	Averages for 1993–1996 Earnings before interest and tax as a percentage of revenue	Net profit margin	% return on capital
Paper & forest products	15.9	3.9	7.3
Cement	19.0	6.7	10.3
Airlines	11.2	(negative)	6.5
Soft drinks	18.7	8.3	17.2
Semiconductors	25.0	11.4	19.0

Source: Extracted from Valueline 1998 research report.

2.2 A hunger for capital

There are no global statistics about the financing of the forest products industry. However, analysis of company reports and accounts, and application to the estimated worldwide sales of the industry of average cash flow margins and capital expenditure ratios (for companies operating in different industry segments) can provide a basis for estimates.

Table 2: Estimated cash sources and uses of the global forest products industry

Cash sources	US $ billion	Cash uses	US $ billion
Cash from operations	65	Capital expenditure	35
Cash from debt and equity issues	18	Working capital	3
		Interest payments	20
		Taxes	15
		Dividends	10
Total cash sources	**83**	**Total cash uses**	**83**

Source: Based on authors' calculations.

Table 2 shows that the forest products industry as a whole does not appear to generate free cash flow – although of course there are huge variations amongst companies. Generally speaking it is a highly capital-intensive industry which has needed to raise significant amounts of cash from the capital markets by issuing bonds and equities, even though its growth rate is low in high-income economies.

2.3 Weak share price performance

Over the last 10 years, publicly traded forest products companies have shown poor share price performance. Even in the faster-growing emerging markets, forest products companies' share price returns have lagged behind those of other sectors *and* market indices.

In the US, returns from the wood and paper products sectors have lagged substantially behind those of the broad market index, and have not been strong relative to a number of other capital intensive sectors, as table 3 shows. The underperformance is even more obvious when compared with high-growth businesses.

Table 3: Share price performance of US wood and forest products sectors

Sector	3-year average % return	3-year rank out of 94 sectors	5-year average return %	5-year rank out of 94 sectors
US forest products	7.3	87	8.3	83
US paper products	9.2	85	9.8	84
Dow Jones Industrial Average	**30.9**		**22.6**	
Airlines	44.3	13	19.9	36
Aluminium	15.8	77	12.7	70
Auto manufacturers	21.6	62	20.5	32
Long-distance telephones	26.6	45	15.7	53
Oil-integrated majors	25.4	52	18.8	40
Semiconductors and related	44.1	14	40.6	2
Soft drinks	37.8	22	24.4	22
Steel	(3.0)	92	3.3	90

Source: 'Shareholders' scoreboard', *Wall Street Journal* supplement, February 1998.

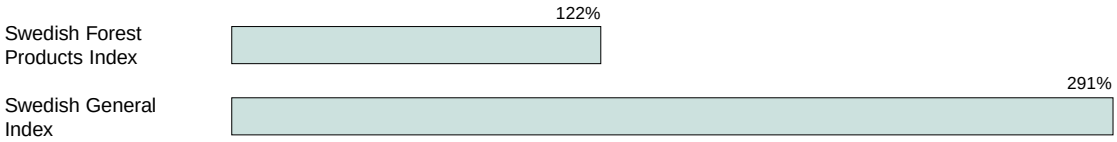
This underperformance was not limited to the last five years, as figure 1 shows: the Standard & Poors Paper and Forest Products Index, over the 10 years to the end of April 1998, showed an increase of just 82%, compared with 298% for the Standard & Poor's 500 Index.

Figure 1: Standard & Poor's Paper and Forest Products Index against 500 index, 1989–1998

Source: Bloomberg.

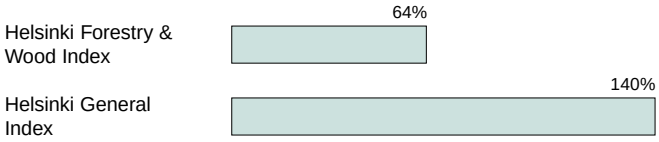
In other markets where the forest products industry is of a significant size, a similar picture of underperformance emerges. For example from March 1 1992 to 30 April 1998 the Swedish Forest Products Index increased by 122% against the rise in the Swedish General Index of 291% (figure 2). In the 23 months from end June 1996 to end May 1998 the Helsinki Forestry & Wood Index rose 64% against a rise in the Helsinki General Index of 140% (figure 3).

Figure 2: Swedish Forest Products Index against General Index, 1/3/1992–30/4/1998



Source: Bloomberg.

Figure 3: Helsinki Forestry & Wood Index against Helsinki General Index, 30/6/1996–31/5/1998



Source: Bloomberg.

2.4 Is tree harvesting profitable?

Although the forest products industry is highly integrated, it can be divided into three main business activities:

1 managing forests and harvesting their trees
2 manufacturing wood products, such as sawn timber ('lumber' in the US) and panelled products such as plywood, oriented strand board (OSB), particle board and medium density fibreboard (MDF)
3 producing pulp, paper and paper board.

The returns on the first activity, tree harvesting, vary greatly, according to the type of forest, systems of forest ownership, and local taxes in the countries in which they are carried out. Not many publicly traded forest products companies (which tend to be integrated – that is, they process wood and create a product as well as growing and harvesting trees) present financial information about this activity in their accounts in comparable ways. In their balance sheets they record forests on an historic cost basis, so accounting profits are not a meaningful guide to 'real' profitability. However, using a sample of companies – all from the United States, which lessens the analytical complexities – to create an analysis of cash flow margins, reveals that management and harvesting of forests generates a higher cash flow margin than the wood product and paper industries (table 4).

Table 4: Cash flow margins and capital expenditures of forest products industry activities (group weighted averages 1994–1996)

Activity	Operating cash flow* as a percentage on sales	Capital expenditures as a percentage of operating cash flow
Harvesting	67	13
Wood products	18	49
Pulp and paper	21	47

** Operating cash flow is earnings before interest, tax, depreciation and amortisation.*

Source: Adapted from Merrill Lynch and Company report, 1998.

In these years analysed, log harvesting enjoyed a very high cash flow margin to sales: 67%. This compares very favourably to the other two activities. Of each dollar of cash flow generated, only US 13 cents were needed for capital expenditure, compared with nearly US 50 cents for each of the wood products and pulp and paper activities.

This picture, of higher operating cash flow from tree harvesting than from other activities, is reflected in most integrated companies in Canada, Scandinavia, Latin America and Asia.

Historically, the investment returns from forest ownership alone have been good in the United States. Hancock Timber Resource Group, a leading institutional investor in US timberlands managing approximately US $2.6 billion, achieved annualised returns between 1988 and 1997 of l9%. Although these returns were boosted by the escalation of log prices after logging permits were reduced for the Pacific North West in the early 1990s, Hancock nonetheless believe that it can expect annualised returns of 8–12% in future years.

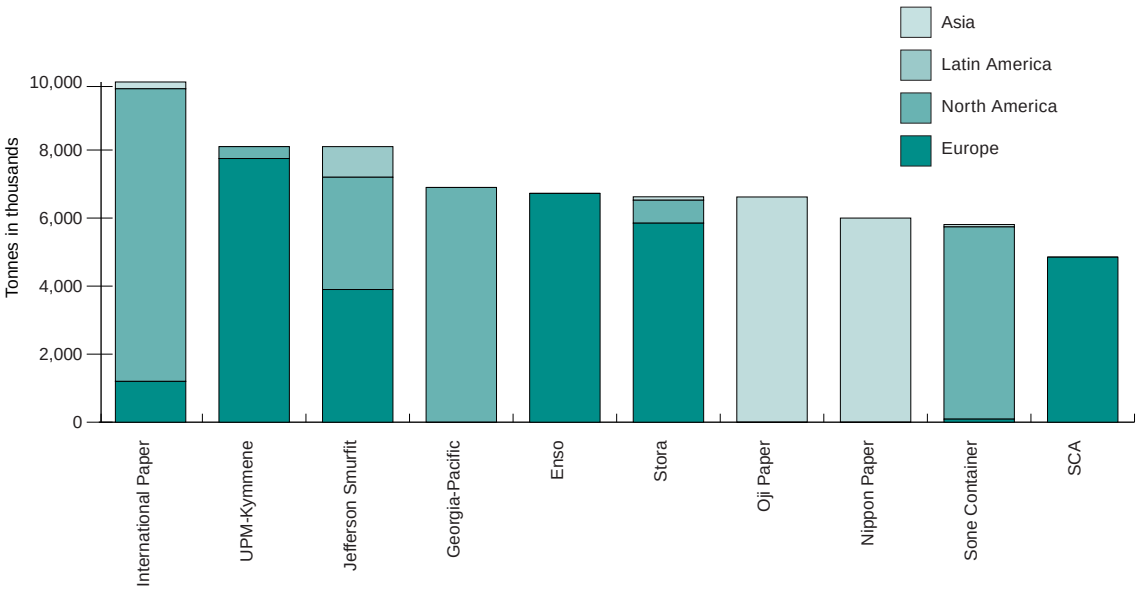
Clearly, any financial problems in the forest products industry are not due to the management of forests and the harvesting of trees. These activities are more profitable than wood processing and pulp and paper manufacturing. So the arguments sometimes advanced that forest managers cannot afford to improve their forest management because of weak cash flow or low profitability hold little credibility in the context of the managing and logging business alone.

2.5 Why has the forest products industry produced such poor returns?

Market fragmentation

In 1997 world demand for paper reached almost 300 million tonnes, but the 10 largest players accounted for only 21.4% of market share. Ratios for other industries were typically closer to 40%. For example, in 1992, in the chemicals sector the top players had 33% of the market, the figure for oil was 42%, steel 50%, automobiles 58%, and electronic components, 53%.[12]

Figure 4: Ten largest companies by capacity of paper and paperboard

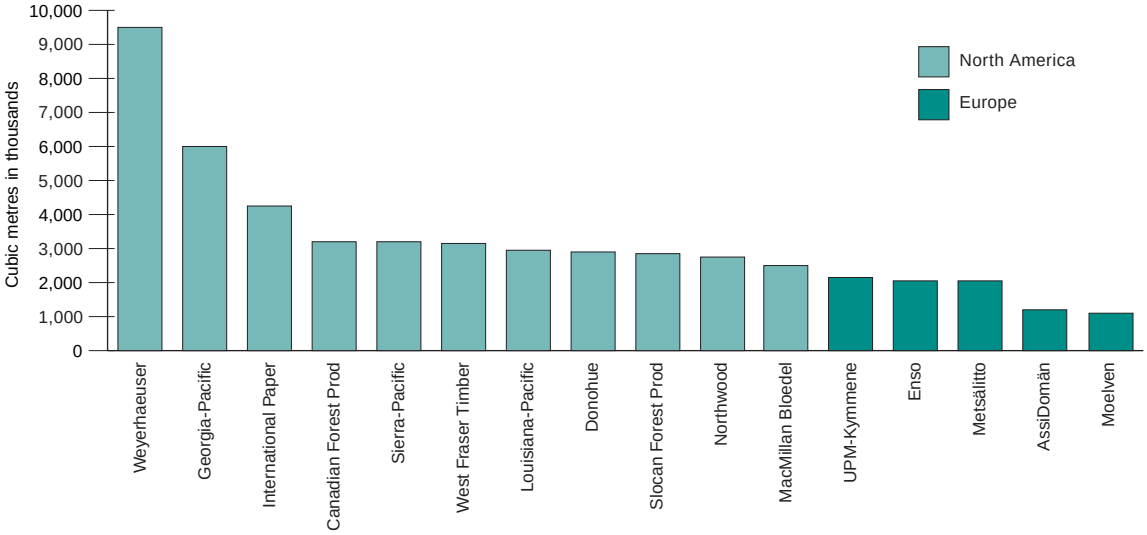


Source: The Search for Value in Global Pulp and Paper, Salomon Smith Barney, Gyrus, 1998.

Globally the saw milling industry has sales of approximately US $150 billion, of which the 15 largest companies accounted for only 13%.

[12] Cited in *Sustainable Forestry in an Industry Context*, EA Capital, MacArthur Foundation, 1998.

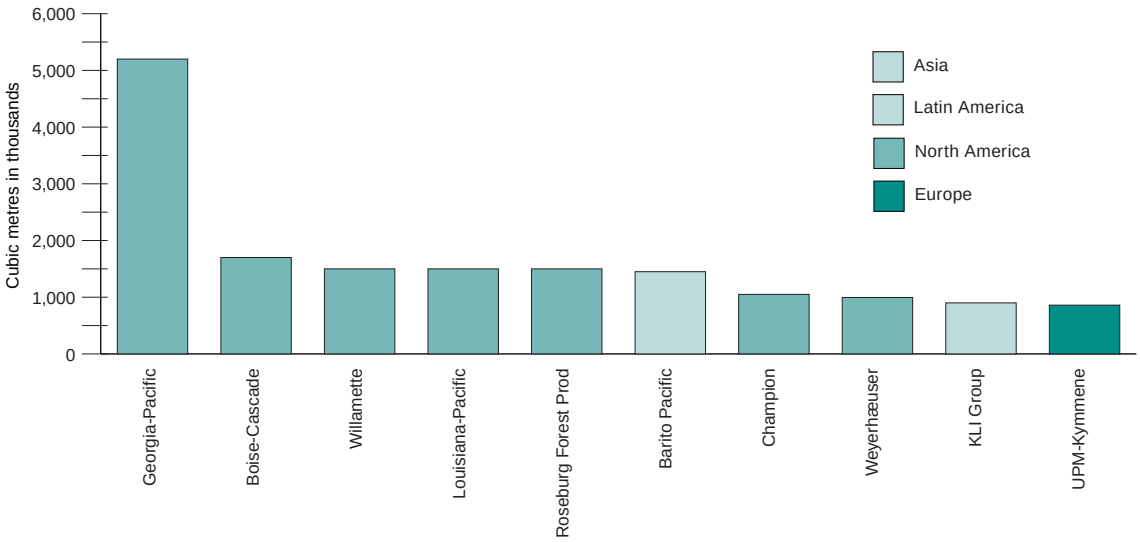
Figure 5: Fifteen largest saw milling companies by capacity



Source: The Search for Value in Global Pulp and Paper, Salomon Smith Barney, Gyrus, 1998.

The ten largest plywood manufacturers are predominantly US-based. Together they produce about 17 million cubic metres, or 33% of the world's total volume – making this product segment one of the industry's least fragmented markets.

Figure 6: Ten largest plywood manufacturers by capacity



Source: The Search for Value in Global Pulp and Paper, Salomon Smith Barney, Gyrus, 1998.

Capital intensity

Pulp and paper manufacture has very high capital intensity and low profit margins. Typically, a pulp mill costs US $1,500 per tonne of capacity. For a single world-class mill this could amount to US $1 billion. Such mills have a high ratio of fixed to variable costs. This means that operating rates are high, and wood must be fed through the mill constantly to sustain profitability. Wood product manufacturing is generally far less capital-intensive. Even so, a large scale OSB plant would typically cost US $30–60 million; a softwood plywood mill would cost US $10–15 million.

A commodity business

Most forest products are difficult to differentiate from one another. Competition between suppliers is often based only on price. When these are combined with high capital intensity and a high ratio of fixed to variable operating costs, with their consequent hunger for throughput, companies find they have very little pricing power.

Low growth in high-income economies

In developed countries, consumption of paper and paperboard products between 1980–1994 grew annually at 2.37%. For wood-based panels the figure was 0.68%.

An industry with volatile prices and a cyclical nature

Product prices in the industry have been very volatile. Over the last ten years many companies have invested heavily in new capacity. This has usually been after profit peaks, when cash resources are high. Since new plants need a long lead time from approval to commercial operation (usually 18–36 months) and tend to be planned simultaneously, they have often come onstream at a time when product prices have just started to fall. This has aggravated volatility.

Increased regulation

Government regulation of forestry has been increased, and it will probably continue to do so over the next 20 years in many countries. For example, in the US Pacific north-west, environmental concerns have sharply limited industry access to government-owned forests. In Canada, such concerns forced the national and provincial governments to review forest management regulations and implement stricter laws.

Regulation has increased for various reasons, including:

- growing recognition of indigenous people's rights
- action on global warming that might limit logging of natural forests
- expanded use of satellite monitoring by NGOs and international organisations
- growing restrictions imposed by international lending and donor agencies. (For example, in 1997, the World Bank and International Monetary Fund made future aid to Cambodia contingent on better forest preservation and management.)
- withdrawal of forests from commercial production, to create national parks and conservation areas
- increased public concern.

2.6 The response to poor returns

The industry has responded to structural weaknesses and outside pressures by building bigger plants; engaging in acquisitions, mergers and strategic alliances; and investment in new markets with favourable growing conditions for trees, low costs of production, and rapidly increasing consumption.

Larger pulp mills

The first response to poor returns has usually been to build bigger plants and thereby lower the cost of production. As an indication of the increase in plant size, the average size of a pulp mill has risen from 139,000 tonnes of capacity in 1990 to 191,000 tonnes in 1996. For paper and paperboard mills the figures were 50,000 tonnes in 1990 and 73,000 tonnes in 1996.[13] (The average size masks the impact of size increases in new plants, because of the substantial number of small old plants in operation around the world.)

Such bigger plants require more fibre, so each has greater impact on its local forests. Pulp mills work better if they process fibre of a consistent grade, and this is best served by plantations rather than natural forests.[14] Plantations are therefore on the increase. All too often, plantations have been converted from natural forest.[15]

Table 5 shows the estimated area of plantations in a number of developing countries. In 1995 the total area under plantation in developing countries was put at 81 million hectares, a significant increase from an estimated 40 million hectares in 1980.

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13 Authors' calculations.

14 Chapter 3 will give a detailed account of the environmental problems faced by different types of forests. For the purposes of this chapter, it is worth explaining nomenclature in brief. Natural forests are often either referred to as 'primary' or 'virgin' forests – this means that they are in their original state. 'Secondary' or 'semi-natural' forests have already been logged and subsequently regrown, or have regenerated naturally. Many secondary forests are intensively managed for timber and fibre to supply industry. A 'plantation' is an artificial forest, having been planted rather than grown naturally. It is usually designed specially to supply fibre to the forest products industry.

15 The devastating forest fires in Indonesia were in part caused by the burning of land to clear for tree plantations which the Indonesian government has admitted causes over half of the fires. In May 1998 the Indonesian Forestry Ministry's Director General for Forest Preservation announced that an estimated RP 193 trillion (US $2.5 billion) has been lost through forest fires raging through East Kalimantan since the beginning of 1998. The government official noted that this figure did not include the costs of damage to biodiversity and the environment.

Table 5: Areas under plantation in developing countries

Country	Net estimated area (thousands of hectares)
China	33,800
India	14,620
Indonesia	6,125
Brazil	4,900
Vietnam	1,470
Republic of Korea	1,400
Chile	1,015
Argentina	547
Thailand	529
Morocco	321

Source: State of the World's Forests, Food and Agriculture Organization of the United Nations, 1997.

It is harder to estimate the area under plantation for developed countries because so many semi-natural forests have been disturbed already. However, it is estimated that the area has increased from 45–60 million hectares in 1980 to 80–100 million hectares in 1995.[16]

As will be detailed in section 3.4, the increasing areas under plantation do little to redress the major environmental and social problems facing forests and indeed have sometimes been associated with their increase.

Mergers, acquisitions and investment from companies in high-income economies

In the period 1990–1997 at least US $27 billion of mergers and takeovers occurred in Europe's forest products industry. In the US the equivalent number was slightly higher at US $28 billion.[17] More recently the size of individual transactions has increased.

In June 1998 Sweden's STORA and Finland's Enso Oy announced one of Europe's largest industrial mergers, valued at approximately US $8.5 billion. The merged group will become the world's largest paper and paper board company with a capacity of approximately 12 million tonnes, sales of US $11.5 billion and a global market share of nearly 4%. The deal is expected to generate cost savings of SEK 1.9 billion (around US $240 million), as plants whose products presently overlap specialise instead. This will result in better profitability and returns on capital employed, which for STORA has averaged just 7.5% since 1990. This new company will have the industrial and financial clout to compete globally. Such a transaction is likely to act as a catalyst for other such combinations within Europe and possibly between European and North American giants.

16 *State of the World's Forests*, Food and Agriculture Organization of the United Nations, 1997.

17 *The Search for Value in Global Pulp and Paper*, Salomon Smith Barney, Gyrus, 1998.

In May 1998 Jefferson Smurfit Corporation and Stone Container announced a merger plan which, if approved, will create a combined entity with sales of just over US $8 billion.[18] It will have a capacity of approximately nine million tonnes, making the merged entity one of the top three producers globally, with particular strength in packaging products. The merged company expects to realise cost savings of US $350 million annually. When assets of approximately US $2.5 billion have been sold, the company will use the cash to reduce its debt and interest payments will also fall.

Expansion in emerging markets

To cover the cost of a huge capital investment over a long payback period, the modern pulp and paper mill requires a secure long-term supply of fibre, helped by a hungry local market. Because demand for paper and paper board in high-income economies has a low rate of growth, the industry has turned its attention to developing countries where demand growth is twice as high. The result is that companies from high-income economies have recently invested more heavily in these emerging markets. For example, STORA has formed a joint venture with Odebrecht, a Brazilian conglomerate, to invest US $1.5 billion in a 750,000 tonne pulp mill in the north-east state of Bahia. It will export the pulp to its mills in Europe and South-East Asia.

Strategic alliances between northern hemisphere producers and those of the south are also likely to be increasingly common for three reasons:

1. northern hemisphere companies can offer global distribution, financial clout and technical expertise
2. southern hemisphere producers have, in certain product areas, significantly lower costs
3. the Asian financial crisis will make it harder for many Asian producers to expand without outside financial help.

One example of a planned strategic alliance is that announced by UPM-Kymmene and Singapore's Asia-Pacific Resources International Limited (APRIL) in September 1997. The two companies have agreed to exchange 30% of each of their fine paper businesses with one another. APRIL will exchange two fine-paper mills under construction in China and Indonesia, together with a stationery company in China; UPM-Kymmene will exchange a fine-paper mill in Finland and Nordland Papier company in Germany. The exchange of shares is planned to take place when construction finishes on APRIL's mills in 1999 (although a delay looks likely, as UPM-Kymmene has had negative publicity about the proposed alliance on environmental grounds, and APRIL has experienced cash flow problems).

Local companies in Asia and Latin America have also responded to economic deregulation by expanding. Asia Pulp & Paper is a Singapore-incorporated and -listed holding company, the largest vertically integrated pulp and paper company in Asia outside Japan, with 1997 sales of just under US $2 billion and a net profit of US $216 million. Through expansion in Indonesia, China and Malaysia it is planning almost to double its capacity by 2001.

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[18] Based on 1997 year end accounts.

The company has among the lowest costs in the world for pulp and paper manufacture. It enjoyed a gross profit margin well above industry averages in 1997 of 56% and an EBITDA margin of 42% – twice the US industry's average margin. However, even though it has a significant cost advantage the group does not produce very high returns on equity – in 1997 the figure was 8.4%; over the last five years it has averaged 11.5%, despite having a very leveraged balance sheet.

Its growth over the last three years has been financed almost entirely through issuing bonds, and the investment involved has been very large indeed. In late 1997 Asia Pulp & Paper had approximately US $5.7 billion of publicly traded securities in issue.

Clearly, Asia Pulp & Paper has been a very attractive company for emerging market investors. But as section 3.6 will demonstrate, low operating costs in emerging markets hide other costs that may become visible as environmental standards rise. Will investors in the company suffer from lower returns in the future if the company is forced to meet the costs of higher standards of forest management, or to pay the real value for underpriced concessions?

2.7 Conclusion

This chapter has detailed the structural weaknesses of the forest products industry, and its generally low returns. It has shown that harvesting trees is usually a profitable activity, but that the high capital intensity of many subsequent processes has tended to reduce returns in recent years.

Many companies have responded by building bigger plants, and investing in emerging markets, both of which have the potential to lower production costs and increase sales overseas. They have also become involved in more mergers, acquisitions and strategic alliances, also lowering costs and conferring greater pricing power. All these strategies help build competitive advantage, but cannot effectively address the other problems of the forest products industry – its basis in a commodity business, and growing challenges over its right to operate. In the long term, the issue of the right to operate will grow in importance, especially if consumers in companies' home territories demand that the same environmental standards apply to their operations in emerging markets.

The next chapter will look in more depth at the scale of the industry and its increasing environmental impact on forests. It will show how environmental problems have been compounded by a failure to price forest products in a way that reflects their true value, and by other failures at the level of national and international administrations. The result is a situation that is unlikely to be substantially improved by further regulation. This has been a major stimulus to calls for the alternative, market-based solutions that will be described in chapter 4.

3 Failures of regulation and pricing in a global industry

Summary

About 28% of the world's land area is forested. Two-thirds of this is commercial forest, and publicly quoted companies process the majority of industrial roundwood extracted from these forests. The main environmental problems faced by forests which the industry contributes to, are those of deforestation and loss of quality. 'Loss of quality' means that forests no longer provide the full range of ecological services essential for life. Although all forest services are important, the production of commercial timber is one of the few that are priced and traded. This is a root cause of many environmental problems in forestry. Poorly structured concessions effectively subsidise forest products companies and weaken forestry departments, especially in developing countries. Corruption and influence at the national level mean that environmental regulations are flouted. International governmental attempts to protect forests have also been largely unsuccessful, and even though an international convention on forestry may yet be signed environmental experts have little hope that it will reverse the large-scale environmental problems of forests.

3.1 The significance and impact of commercial forestry

How sizeable is the forest products industry, and to what extent can its forestry practices cause large-scale impact on the environment?

The answer is that commercial forestry occupies a very substantial area of the world's land mass. About 28% of the world's land area is covered with forests, of which two-thirds is commercial forest.

Forest product companies often have a great impact whether or not they own a significant area of forests in a given country. Of all trees felled worldwide, 48% are used as raw material (often called 'industrial roundwood') by the forest products industry. In the northern hemisphere, a million-tonne capacity pulp mill generally requires a million-hectare forest to supply it.[19] Few companies own enough forests to supply all their mills. They may lease forest concessions, which they manage and harvest themselves, and they will also work closely with private owners on the management of their forests. Weyerhaeuser produces 280 million 'high-yield' seedlings every year; it supplies more than half of these to landowners, both domestic and international.[20] In these ways, companies' impacts spread far beyond the management of the forests that they own. Figure 7 gives an idea of the land under control of some of the largest players.

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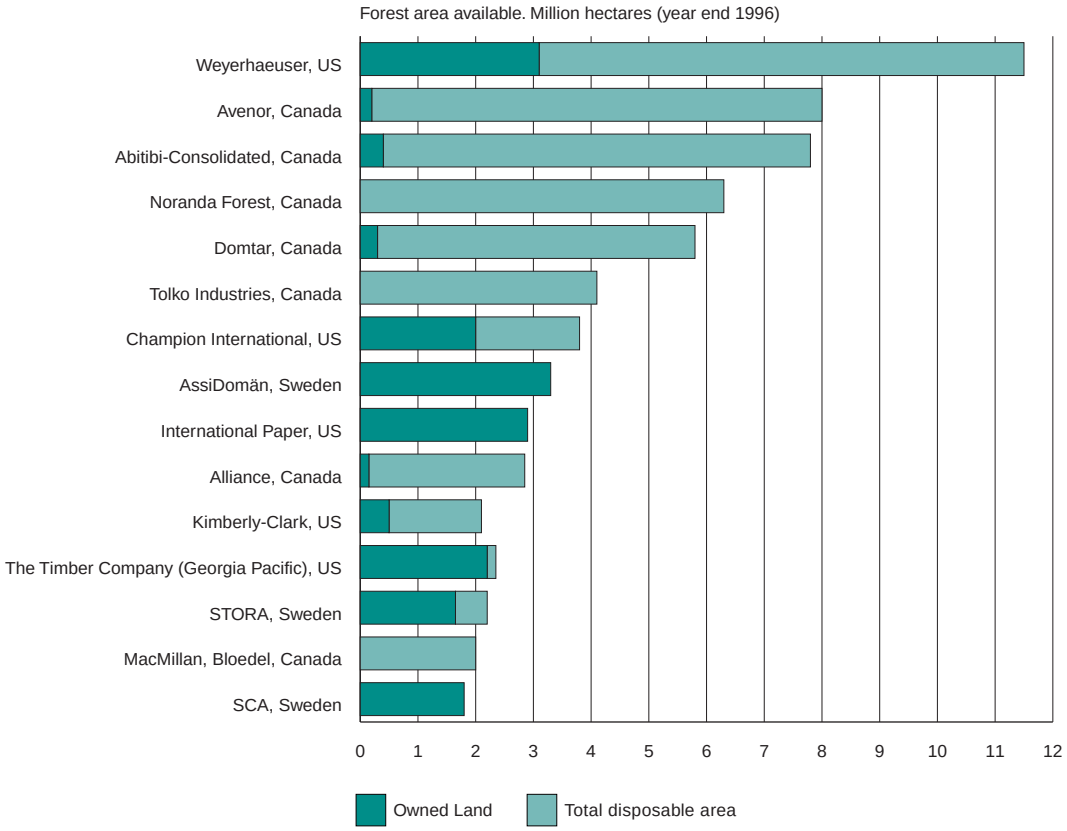
[19] Given conversion rates of 4 tonnes of wood per tonne of pulp and forest growth rates of four cubic metres per hectare per annum.

[20] *Wood Products Business*, Weyerhaeuser, April 1993.

Figure 7: International forest companies — disposable forest area



Source: AssiDomän Annual Report 1997.

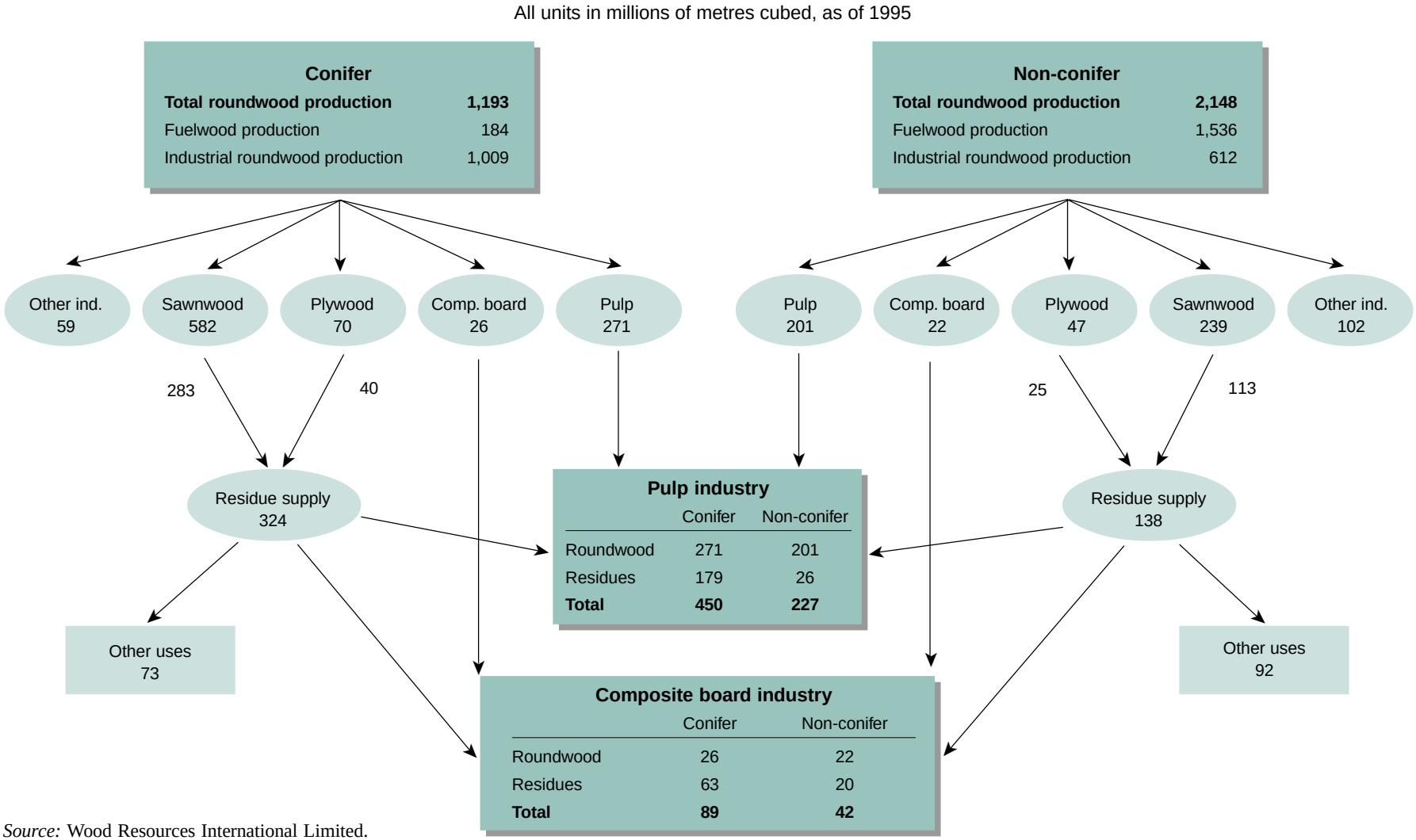
3.2 Sales and regional concentration of different types of forestry

The forest products industry's 1997 sales were estimated to be US $400 billion.[21] Sales fluctuate from year to year with product prices, and come more or less equally from wood products, and pulp and paper. Figure 8 illustrates the flow of material within the forest products industry.

North America, Scandinavia and, to a lesser extent, Japan produce approximately two-thirds of the world's forest products. Although Russia and the Baltic States have significant forest resources they are only just beginning to be extensively exploited (see figure 9). Forestry operations in areas such as West Africa are not as important by volume, but because the forests they affect are hugely significant reservoirs of biodiversity, their activities are a real cause for concern.

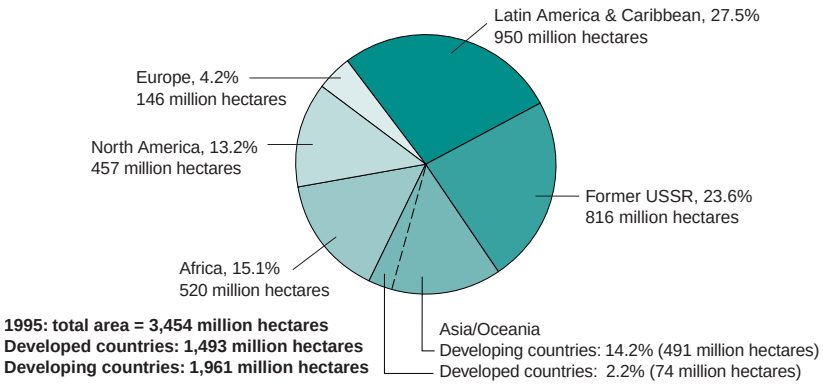
[21] *State of the World's Forests*, Food and Agriculture Organization of the United Nations, 1997.

Figure 8: Estimated flow of material within the forest products industry



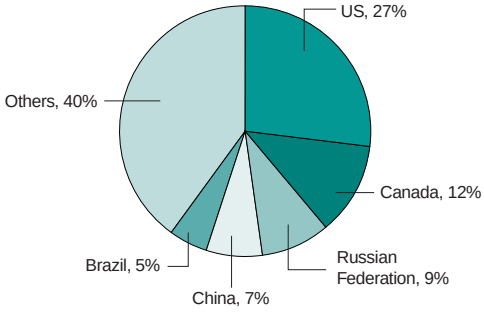
Source: Wood Resources International Limited.

Figure 9: The geographic distribution of the world's forests



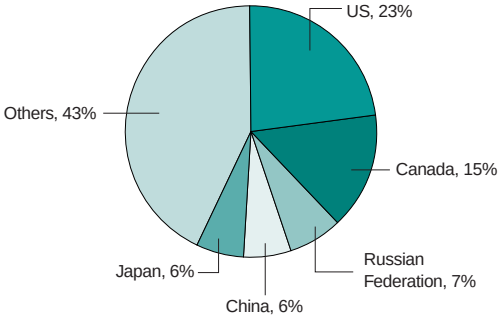
Source: State of the World's Forests, Food and Agriculture Organization of the United Nations, 1997.

Figure 10: Production of industrial roundwood



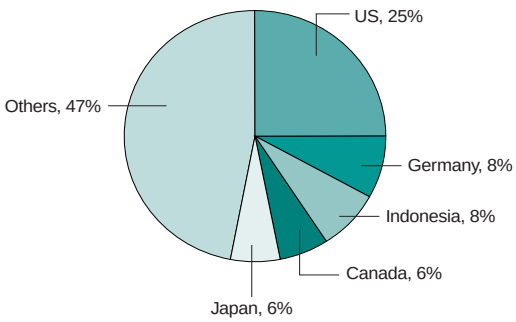
Source: State of the World's Forests, Food and Agriculture Organization of the United Nations, 1997.

Figure 11: Production of industrial sawnwood



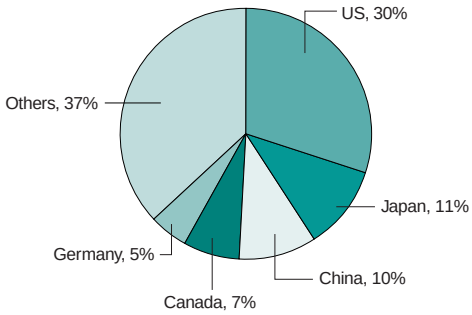
Source: State of the World's Forests, Food and Agriculture Organization of the United Nations, 1997.

Figure 12: Production of wood-based panels



Source: State of the World's Forests, Food and Agriculture Organization of the United Nations, 1997.

Figure 13: Production of paper and paperboard



Source: State of the World's Forests, Food and Agriculture Organization of the United Nations, 1997.

3.3 Private ownership and public pressure

In the short term, the decisions of investment managers cannot alter the environmental management of privately owned forest products companies, but in the long term they can have an indirect effect. Publicly traded companies are estimated to process more than half the industrial roundwood from all commercial forests. These companies tend to be integrated processors of forest products. The capital-intensive nature of their business requires many of these companies to go to stock markets for capital.[22] In North America, Western Europe and Japan paper and paper board consumption is very high, so an even greater proportion of the industry is publicly traded in these

[22] Movement from private ownership to public flotation is a common way to tap finance to fund capital-intensive processing facilities. It has been particularly noticeable in Malaysia over the last five years. Some of the biggest areas of forest in Malaysia were once privately held by family companies, including WTK, KTS and Shing Yang. However, in recent years the Malaysian and Indonesian governments have encouraged domestic companies to add value by processing logs into plywood and other panelled products for export. There was also a possibility of nationalisation. Businesses responded by turning parts of their businesses into publicly traded companies to tap equity market capital. Examples include Rimbunan Hijau's Jaya Tiasa and Samling Group's Lingui Developments.

countries. Of the 150 largest integrated forest product companies (ranked by sales of paper and paper board in 1996), about 75% were listed on stock exchanges;[23] 45% of these companies (by their combined proportion of total sales) were US-based. Companies listed on the stock exchanges of Canada, Scandinavia, Finland and Japan account for most of the balance of the world's publicly traded companies.

By contrast privately held forestry companies tend to be logging companies only, which can operate very profitably without calling on capital from stock market investors. They often operate in areas of high biodiversity such as the tropics. Since these are usually areas of weaker regulation, companies can wreak considerable damage. Clearly, these companies cannot be influenced directly by investors' decisions. But if the changing practice of publicly quoted companies enhances demand for forest products that reflect superior environmental practices, privately owned companies will also feel that pressure.

3.4 The environmental problems facing forests

The environmental problems facing forests can be divided into two types: deforestation and loss of quality. The first is well known and understood, but the second less so.

Deforestation

Approximately half the earth's original forest area has gone. This amounts to three billion hectares that have disappeared. In temperate regions, such as Europe, deforestation occurred long ago. In the tropics, much has been destroyed within the last three decades. Every year another 16 million hectares are lost. Recent worldwide deforestation rates have averaged 0.8%, ranging from 0.01% in Guyana, South America, to 2.6% in Thailand and 6.5% in Côte d'Ivoire. The rate of deforestation has increased fourfold in recent years in Cameroon.[24]

Degradation of quality

Loss of forest quality is as much a concern as that of the absolute loss of forest cover.[25] While forest loss is a prevailing trend in developing countries, forest quality decline is the biggest conservation issue in developed countries. For example, the forested area in the US has increased in recent years but, even so, forest health is declining and loss of biodiversity increasing.

Scientists measure forest quality by 'authenticity', 'forest health', 'environmental benefits' and 'other social and economic benefits'. WWF and the World Conservation Union classify them as follows:

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23 'Poor performance as earnings take a hammering', *Pulp and Paper International*, September 1997.

24 *State of the World's Forests*, FAO web site, 1997. *Forests for life. The WWF/IUCN forest policy book*, N Dudley, D Gilmour and JP Jeanrenaud, WWF/IUCN, 1996.

25 *Forests for Life. The WWF/IUCN forest policy book*, N Dudley, D Gilmour and JP Jeanrenaud, WWF/IUCN, 1996. *Our Forests, our Future. Report of the World Commission on Forests and Sustainable Development*, unpublished international discussion draft, World Commission of Forests and Sustainable Development, 1997.

1 **authenticity** describes how closely the forest resembles a truly natural, primary forest. This includes the composition of the forest, the mixture of ages, sizes and species, and the amounts of deadwood. It also indicates the extent to which management reflects natural processes and landscape features
2 **forest health** records whether the forest is able to cope with pressures and changes – for example, pollution impacts, resistance to epidemics and environmental change through global warming
3 **environmental benefits** measure to what extent the forest provides services such as conservation of biodiversity, soil and water supply protection, local climate regulation, and carbon storage
4 **other benefits** include supply of economic timber and non-timber products, and quantifiable social benefits in the fields of recreation, habitats, aesthetics, culture, religion/spiritualism, and education.

Plantations are sometimes popularly perceived as replacing lost forest, and therefore addressing the problems of deforestation and perhaps quality. However, plantations can and often do have negative environmental impacts. In many cases they are created by felling natural or semi-natural forests before replanting. Ground preparation before planting, as well as harvesting methods, can cause widespread soil damage. Especially in the tropics, plantations may require large quantities of water and chemicals to sustain them. They may also provide little or no benefit to local people; nor do they generate the extensive environmental benefits of natural forests. The species of trees used in plantations are often non-native to the country or the area being planted, are selected only for timber quality and growth rates and are usually planted all at once. The result is that the plantation is usually all of one species, and all the same age, which can rarely replicate the diverse services of a natural forest. In some countries of the world, monocultural forests exist naturally, but where plantations replace forests with high biodiversity, this is clearly undesirable.

In short, there may be widespread negative environmental effects from plantations. This is not to say, however, that plantations cannot be managed well. Many of these impacts can be avoided.

3.5 The ‘hidden services’ offered by forests

As stated in footnote 14, forests are referred to as primary/virgin, secondary/semi-natural, or plantations. The forest products industry derives its raw material – timber and fibre – from all three types. The different types of forest provide different mixes of financial, environmental and social products *and* services. The most obvious of these, and the most highly-valued in the market place, is timber – but as table 6 shows, there are many more.

Table 6: Forest goods and services

Goods and Services	Local	National	Global
Regulation of climatic extremes	●	●	●
Buffering CO_2		●	●
Regulating hydrological systems	●	●	●
Soil protection and erosion control	●	●	
Maintenance of habitat and biodiversity	●	●	●
Raw materials (timber, pulp) for industry base	●		
Medicines, biochemicals			●
Non-timber forest products – nuts, fruits, resins, lianas	●		
Home to indigenous people	●		
Employment	●	●	
Recreation and tourism	●	●	
Cultural/religious value	●	●	●
Aesthetic value	●	●	●

Sources: Incentives for Tree Growing and Managing Forests Sustainably: More Than Just Carrots and Sticks, GW Meijerink, IKC Natuurbeheer, 1997; *Forest security: Challenges to be Met by a Global Forest Convention*, S Bass and K Thompson, IIED, 1997.

The services forests provide are often linked, making them difficult to separate and quantify. For example, habitat maintenance ensures other services (such as biodiversity conservation, productivity, genetic diversity) and any disturbance to a single function affects many others.

3.6 Why have national governments not protected forests?

In view of the valuable services they provide, readers may wonder why national regulation has largely failed to protect forests. The reasons are complex and interrelated, but their root causes are connected with the discordance between the forests' ecological value and their market value – a failure of pricing – and various failings of governments.

Failure to price forests' true value

Only a handful of forest services are priced and traded in a conventional way to reflect demand. This often means they are valued to the exclusion of all other aspects of quality. Even though people may value the other environmental goods and services provided by forests, generally they are not tradable goods, cannot be sold in markets and so provide no financial benefit to their owners. Consequently, forest management often ignores such services.

Primary forests are the site of the most glaring examples of this market failure. Logging companies do not bear the costs of logging, such as loss of habitat, biodiversity, soil erosion, increased flooding and mudslides.[26] Instead they are borne – or 'externalised' in the terminology of environmental

[26] *Bad Harvest: The Timber Trade and the Destruction of the World's Forests*, N Dudley, JP Jeanrenaud and F Sullivan, Earthscan, 1995.

economists – by society. In this sense forest products companies are being 'subsidised', insofar as they do not absorb these costs. Their profits are higher than they would be were the companies obliged to manage forests sustainably. Investors that have money in these companies may find their return greatly reduced if previously externalised costs instead become borne by the companies.[27]

Failure to price and structure concessions in a way that protects forests

It is difficult to see how forest services previously thought of as free can be priced without widespread social agreement – although such agreement may be reached in the future. For the time being, however, it is difficult to bring about change in the failure to price all the services provided by forests.

By contrast, the transaction in which a government sells a company a limited tenure to manage and harvest a forest is long-established, and it is more likely that pricing failures in this area of forest management can and should be corrected.

Forests may be owned by individuals, companies, communities or governments. Each of these forms of ownership has seen policy failures, but it is government ownership that has proved the most consistently problematic. In most developing countries, and some northern countries (such as Russia and Canada) where forests are state-owned, the right to access and harvest forests is granted through concessions. The length of these concessions, their ownership and their pricing often encourage companies to avoid long-term sustainable management.

In general, concessions vary from 10–25 years in length. This is rarely as long as a rotation length (that is, the number of years it takes for a forest to regrow to its pre-harvest volume). Further, to maximise income, concession holders sometimes recut within the concession period, before the forest has recovered from the first harvest. If this happens, when a concession term ends, operators leave the forest in a severely degraded state. Sometimes the commercial species within the concession area will have been over-harvested so much that they cannot recover. The forest is permanently degraded.

Government instability can be a further motivation for companies to harvest timber rapidly in developing and transitional countries. Concessionaires worry that their licenses may be withdrawn or transferred on a political whim, or that economic crises might topple their business overnight.[28] In Russia, some cash-strapped municipalities have been paying creditors with forest, opening up its far east to outsiders with no long-term interest in the region.[29]

Because concession ownership is rarely transferable, companies cannot sell the concession before it ends. Consequently there is no incentive for them to keep value in the forest as the concession

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[27] Although a global market is emerging for carbon offsets, it will be many years before it is established. It is still unclear whether forestry-based offsets will be accepted in the trading scheme.

[28] 'Tropical forest management in the Asia-Pacific region', *Journal of Sustainable Forestry*, Vol 1, No 4, 1994; 'Can sustainable management save tropical forests?', *Scientific American*, April 1997.

[29] *Taking a Stand: Cultivating a New Relationship with the World's Forests*, JN Abramowitz, Worldwatch, 1998.

draws to its end – that is, to retain the forest's productive state. Performance bonds have been proposed in some countries; with these, the company pays a deposit that is only returned by the government if the forest is left in good condition for future users. However, such bonds have not yet been widely adopted.

Forest concessions generally are acquired at prices below the market value of the standing timber. Clearly this boosts concessionaires' profits. It also deprives governments (and their forestry departments) of revenue. It has been estimated that in Indonesia only about 50% of the potential value or rent available from logging is captured by the government.[30] From this it has been calculated that logging companies benefit by some US $700 million to US $2 billion a year over and above what they would earn in a more effectively regulated environment.

Governments and development pressure

Forests are an easy source of revenue for a developing or transition economy. Governments are often tempted to develop a forest products sector without adequate long-term planning or awareness of broader conservation values. This development pressure is often increased by rising external debts and pressure to conform to IMF- and World Bank-imposed structural adjustment programmes. Many countries – notably Guyana and Surinam in the early 1990s – courted international and local forest products companies for these reasons. They offered a wide range of generous financial incentives to attract companies (such as tax holidays, low resource rents, the right to repatriate most of the profits). Many such deals did not even reflect the market value of timber, let alone the environmental and social value of the forests. A quote from a delegate at a UN hearing on multinational corporations sums up why this happens:

> *'A poor country, starved of foreign exchange, over-burdened with foreign debt, and struggling to implement a modest development programme, will, in the absence of alternatives, readily enter into various agreements with corporations on unequal terms, reflecting its weak bargaining position and its desperate pursuit of a modest rate of interest.'* [31]

Countries in such a weak position usually lack access to resources or know-how that would enable them to regulate and monitor forestry companies effectively.

Table 7: Low income countries' dependence on forest products

Country	Forestry sector as % of country's trade	Forestry sector as % of GDP
Solomon Islands	42	16
Equatorial Guinea	42	4
Central African Republic	20	12
Congo	16	7
Cameroon	15	6
Gabon	12	6

Source: unpublished paper by WWF and World Resources Institute, in preparation.

[30] *Incentives for Tree Growing and Managing Forests Sustainably: More Than Just Carrots and Sticks*, IKC Natuurbeheer, 1997.

[31] *The Sinking Ark: A New Look at the Problem of Disappearing Species*, N Myers, Pergamon Press, 1979.

Weak regulation and patchy monitoring

The institutional weakness of many forestry departments is the wellspring of many problems. Weak departments regulate feebly, monitor patchily, and lack power to negotiate fair terms and conditions for concessions.

Forestry department weakness often comes from underfunding, insufficient numbers of staff and lack of technical equipment. Staff are often very poorly paid and rarely have the opportunity to improve their knowledge or technical skills. This under-resourcing is due in turn to a wider government perception that forestry departments are unimportant, because they do not capture significant royalty, rent and tax payments from concessionaires.

This is of course a vicious circle: capturing these payments requires monitoring of volumes and/or numbers of logs being harvested, and this in turn requires adequate staffing levels. If the circle were broken, revenues would rise and so would the institutions' status in government thinking.

Another problem is that revenues flow from the forestry departments into central government coffers, often not benefiting the department or the region from which the revenue is derived. Faced with this situation local governments often look for ways of gaining more direct benefit from their forests – perhaps converting them to other land-uses from which they will benefit more directly. This has been observed in Indonesia[32] and highlights the weak position and status of forestry departments in government.

Corruption and influence

Many countries lose forests and revenues because of corruption, either directly or indirectly. Powerful and wealthy concessionaires are able to bribe poorly paid forestry department staff to overlook over-harvesting or poor harvesting practice. Concessions are also sometimes awarded as a result of bribery. Corporations have deprived forestry departments of much-needed funds by using transfer pricing or inflated input costs to reduce declared profits and hence tax obligations, or they have manipulated debt and cash flows to transfer money offshore.[33]

In several well-documented cases Asian-based transnational logging groups have been involved in the attempted bribery of government officials, illegal logging and expropriation of land from indigenous people in countries such as the Solomon Islands, Papua New Guinea and Surinam.[34] Few countries have taken steps to stop such illegal practices. Malaysian officials did, however,

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32 *Rates and Causes of Deforestation in Indonesia: Towards a Resolution of the Ambiguous*, WD Sunderlin and IAP Resosundarno, CIFOR, 1996.

33 *Private Sector Forestry: A Review of Investments for Ensuring Sustainability*, S Bass and R Hearne, IIED, 1997.

34 *Backs to the Wall in Surinam: Forest policy in a Country in Crisis*, N Sizer and R Rice, World Resources Institute 1997; *Profit without Plunder: Reaping Revenue from Guyana's Tropical Forests without Destroying Them*, N Sizer, World Resources Institute, 1995.

reportedly meet recently with industry executives and demanded that they respect the laws of countries in which they were operating, and not take advantage of 'weak governments'.[35]

In regions where companies usually own their own forests, such as the US, Western Europe and Scandinavia, the problems that occur with concessions are naturally less common. In these countries, when loss and degradation of forests occurs, it is mainly because governments have not established sufficiently stringent forest management standards (often called Best Management Practices [BMPs] or Codes of Conduct) and protected areas so that forests and the broader ecosystem are kept in a productive and healthy state. Until recently, most such codes have imposed limits on cutting – setting a maximum annual cut – but have often not included quantitative guidelines about managing habitats, watersheds and soil erosion. This could be because putting new scientific findings into regulation and law usually involves a long time delay (as was shown in the implementation of ecosystem management in the US), but equally, it could be due to pressure from industry not to improve standards.

The timber industry influences the way policy is made through campaign contributions to elected officials and political appointees in key forestry roles. In this way key aspects of forest policy-making may be dominated by industry interests. In the US, for example, federal forest policy has included many elements highly beneficial to the industry, such as:

- short-term policies established through budgets negotiated by Congress. These set annual harvest targets that provide strong incentives to harvest rapidly
- complex forest planning processes, in which the public has little say
- forest service budgets tied to timber sales rather than forest management targets.

3.7 International attempts to reverse forest loss and degradation

Because national governments have often made a poor job of tackling forest loss and degradation, there have been many international attempts to confront the problem – especially for tropical forests – by governments, NGOs and international and national aid agencies. Unfortunately, despite considerable expenditure and years of effort, few of these have had a clearly measurable or positive impact. For example, one report claims that the US $1.5 billion the World Bank spent in Asia between 1979–1990 had a negligible impact on the forestry sectors there.[36] Indeed, multilateral aid itself has been blamed for encouraging private sector exploitation of forests.

The failure of the many initiatives and projects to reverse forest loss and degradation has led to calls for a legally-binding international Forest Convention. At the Rio Earth Summit in 1992 a 'Non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forest' (otherwise referred to as the 'Forest Principles') was the nearest approach to such a convention. Several other conventions and treaties exist that govern biodiversity, carbon offsets, endangered species and trade. These only indirectly

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35 Personal communication, WWF-Belgium.

36 *Communities and Forest Management*, M Poffenberger, IUCN, 1996.

affect forests, so it is hardly surprising that as far as global forests are concerned they have yielded limited benefits to date.

Bilateral and multilateral agencies often provide support to developing countries in an effort to strengthen forestry departments. For example, the UK government's Department for International Development is running a project in Guyana to support the development of the forestry department there; the Food and Agriculture Organization (FAO) has promoted National Forestry Action Plans (NFAPs) to help government forestry policies; and the World Bank has supported many projects with components designed to strengthen government forestry bodies.

Such international attempts at regulation find themselves confronting the national problems, but multiplied and entangled on a grand scale. Any international convention would have to be implemented and monitored by national governments. So it is likely to fail for the same reason that national government efforts have so often failed – insufficient regulatory capacity and a lack of political will. Many institutions have become concerned that any international convention would both be controlled by the industry and be implemented too late to help many of the most threatened forest ecosystems.[37]

3.8 Conclusion

The forest products industry is very large and therefore has significant global environmental impacts. Clearly, national governments have made a poor job of protecting forests, owing to a wide range of complex and interlinked problems. International institutions have made expensive efforts to protect forests through regulation, but have only met the same problems multiplied. These attempts have been largely unsuccessful.

The lesson of this chapter is that forests have not been valued for the full range of services they offer, which is a major reason why they have not been fully protected. In chapter 4 we will see that environmentalists have turned their efforts to finding ways in which the forest products industry can *itself* become part of market-based solutions. These reward companies that manage forests in a way which reflects their overall value.

As Bill Howe of Collins Pine, a Californian company, explains:

> *'we have long argued against stifling governmental regulations. But certification may provide the internal desire for industry to voluntarily achieve results that regulations ... rarely accomplish.'*

[37] *Bad Harvest: The Timber Trade and the Destruction of the World's Forests*, N Dudley, JP Jeanrenaud and F Sullivan, Earthscan 1995.

4 A market-based solution to forest loss and degradation

Summary

Surveys show that consumers are very concerned about forestry issues, even more so than about emissions and recycling. Industry responded at first with 'self-certified' claims of sustainability, which were largely disbelieved. New systems have emerged that companies have used to address this problem. These divide into those that apply internationally, and those recognised only in one country. At the international level, ISO 14001 and EMAS both certify a company's efforts to apply its own environmental management system (EMS). They do not address forestry issues directly, and do not set objective standards for what an EMS should contain. The Forest Stewardship Council scheme is also internationally applicable but is very different in that it certifies the management of forests to objective standards, and gives companies the right to label their products in a way that consumers will recognise. The area of forest that has been certified under the FSC scheme has grown rapidly. WWF's initial target of certifying 10 million hectares of forest was reached six months early. In Europe and the US, buyers' groups have been formed by large industry players who want to show suppliers and consumers that they are serious about adopting products certified under the FSC scheme.

4.1 Substantial levels of consumer concern

The way that the forest industry manages its forests is considered by consumers to be one of the most pressing concerns in the late 1990s. In 1997, a confidential survey by one of the world's top 10 forest products companies revealed that the greatest concern of industrial and retail consumers was forestry practices, rated nearly twice as important as emissions and recycling. However, many companies still resist calls for improvement in forest management, saying that it is not needed and will reduce profits.

Many different interest groups – industry-based, professional foresters or environmentalists – have responded by attempting to create a new framework for forest management through positive and market-based solutions.

This chapter describes the various certification initiatives that have been launched in recent years, and points out differences between them. It also indicates the essential features a successful scheme should have if it is to allow consumers and investors easily to identify companies that are pursuing the best forest management practices available.

4.2 The growth of voluntary certification

As concern for forests grew among consumers, many forest product manufacturers introduced self-certification schemes. These often involved labels claiming that products were from 'sustainably-managed forests'. Such claims are generally disbelieved by consumers, because they are not based on any internationally recognised standards and are not independently verified. A study by the Angus Reid Group found that 79% of adults believed environmental claims made by environmental groups, but only 37% believed those made by business.[38]

The obvious response was to generate a scheme that is not wholly self-certified. Industry and environmental groups have worked together on a number of different schemes. These divide into two types: internationally applicable schemes (notably, ISO 14001, EMAS and FSC), and nationally applicable schemes such as CSA.

4.3 Internationally applicable schemes: ISO 14001, EMAS, FSC

Since forest products companies are increasingly involved in mergers and alliances that cross national borders and sell in international markets, the most valuable schemes are likely to be those that assess their activities using internationally recognised standards. International schemes divide into those based on measuring broad environmental management systems, and the FSC, which is based on measuring performance in forest management against objective standards.

Schemes based on management systems: ISO 14001 and EMAS

The ISO 14001 Environmental Management System Standards, and EMAS, the European Eco-Management and Auditing System, are both intended to be used by companies to show that they have an internal environmental management system in place, which they continually aim to improve. Both schemes are globally applicable. ISO 14001 has been in existence longer, and has been more extensively adopted.

In 1996 the International Organization for Standardization 'ISO', a world federation of 100, mostly governmental, national standards bodies, developed the ISO 14000 'family' of standards, including the ISO 14001 Environmental Management System Standard. ISO's goal is to develop voluntary standards that enable international trade. The very purpose and strength of ISO 14001 was its intention to apply to companies in any industry. Of course, this means that it does not and cannot *specifically* address the environmental management problems of forest products companies. Companies from any sector can apply for ISO 14001 certification, which involves an audit of their internal management systems. Independent auditors confirm that a system for environmental planning, goal setting and monitoring is in place and working.

The drawback of the scheme is that if a forest products company is evaluated, there is no assessment of actual forest management practices on the ground, and no consistent, minimum benchmarks are

[38] *Marketing Products from Sustainably Managed Forests: An Emerging Opportunity*, D Propper, T Lent, R Crossley and M Kelly, MacArthur Foundation, 1998.

set for any aspects of forest management (such as watershed management, biodiversity conservation, soil disturbance and use of chemicals). So comparison of performances is impossible. It is the EMS that is certified – not the company's forest management. When a company is ISO 14001 certified, no product label is granted to reflect this, so certification does not confer a direct and easily quantifiable market advantage. While attaining ISO 14001 certification is laudable and an EMS is an essential tool to enable a company to plan, implement and monitor all aspects of environmental management, including forest management, it does not provide any information about the standards of forest management being pursued.

ISO 14001 can, however, provide investors or lenders with an assurance that the company has *voluntarily* begun to assess regularly its environmental management capacity. Moreover, the work required to attain ISO 14001 or EMAS has considerable overlap to that required for attaining FSC certification; indeed, the two types of programmes are highly complementary and compatible.

The relative level of environmental performance of the company would require additional research by the investor. Unfortunately, ISO does not yet maintain a central registry of forestry or other companies that have qualified for ISO 14001 certification making it difficult to assess what area of forest certified under the standard companies control or own.

Measuring performance against set standards: FSC-based certification

The Forest Stewardship Council (FSC) is a not-for-profit, non-governmental organisation set up in 1993. It is a membership organisation, with diverse representation from northern and southern environmental groups, forest product companies, foresters, indigenous groups and others concerned with the socio-economic impact of forestry, and certifiers. It has established the only internationally applicable, independently verified, standards-based environmental certification scheme designed specifically for forest management that enables producers to label their products for consumer identification.[39]

The scheme is voluntary and has two main elements:

1. first, there are 10 principles and criteria of forest management that cover a broad range of scientific, environmental, social and economic aspects of forest management. In many regions work is being carried out that will result in locally applicable standards. These will be measured against minimum, numerical criteria
2. second, there is a process that tracks forest products from the forest to the mill and finally to customers – the 'chain of custody'. This allows companies certified under the FSC scheme to use a product label – the FSC Trademark. The Trademark can be used on paper and composite products that contain at least 70% FSC-certified raw-material.

FSC accredits certification bodies, which audit forests, using regional or local standards in countries where they have been developed (such as Sweden), or their own standards developed in consultation with local foresters and other experts. At the time of writing there are six accredited certifiers, two in the US, two in the UK and one each in Holland and Switzerland. Audits are mostly forest-based, but they also assess companies' internal management systems.

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39 *WWF Guide to Forest Certification*, WWF International, 1997.

FSC-based certification offers investors and customers independent assurance that a company is operating to the highest international standards, broadly supported by the environmental community. It also allows comparison across companies (a firm is either certified as having attained certain standards, or it is not). Certified companies can reap market benefits and distinguish themselves from competitors through product labelling.

Although the FSC scheme offers many benefits, it has also attracted criticism, particularly from industry and small landowners. Many industry players claim that the chain of custody tracking[40] process is too complicated and costly. However, major companies that have already been certified would dispute this. Small landowners have argued that because of the economies of scale involved in offsetting certification costs, they are unfairly discriminated against compared with larger forest products companies. FSC has responded to this criticism by developing 'group certification' of landowner associations, so that owners can club together and reduce costs.

Table 8 shows some sample certification costs. To date costs under various certification schemes have generally ranged from US $0.02–US $1.70 per hectare, but they are cheaper for those already pursuing excellent forest management. As Pieter Odendaal of South African Forestry Company Limited (Safcol) notes: 'some people tend to complain about the cost, but if you translate it into cents per cubic meter, it's not that much. And if you apply good management on the ground, it's not that difficult to get certification.'[41] Most companies whose forests have been certified report that costs are outweighed by long-term benefits, as will be described in Chapter 5.

Table 8: Sample costs of certification assessments, US $ per hectare

	Low	Average	High
Brazil	0.6		1.4
Indonesia	0.5		1.7
Finland	0.02		24*
Malaysia		0.22	

*Finland high figure is for a 30 hectare forest.

Source: Timber Certification: Progress and Issues, HG Baharuddin and M Simula, ITTO, 1998.

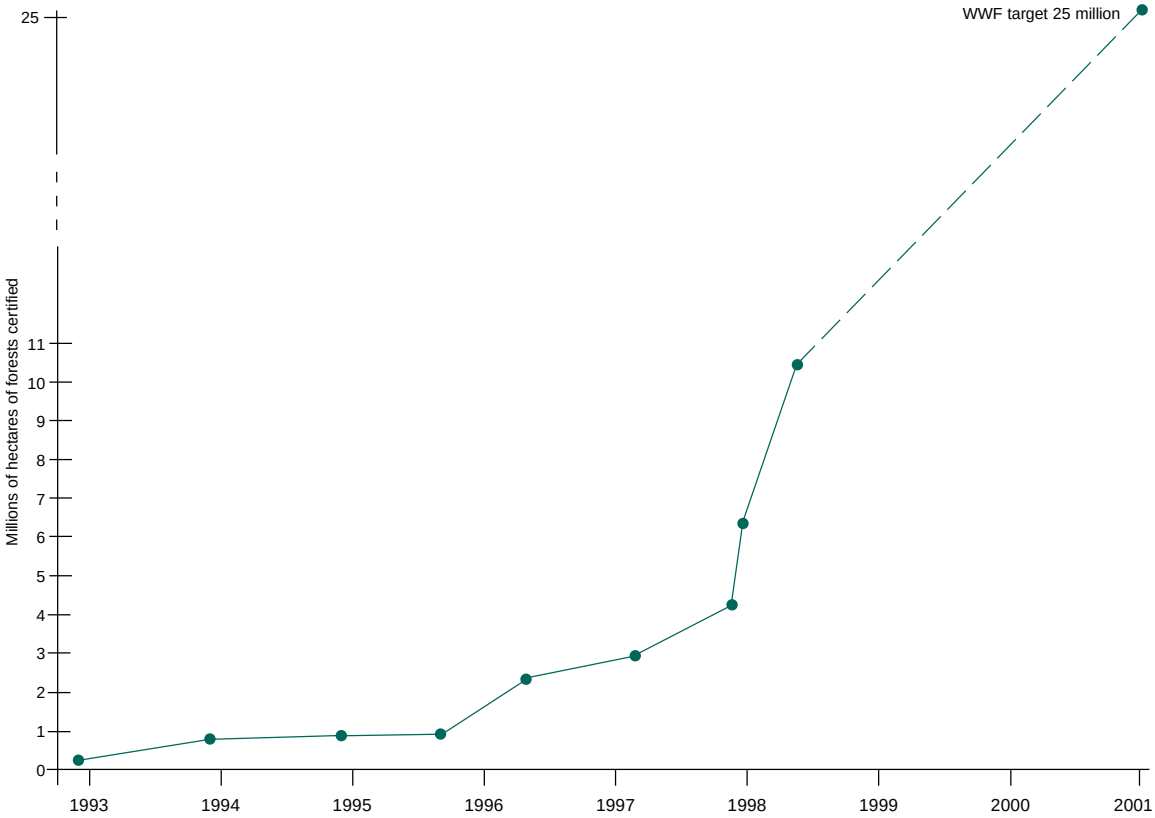
During the four years that FSC has been operational, the area certified has grown rapidly. One hundred and twenty forest operations in Africa, Asia, Europe, Latin America and North America have already sought and received FSC certification. In June 1998, the President of the World Bank announced its support for independent certification. WWF's 'Forests for Life' campaign aimed to ensure that 10 million hectares were FSC-certified by the end of 1998; the target was reached six months early. Some of the largest forestry companies in Scandinavia are among those certified,

40 This is the term commonly used for the process of tracking product from the forest to the end consumer.

41 Quoted in 'The third colour', *Timber and the Environment*, Supplement of the *Timber Trades Journal*, January 1998.

including AssiDomän, Korsnas and STORA. At the time of writing the total area certified is 10.2 million hectares. By 2001 the WWF target is for a minimum of 25 million hectares to be certified.

Figure 14: Rapid growth of forest area certified under the FSC scheme



Source: WWF

4.4 Nationally applicable schemes – SFI and CSA

A number of nationally applicable schemes focus on forest management. There are two such major initiatives, both of which have been developed in North America.[42]

SFI

The Sustainable Forestry Initiative (SFI) of the American Forests and Paper Association was developed in 1994 by the American Forests and Paper Association (AFPA), which represents more than 250 forest and paper companies and related associations. Its members account for 90% of all private commercial forestry in the US.[43] SFI is a 'code of conduct' – a set of principles, guidelines and suggested performance measures that cover the growing and harvesting of trees; protection of biodiversity; and soil, air and water quality. It is not a certification scheme and there is no product label.

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[42] While there are many other initiatives around the world focused on defining sustainable forest management and the possibility and desirability of setting up certification programmes, none is yet in operation.

[43] 'Sustainable forestry in the United States', *Asian Timber*, December 1997.

All AFPA member companies must comply to maintain their membership of the Association. They set their own performance standards (often similar to state-legislated standards). They then police the standards they have set for themselves. Because different standards and measures of progress are used, meaningful comparisons cannot be made between companies. Nonetheless, a panel of advisors reviews company reports and produces an aggregate report for the AFPA.

Although SFI is a good starting point for companies to familiarise themselves with the complex concept of sustainable forest management, it does not set comparable minimum performance standards, nor does it offer the market benefits of a labelling programme. As far as the investor or consumer is concerned, the only assurance SFI can offer about a particular company is that it is operating to its own standards. No comparison can be made with other companies in the US or abroad.

As a result, SFI does not enjoy widespread support in the environmental community. This has affected its acceptance by consumers as an indication of good environmental performance, which is so far limited.

Finally, SFI is a national initiative. Since the future of the forest products industry looks likely to be characterised by mergers, acquisitions and foreign investment, the fact that the initiative has no global applicability is likely to prove an ever-increasing weakness.

CSA

The Canadian Standard's Association's Sustainable Forest Management System Standards were approved in 1996, following a development process of two years. The standards are commonly referred to as the CSA system. It is a hybrid of a standards-based certification system and ISO 14001. Environmental groups were asked to take part in the development process, but many pulled out in protest at the level of involvement they were offered and because particular forestry practices were approved with which they did not agree.

The CSA system assesses a company's on-the-ground management of specific forest areas against a wide range of environmental and social criteria. It provides for the participation of local stakeholders (including communities, unions and indigenous groups) and requires a third-party audit of on-the-ground performance. Auditors have to be registered with the CSA.

However, as with ISO and SFI, the CSA system does not set minimum benchmark standards for each aspect of forest management that would allow cross-company comparison. Each company sets its own individual standards. So there is no specification, for example, of the minimum percentage of land to be set aside for biodiversity conservation, nor the level or type of chemicals that can be used.

Perhaps the system's biggest drawback is that it also does not provide a 'chain-of-custody' tracking system of wood felled from the forest to the lumber yard or mill and beyond. Again, there is no labelling. So while CSA certification can demonstrate that a forest product company is addressing the environmental quality of its forest management, consumers cannot see this.

Although there was significant involvement and support from the forest products industry for the development of the CSA system, at the time of writing no companies have attained certification under it.

4.5 Industry response

A growing number of forest product companies believe that independent, third-party certification will help them to demonstrate credibly the quality of their forest management. Labelled independent certification of forest management practices saves buyers or investors the trouble of verifying for themselves that products are sourced from well-managed forests. It also reduces the risk of negative environmental publicity, since distributors of forest products can assure consumers that they have taken all reasonable measures to ensure their products are from well-managed forests. Like independently audited financial statements, certification provides a credible seal of approval to the market.

Several forest product companies have attained the whole range of EMS and relevant forest management certification certificates to demonstrate all-around high-quality environmental management. Korsnas (like a number of other Swedish forestry companies) holds ISO 9001 and ISO 14001 for its forestry and processing operations, as well as FSC-based certification. The company proudly announces that:

> *'all this means that everything we plan and do is closely watched by auditors from internationally accredited organisations. These auditors ensure that we live up to the high standards set by ourselves and the world around us ... Our certificates prove that our customers can have complete confidence in our products and the way they are manufactured.'*[44]

4.6 Latent demand and industry commitment

Latent demand

Markets rarely develop because consumers spontaneously demand a product; they must first be made aware of its existence. Consumer demand for environmentally sound products of all types has gradually been growing in Europe and North America over the last few years.

Latent demand among manufacturers, retailers and designers is also demonstrably strong. A US study found that 50–60% of manufacturers were willing to pay a premium for certified wood.[45] A 1995 marketing assessment by the US Forest Service of over 300 forest products industry participants found that 96% of retailers and mail order catalogue firms responded positively to the idea of supplying and handling certified products; of these, 42% had already received requests to purchase certified products. The same survey found that 80% of furniture manufacturers were willing to buy certified wood. In another recent study, the Western Wood Products Association found that

[44] Advertisement by Korsnas.

[45] 'Timber certification: has its time come?', *Timber Processing*, December 1997.

over 75% of engineers and architects believed their customers would be interested in third-party certified wood products. Some studies, such as that by the European Commission and European Forest Institute found that over 50% of consumers were also willing to pay more for products sourced from well-managed forests.

Buyers' groups

Environmental groups in Europe have worked to kick-start buyers' groups for certified forest products. These are groups of companies interested in purchasing such products. Members of groups formed so far include companies from all sections of the product chain, from retailers to large 'industrial' buyers, and members of both private sector and government agencies.

Several buyers' groups have been formed in Europe and North America. The first buyers' group, called the 1995+ Group, was formed in the UK in 1991. Today it comprises over 89 companies – including large do-it-yourself home centre chains – which have a combined market share of over 50%. Together, the group members represent about 15% of total UK roundwood consumption (seven million cubic metres per year). All group members are committed to achieving superior environmental performance and purchasing wood and paper products under the FSC scheme or a comparable one should this emerge in the future. One of the members, Sainsbury's, is profiled in Box 1.

Box 1: J. Sainsbury plc

J. Sainsbury plc (JS) is a leading UK retailer that runs supermarkets and do-it-yourself home centres. The company is widely recognised as a socially responsible firm. Maintaining this reputation and associated goodwill is a key element of Sainsbury's long-term strategy. In line with its commitment to achieve superior environmental performance, JS joined the 1995+ group. JS believes being one of the first companies to sell FSC-certified products will further enhance its reputation in the marketplace.

Consumer education is a key element of the company's efforts to build market demand. It displays educational brochures near certified products and aggressively seeks to generate media publicity for its environmental programs. JS is promoting FSC-based certification across the industry and strongly encourages its suppliers to gain it. Through its TimberTracker system, questionnaires sent to suppliers and intermediaries convey the company's commitment to certification. TimberTracker assigns grades to suppliers ranging from A (fully FSC-certified) to G (Delisted). While JS prefers to remain with known suppliers, some have been delisted for poor performance and refusing to participate in FSC-based certification. One JS manager expressed an opinion echoed throughout the UK buyers group: 'Superior environmental performance is a characteristic of high quality suppliers. Companies that don't deliver environmentally, don't deliver in other areas as well – they don't meet specification, they don't deliver on time, and they usually have price fluctuations.'

Regarding the market for certified products, one member of Sainsbury's Board of Directors said: 'even if the market does not currently demand certified products, good marketers will anticipate the need.'

The UK 1995+ group was formed to foster the supply of certified products to its members. The growth and success of the 1995+ group have made suppliers aware of the importance of sourcing timber from well-managed forests. Through questionnaires about forest management practices and buyer visits to suppliers, member companies have been actively communicating their strong commitment to buying increasing volumes of certified products. This strategy has been quite successful and has resulted in support for FSC-based certification in Sweden, Poland, South Africa and a number of other countries.

Several other buyers' groups have formed in European countries, including Austria, Belgium, the Netherlands, Germany, Switzerland and Spain. The groups have the same basic goal of bringing about a stronger market for certified forest products. In 1997 the US buyers' group – the Certified Forest Products Council – was formed; today it has over 140 members, and is growing rapidly. In 1996, leading companies and environmental groups in Japan, including Kirin Brewery, Canon, Sanyo, Sony, Matsushita Electric, the Green Consumer Society, and WWF-Japan, among others, formed the Green Purchasing Network. The coalition was formed to promote the development of markets for green products, including forest products. Because of the lower levels of environmental awareness in countries outside North America and northern Europe, buyers' groups have not yet been created in other markets.

4.7 Conclusion

The features and merits of the various schemes described in this chapter can be summarised as shown in table 9.

Table 9: A comparison of forest management and environmental management systems

Evaluation criteria	FSC	ISO	CSA	SFI
Sets minimum forest management practice standards?	●			
Requires independent third-party auditing?	●	●	●	
Undertakes forest-based assessment?	●		●	
Evaluates internal Environmental Management System?	●	●	●	
Provides products label or market-based claim?	●			
Has extensive environmental community support?	●			
Has extensive industry support?		●	●	●

Environmental management systems programmes such as ISO and EMAS are good indicators that forest product companies are concerned about and actively managing their environmental affairs. American companies subscribing to SFI also indicate a willingness to improve their forest management, as do Canadian companies that pursue the CSA programme. However, these companies cannot credibly demonstrate this willingness to consumers or investors, as these schemes give neither comparable baseline standards, nor a product label. The national standards may well be regarded as insufficient in other markets.

If the consumer and investor are to be sure that a product is sourced from a well-managed forest, a product label issued by an independent third-party certifier is one of the best tools. The only system that can offer this at present is the FSC.

WWF and other NGOs have been effective in supporting the development of a market for products certified under the FSC scheme, through programmes that raise awareness of those products among retail and industrial buyers. Other programmes assist large buyers in shifting their purchasing to such products. While the market for independently certified products is still young, there are excellent indications from a number of market research studies that it will grow significantly in coming years.

5 Commercial benefits of FSC-based certification

Summary

This chapter illustrates the benefits of certification under the FSC scheme through examples from several certified companies and three company case studies: AssiDomän, STORA and Collins Pine. The benefits can be categorised in four groups. First, there are benefits in quality, productivity and the right to operate, including assurance of a long-term supply of timber because forests do not become exhausted and lose their productive capacity. Second, there are benefits from better market share, sales and prices; there are good indications that companies whose forests have been certified under the FSC scheme can tap latent consumer demand to increase market share. Third, companies can improve their reputation with consumers, employees and local communities, enabling them to focus their efforts on productive management issues rather than environmental conflicts. Lastly, reduction in risk means that companies enjoy lower costs of capital and insurance.

5.1 Benefits in quality, productivity and ensuring the right to operate

Three of the most significant potential operational benefits of FSC-based certification include ensuring long-term supplies of quality timber, increasing forest productivity, and maintaining access to forest resources – the 'right to operate'. The last of these is particularly important for the major companies considering expansion overseas, since this requires detailed and secure long-term planning. These operational benefits are described below. Some companies are also seeing gains in overall operating efficiency, while others are reporting savings in annual operating costs. Those companies already managing their forests to a high standard should have little difficulty in attaining FSC certification, and the costs of doing so will be less than for those companies with lower standards. However, the latter will likely see greater operational benefits resulting from developing and operating to a detailed management plan, and more carefully managing all aspects of silviculture and harvesting. Examples of operational benefits are as follows.

Assured long-term supplies of timber

Forest product companies must ensure that a long-term, consistent supply of timber is available for processing. This is increasingly difficult given the shrinking availability of primary forests in some countries, and the declining quality of forest in others. A fundamental element of FSC-based certification, therefore, is to ensure that forests are managed to produce a sustained yield of timber – which is to say, harvesting does not exceed the growth rate of the forests. If this is done, companies and their investors will avoid the risk that capital tied up in expensive machinery becomes unproductive because of wood supply problems.

Increased forest productivity

The certification process involves evaluating all aspects of a company's on-the-ground forest management. In the words of John Cashwell, of Seven Islands Land Company, in Maine, US 'it's

like getting a healthy forest physical.'[46] In some cases operating according to certification standards can increase the total amount of wood produced from a forest area over the long term. The case of Menominee Tribal Enterprises (MTE) demonstrates this point. Because of the detailed planning and the focus on overall ecosystem management under FSC-based certification, MTE identified over 66,000 acres of land growing below maximum quality and quantity potential. The plan is to convert these forests to native tree species, with larger diameter, higher volume and value material. These can be processed into higher profit-per-unit secondary products. These combined benefits are expected to significantly enhance operating revenues[47]. As noted above, those companies with the poorest management standards before being certified will gain the greatest benefits from improving their operating standards.

Protection of the right to operate

Because of the increased concern about forest management standards, some countries and companies have become more cautious in their development of forestry and wood processing facilities. These include countries such as Guyana, Surinam and Papua New Guinea. This means that it can be difficult for companies to extend their operations in certain areas of the world. In some cases they are denied the right to operate altogether.

The Forestry Division of Shell, which has in recent years been building up a portfolio of plantation forests around the world, has a policy of not buying or practising forestry in any primary forests but only reforesting degraded or abandoned lands. Shell's primary motivation is to ensure a long-term supply of wood, which might otherwise be interrupted by negative publicity campaigns against the company.[48]

As international companies expand overseas, environmental NGOs will watch their operations carefully. Countries may award forestry concessions to companies that offer to pursue FSC certification as a guarantee that their resources will be managed in the most environmentally sound manner possible. Here FSC-based certification provides a degree of protection to both company and country. Furthermore, independent certification could relieve pressure on under-resourced Forestry Departments to undertake expensive forest inventories, set forest management standards and monitor companies' operating practices.

5.2 Market benefits

A company can gain a range of market benefits from FSC-based certification. These include maintaining or increasing market share, either through attracting more 'traditional' customers or

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[46] 'Certified ''green'' wood – can forest certification help consumers buy a sustainably-managed world?', *Conservation Sciences*, Fall 1996.

[47] *Menominee Tribal Enterprises: Sustainable Forestry to Improve Forest Health and Create Jobs*, Catherine M. Mater, case study from *The Business of Sustainable Forestry*, 1998.

[48] Personal communication with Justin Stead, manager of 1995+ Group.

gaining access to new customers and markets; differentiating products in a commodity market; and, in some cases, receiving a price premium over non-certified products.

Maintaining or increasing market share

In the 1990s, forest products companies experienced mounting pressure from concerned customers and other stakeholders in many northern nations to operate in a more environmentally and socially responsible manner. Companies serving sensitive markets in western Europe and North America cannot afford to ignore these pressures. South-East Asian countries have experienced market declines as great as 68% as a result of environmental campaigning. In other areas of the world, including Japan and South America, there are clear signs that companies will experience similar pressure. Pressure from European publishers and buyers groups has initiated a significant movement toward third-party certification by their main suppliers. To maintain access to these markets, three of the largest forest product companies in Europe, AssiDomän, STORA and Korsnas, have recently had over 6 million hectares certified under the FSC scheme. In 1998 AssiDomän achieved its goal of 100% certification of its productive forest lands. The Scandinavian forestry sector prides itself on being a leader in the industry. It sees certification as another opportunity to exercise this leadership.

Canada is the largest exporter of forest products, accounting for 50% of world newsprint and 34% of wood-fibre exports. Europe is one of its significant export markets. Three major Canadian firms have recently indicated their interest in pursuing certification, including FSC, for two reasons: major competitors in the European market are seeking FSC-based certification, and pressure from environmentalists to stop logging old growth forests is increasing. The companies are Interfor, Western Forest Products and MacMillan Bloedel.

The South African company, Safcol, has attained full FSC certification, and is also committed to obtaining ISO 14001 certification, in advance of it being privatised in early 1999. This is to provide independent assurance of the quality of its environmental management and to allow it access to European and other environmentally sensitive markets. Safcol believe the realisation of both these objectives will be positive factors during its privatisation process. Mondi, which manages 29% of forestry land holding in South Africa, has had a significant part of its forests certified. A Mondi manager said: ‘It is our customers in South Africa, who make doors, who urgently need FSC labelling to place on their furniture. [In the future] with the FSC label we will also be able to export certified lumber direct into Britain.’[49]

Many of the 1995+ Group members face overwhelming demand for certified products, much of which they still cannot satisfy.[50] The managing director of a UK 1995+ Group member, Shireclose, reported: ‘The public response to our certification has been outstanding. It has been the right thing for us and has increased our market.’[51]

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49 ‘The Third Colour’, *Timber and Environment Supplement*, January 1998.

50 Personal communication with Justin Stead, Manager of 1995+ Group.

51 SGS Qualifor literature.

As well as protecting themselves against losing markets to concerned consumers, companies may also find that offering certified products could create new market niches and bring back customers who stopped buying wood products altogether.

Differentiating products

Forest product companies face difficulties in differentiating their products because they are mostly commodity products. FSC-based certification offers a differentiation strategy through the product label that the FSC scheme offers. As more such products are sold, market recognition will expand and third-party certification will increasingly be seen as the most credible way to communicate sound environmental policy to the market.

Gaining a price premium

Some companies are finding that they are able to command a price premium for certified products. AssiDomän, for example, is receiving a price premium of about 5% for its certified pulp and sawn timber. Others are gaining premiums in the order of 5–15%, depending on the segment and commodity. However, forest owners gain more through securing long-term supply contracts and an increased market share than through obtaining price premiums. This is perhaps because customers consider a guarantee that the wood products they purchase do not damage the environment as a basic attribute of product quality, not an additional option for which they should pay.

Box 2: AssiDomän

AssiDomän is a leading European paper and packaging company which has played a major role in the development of FSC-based certification in Sweden. In June 1998, it completed the certification of its 3.3 million hectares of productive forest land under the auspices of the FSC system. The first deliveries of certified wood took place in the autumn of 1997 and the company became the first in the world to sell certified pulp in February 1998. Through certification, AssiDomän has differentiated its products in a commodity market,[52] has secured price premiums of up to 5%, and has won over business from competitors.

5.3 Benefits from a better reputation

A third category of benefits available through FSC-based certification are those related to image and reputation with important interest groups, or stakeholders, such as regulators, local people and employees. Most companies that have become certified have acknowledged that they enjoy a better public image due to a combination of the factors described below. Many have come to be seen as sector leaders on environmental issues. This is the result of:

- getting to know local forest users better and responding to their needs
- having a product label in the marketplace around which marketing campaigns can be focused
- generating positive press coverage
- in some cases, getting endorsements from environmental groups.

[52] Personal communication.

Improved stakeholder relations

In the process of attaining certification companies consult a wide range of interest groups to solicit their input on how the forests should be managed. Some companies are finding that this increased contact and collaboration with local communities and forest users is improving their relations with those groups and reducing negative publicity. For example, STORA found a way to work with local environmental groups in a co-operative way, thus shaping a constructive solution to land-use conflicts that meets everyone's needs – rather than engaging in a drawn out destructive battle. The company also claims that they are no longer treated as an impersonal corporation, but have become more integrated with the local community. Furthermore, the relationship with the local media has evolved from confrontation to a point where little negative press has been experienced in the last two years.[53] Forest products companies' management therefore have to spend less time 'firefighting' and can devote more time to other management issues.

Box 3: STORA

STORA hopes to capture several of the benefits described above through its move towards full certification. STORA sells nearly 90% of its output in Europe. Over the past few years, STORA's publishing customers in Germany have been demanding environmentally friendly paper products. Recognising that industry environmental claims lacked credibility, the company sought FSC certification. STORA knew that its high labour costs and relatively slow-growing forests left it economically disadvantaged compared to southern hemisphere suppliers. In studying these competitors, the company concluded however that it would be difficult for some of them to become certified under the auspices of the FSC. So it saw certification as a way to build long-term relationships with its customers and strengthen its position relative to these competitors. STORA also saw certification as a way to slow down the adoption of wood product substitutes by its environmentally conscious customers.

Improving relationships with regulators, and pre-empting regulation

Another potential benefit of certification may result from a company voluntarily demonstrating to appropriate forestry authorities that it is operating to the highest forest management standards. This reduces the likelihood of, or need for, stricter mandatory regulations. Years of public and NGO pressure in British Columbia, Canada, have led to the introduction of extensive environmental regulations. These regulations contribute to British Columbia having the highest harvesting costs in the world.[54] One large US timberland fund reported that its voluntary environmental management initiatives which involved local NGOs, though not certification as such, facilitated the speedy processing of felling applications.[55]

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53 *STORA: The Road to Certification*, Richard Fletcher, James Alexander and Eric Hansen, MacArthur Foundation, 1998

54 'MacMillan Bloedel bows to pressure from Greenpeace', Financial Times, 19 June 1998.

55 Personal communication.

Improved employee morale and ability to attract good staff

Operating to certified standards means using industry's best forestry practices. While initially 'traditional' foresters might be reluctant to change tried and tested silvicultural practices, some companies have found that their foresters prefer certified practices, and in fact become their biggest champions. This was the case at Collins Pine in California (box 4).

Box 4: Collins Pine

Collins Pine operates forestry and manufacturing operations in California, Oregon and Pennsylvania and has annual sales of about US $220 million. The company has been practising good forest management for many years. It saw certification as a way to capitalise on its past practices and credibly inform the market that it was an environmentally responsible company.[56] Collins sells certified veneer logs and construction lumber. The FSC logo is used to differentiate its products in a commodity market. In California, where good forest management has been practised the longest, the company produces 316 board feet of logs per acre, 18% above the regional average. Because Collins Pine's wood is usually allowed to grow longer, it tends to be of a higher quality than competitors' wood.

Sustainable forest management has produced significant goodwill benefits for the company. With employee turnover below industry average, Collins Pine has high employee morale. Relations with local communities and other stakeholders are also excellent. Becoming certified under the FSC scheme has enhanced the company's image and generated significant amounts of publicity. Numerous articles have been written about Collins Pine in mainstream and industry publications. The company actively promotes certification to foster public support for commercial forestry and regain access to public forests in the Pacific Northwest.

5.4 Benefits from reduction in risk and liability

By its requirement of high forest management standards, FSC-based certification reduces the forest product companies' exposure to environmentally related risks and liabilities. For example, poor management of forests can cause damage to hill slopes, trigger mudslides, pollute local streams and rivers and diminish fisheries. This can leave companies open to legal action by local people, and may require expensive remedial action. Additional benefits include reduced financing and insurance costs due to lower risk profiles, pre-empting increasing regulations and reducing the liability exposure of the board of directors.

Surveys and focus groups conducted in the last few years have shown that forest products companies are considered to be as much forest land stewards as owners by the public. They are perceived as having a broad 'social responsibility' for those lands. Certification also helps companies to avoid risks such as customer boycotts and loss of public image.

MacMillan Bloedel is one of Canada's largest forest product companies with 1997 sales of US $4.5 billion. The company manages nearly two million hectares throughout North America and 1.1 million hectares in British Columbia. Recently, several large US and European companies cancelled or reduced orders of forest products from MacMillan Bloedel due to the company's controversial

[56] *Collins Pine: Lessons from a Pioneer*, Eric Hansen and John Punches, a case study from *The Business of Sustainable Forestry*, 1998.

forest management practices, including clear-cutting in British Columbia. The US companies were concerned that buying products from MacMillan Bloedel would damage their public image. Feeling the pressure of its unsustainable forest management practices, MacMillan Bloedel announced in June 1998 that it would phase out clear-cut harvesting in all its British Columbia operations and pursue a new strategy, which focuses on old growth and habitat conservation.

Tom Stephens, the President of MacMillan Bloedel, said:

> *'Today marks the beginning of the end of clear-cutting and recognition of non-timber values in our old growth forests. This is the future of forestry. It reflects what our customers are telling us about the need for certified products.'*

Responding to customer demand for certified products, the company plans to modify its operations to allow third-party certification.

To prepare for certification, the company plans to modify its forest management policies and practices. To improve relations with stakeholders, MacMillan Bloedel intends to ask labour, local communities, First Nations, the provincial government and environmental groups to review its new forest management strategy and suggest ways to improve it.

Stephens also noted:

> *'From a financial perspective our research tells us that we can generate an acceptable rate of return for our investors by implementing this plan and that it could provide us with access to market opportunities for certified products. We believe our new approach will establish MacMillan Bloedel as a leader in sustainable forest management.'*

The case of MacMillan Bloedel offers a dramatic example of a company that has adopted a new strategy as a result of sustained pressure from environmental groups in the region. Major US forest product company customers such as Proctor and Gamble and MacDonalds are already aware of the potential risks to their own corporate image from using environmentally unsound materials, and have taken steps to avoid those risks.

5.5 Conclusion

Chapter 2 described the forest products industry's responses to poor profitability. However, increasing challenges to its access to markets and forests and the commodity nature of its business often remain as problems that companies must overcome if they are to earn returns on capital comparable to other businesses.

Companies are starting to use FSC-based certification to address these problems. Certification under a scheme widely supported by consumers and environmentalists is a way of opening access to markets and ensuring continued access to forests. For SAFCOL, FSC-based certification will open access to the UK, a new market. Had it been similarly certified, MacMillan Bloedel might not have suffered consumer protest and made international headlines with a major U-turn in policy. Labelling products with the FSC trademark also gives companies pricing power. With the FSC label, AssiDomän has received a premium of around 5% for its sales of a differentiated product.

These are the two most crucial strategic benefits of FSC-based certification, but there are many others: improvements in productivity, quality of product, employee and community relations, and the company's overall reputation among customers, regulators and suppliers. Higher forest management standards may reduce the incidence of damage to hill slopes, the triggering of mudslides, and pollution of local streams and rivers, leading to lower costs for insurance against these risks.

Conclusion: an alignment of interests

The environmental problems associated with the forest products industry are a matter of great concern. Attempts to solve them have involved national governments and international bodies, environmental lobbying and protests, self regulation by forest products companies, and consumer boycotts. In the last few years such activities have increased and yet they seem unlikely to reverse forest loss and degradation on the scale that is needed. This report suggests that FSC-based certification has the power to unite conflicting interests and therefore has the potential to bring about significant change in forest management.

Surveys have shown that **consumers** want to buy products from well-managed forests. FSC-based certification is designed to make this an easy choice.

National governments have shown an increasing interest in improving forest management. FSC-based certification is a force for forest conservation that does not depend on public finances.

International bodies such as the World Bank share the interest of national governments. The World Bank's recent alliance with WWF, and endorsement of independent forest certification is an expression of that interest.

Local communities and private forest owners want to continue to have ownership of forests and access to them. Because FSC-based certification cannot be granted unless local communities' and private forests owners' rights have been recognised, it builds these rights into forest management practices.

Environmentalists want forest management schemes that are based on measurable standards of agreed best practice, which are independently checked. FSC-based certification is the only internationally recognised scheme that meets these criteria.

Forest products companies need to ensure the right to operate, and access to markets. Ideally, they should be able to differentiate their products in such a way that they can harness consumer demand and thereby achieve greater market share and possibly premium prices. Even though FSC-based certification has only been operational for four years and so the number of forestry operations presently certified is relatively small, there are notable examples of companies achieving all of these things.

Investors are interested in maximising returns (and to a growing extent, reducing the social and environmental impact of their investments) while minimising risk. FSC-based certification generates the potential for companies to increase profitability and thus improve share price performance, whilst avoiding incidents that can damage returns to shareholders. It is simple to identify a company whose forests are certified, and the certification is carried out independently (just as company accounts are independently audited). Using certification as one investment criterion, investors may be able to improve returns from the forest products sector.

FSC-based certification therefore has the capacity to align the interests of consumers, national governments and international bodies, local communities, environmentalists, forest products companies, and investors. For these reasons WWF recommends that investment managers incorporate it into their investment criteria.