Certification's impacts on forests, stakeholders and supply chains

People like forests – they have many emotional and cultural attachments to them. They also like forest products – and need increasing quantities of them. But they often don't like, don't understand, and don't trust what comes in between: forest management, which lies at the interface of public services (biodiversity, watersheds, etc) and private goods (timber, food, etc). Certification was developed to independently verify the quality of forest management, to communicate this to market players, and so to improve market benefits for the products of good management. The growing influence of the Forest Stewardship Council is one of the most striking recent developments in forestry. Certification is increasingly common in all continents. But has it actually improved forest management? Has it created sufficient market incentives? Above all, has it enabled trust to develop between stakeholders, so that they can work together better, to build the institutions required for sustainable forest management? This book is the result of two years' study by IIED and collaborators in several countries: it provides evidence for considerable policy and institutional change as a result of certification, and the beginnings of change in forest and market practice.

Instruments for sustainable private sector forestry series

Forests provide society with many goods and services. The private sector has come to play an increasingly dominant role in the production and distribution of many forest goods. Often, this has come at a price – environments have been degraded, social inequalities increased. Forest services that benefit society as a whole, notably climate moderation, biodiversity and heritage, are overlooked or undermined because they offer no opportunity for private profit. Securing these forest goods and services has traditionally been a government function. However, faced with limited resources, many governments now face the challenge of finding ways to ensure the private sector manages forests such that they optimise benefits to society. Some industry leaders have already taken the initiative and are working towards better forestry.

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Stephen Bass
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May 2001

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Executive summary

Chapter 1 – Introduction to the study

Forest certification has been hailed as one of the most significant advances in forestry in recent years. Within one decade, it has emerged from just an idea to become routine practice in Europe and North America, and is increasing in all continents. This paper takes stock of this rapid development, reviewing original assumptions and motivations, and presenting recent evidence of impacts and potentials to begin to answer the question: *how can certification best contribute to sustainable development?*

The paper concentrates on three fields of enquiry:

- *How has certification impacted on community forestry and community forest enterprise?*
- *How has certification helped to improve responsible business practice in industrial forest product supply chains?*
- *How has certification contributed to the kinds of policy processes that lead to sustainable forest management?*

Two major forces explain the origins of forest certification. Firstly, environmental NGOs were increasingly disillusioned with the failure of government and intergovernmental efforts to improve forest management. Secondly, leading forest producers and retailers began to realise that their future would be more secure if they were able to prove that their products derived from sustainable sources. Forest certification emerged as a means of independent verification, linked by labelling to environmentally aware markets. The initial focus was on distinguishing between tropical deforestation and good tropical forest management. Certification has, however, subsequently evolved to handle Northern forests as well, and today over 80 per cent of certified forests are in the North.

Certification is driven by the interests and incentives facing different groups, which range from global to local, private to public, and objectivity to extreme subjectivity. The 'supply-side' push towards forest certification by certain producers was very significant, but may not have succeeded on its own without the 'demand-side' pull from organised buyers' groups – with NGOs, and especially WWF, acting as a catalyst for both supply and demand. Buyers groups were significant in allowing certification schemes, and FSC in particular, to take off in a significant way.

The story of FSC, ISO, PEFC and the two dozen or so national certification schemes is told in Chapter 1. 'Forest certification' is not one single operation, but a mix of several mechanical and political functions. Most schemes have been influenced by FSC in terms of forestry standards, and by ISO in terms of certification procedures. The rise in the number of schemes being developed is indicative of certification's perceived usefulness and value – but also the need to tailor schemes to suit particular producers and markets. Where there is competition and contention, it is invariably over the perceived dominance or exclusion of certain parties, or over the lack of comparability (or different degrees of ambition or challenge) between the forestry standards. Many schemes are already having a big impact. Over 22 million hectares have been certified under FSC, with targets of achieving 200 million by 2005. 35 million hectares have been certified under PEFC in Europe over a comparatively short period.

Because there was no experience of forest certification prior to 1990, all initiatives have been launched on a sea of assumptions, some of which created biases, and many of which have not been kept under review. Principal amongst these are:

- *Voluntary, market-based* certification would be a cost-effective complement to traditional administrative regulation in improving forest management

- *Consumer demand* for certified products would be adequate to cover the costs of both improved management and certification

- *By involving consumers, producers and other forest stakeholders* in standards development, certification would be more credible than traditional instruments

- *Poor management/deforestation* would also be amenable to the incentive effects of market-based certification, as would good management

- *By not involving government*, certification would be able to avoid charges of trade discrimination, and would not be constrained by non-progressive notions of forestry within the government system

- *One set of standards* could be broadly applicable and acceptable to all types of forest producer, with some local interpretation

- *Western, scientific principles of forest management* would be appropriate for certification standards

Through the many (experimental) applications of certification, its potential to achieve an increasing range of purposes has become more evident to some stakeholders. Further assumptions have been added. Equally, opponents of certification have made their own assumptions.

With so many assumptions, and now the beginnings of a body of experience, it is timely to assess the impacts of certification. This is the aim of this study – so that

stakeholders, and especially those in developing countries, can improve their decisions about if and how to develop, apply and monitor certification as one instrument for encouraging sustainable forest management. Because it is the only global scheme, and also the only one with a long enough history of implementation, FSC was selected for analysis. The work has involved:

- The development, with FSC, of a detailed classification of all its certificates
- Analysis of this to reveal significant trends amongst certificates, and to identify case studies
- Field case studies, with the Oxford Forestry Institute, of the impacts of community forest certification in Bolivia, Honduras, Mexico, Papua New Guinea, and Zambia
- Case studies of certified forest companies in Poland, Brazil and South Africa, and their interactions with supply chains
- Assessment of the policy impacts and implications of certification
- Supplementary structured interviews with key informants and literature review
- Preparation of the current synthesis paper

Chapter 2 – Community forest certification

An extensive field review of certified community-based forest enterprises in developing countries has revealed the following impacts of market-based (FSC) certification:

On forest management and administration:
- A shift towards more scientifically rigorous models of forest management, albeit sometimes at the expense of valid local norms or practices.
- Strengthened internal mechanisms of monitoring, evaluation and reporting.
- Improved procedures for documentation and bookkeeping.
- Increased administrative costs (generally borne by donors).
- More efficient delivery and deployment of donor support.

On production, marketing and income:
- Typically, a change in emphasis from local or national markets to international markets for part or all of production.
- The adoption of more businesslike approaches, albeit sometimes to the cost of livelihood needs from the forest.
- Revenues limited by a lack of production capacity, processing technology, managerial skills and distribution channels.
- No significant increase in community incomes.

On community institutions and external relations:

- Greater emphasis on community structures as the basis for forest management.
- Enhanced professional status and prestige of the enterprise.
- Increased frequency of contacts and dialogue with government, industry and donors.
- Increased acceptance of the enterprise and its stakeholders in local or national policy fora.

On policy and legislation for community forestry:

- Limited direct impact of individual certificates on policy and legislation.
- Raised profile of community forest enterprises, but pro-community political and legal reform has yet to follow.
- The above lack of impact may be correlated with the limited government involvement and learning in the certification process.
- However, certification has occasionally stimulated the implementation of a particular law or policy, or the award of dispensation from a particular legal requirement.

Community forest enterprises face two main sets of challenges: those of getting certified, i.e. their ability to *access* certification; and those of getting certification to work in their interests, i.e. their ability to *exploit* certification. There are several constraints involved:

- The high costs of certification for community groups
- The inaccessibility of both market information and certified forest product markets
- The inability of forest standards to recognise many (complex) local land use systems, and locally-relevant social issues
- The lack of links between certification and the (development of) policies to promote community forestry
- The social and cultural burdens, and the technical challenges, entailed when undertaking the necessary business improvements to support certified forest operations

The studies revealed that certification has invariably been driven from outside, and often by donors, who have enabled communities to meet these challenges with significant subsidies. These subsidies can undermine sustainable commercial decision-making by community enterprises. Although some communities value the non-market benefits of certification, such as recognition and credibility, the main driving force is the promise of greater market security. Without this security, communities may not continue with certification beyond an initial 'honeymoon' period when support from donors and certifiers is at its highest.

The following **recommendations** are offered for supporting community forest enterprises

1. Donors should not subsidise the certification process directly, but try to improve enterprise performance at a pace that is consistent with learning approaches, with the potentials and constraints of local institutions, and with the diversity of community livelihood strategies.

2. Certification bodies and donors should ensure that certification standards and procedures are flexible and non-prescriptive, and do not raise any unnecessary barriers to community entry.

3. Certifiers should encourage communities to find their own solutions to management problems, and avoid making demands that necessitate external intervention.

4. All parties should encourage demand-driven approaches to certification, in which communities work closely with their customers to improve the range of activities (not just certification) which are needed to supply the desired product through sustainable means.

This will often entail focus on community enterprise capacity, and on encouraging experience in local and national markets. Finally, most certification schemes continue to operate uniformly without regard to the size or type of producer (although group schemes have evolved), and without dealing with the proposition that the smallest, occasional producers need not be held as accountable as the largest industrial producers. 'Low-input certification' might be considered for 'low-input' forest management.

Chapter 3 – Supply chains

This study examined how certification works as a market-based tool in practice, focusing on the role of supply chains between the UK, Poland, Brazil and South Africa.

FSC certification has been supported by 'Buyers Groups', which have been effective in creating pressure on their suppliers to certify. The most active members have, until recently, mainly been retailers of DIY (do-it-yourself) home improvement products. Their demand for certified products has been transmitted along the various stages of the supply chain, giving the forest producers and wood processors in these chains strong motivations to certify, as they would otherwise face loss of their markets. It has also created the opportunity for new suppliers who can offer certified products to access these retail markets. This effect has been more marked for softwood products. Retailers still report difficulties in accessing sufficient volumes of certified tropical hardwood.

Outside the DIY retail sector, and notably in construction timber and paper markets, supply chain pressure has not worked so effectively and it has been more difficult to coordinate demand and supply. Intermediate or end users are less committed to certification or, where they are committed, the volumes of wood they deal in tend to be too small to enable them to exert much pressure on their suppliers. There have been technical and political problems with products, such as paper and particleboard, which receive bulk wood inputs from a wide variety of sources. Recent changes in FSC's policy on percentage-based claims may facilitate the certification of paper products and other products based on a mix of raw materials.

Some forest producers have certified without supply chain or market pressure – usually to demonstrate their reliability and credibility. This has been to protect reputations, to improve trade relations in general, to improve credit ratings, or to satisfy other concerns of staff, shareholders or the public.

Overall, the pressure for certification has led to:

- Improvements in transparency – increasingly wood-users are keen to prove their claims of sustainability by being able to trace products back to their specific source, information which is made public.

- Switching suppliers – in some cases companies seeking certified products have dropped suppliers who could not provide these, and replaced them by new suppliers who could.

- Market access benefits – those who have been able to certify easily and swiftly have seen market benefits, including maintaining and expanding markets or accessing new ones.

- Occasional higher prices – price premiums are at best temporary, and generally restricted to specialist segments of the market where demand is strong and supply chains are less effective, such as tropical hardwoods. Retailers are consistent in their unwillingness to pay more – believing that certified products should be as competitive as other products and more so if they are to enter the mainstream.

- Retailers gaining much of the benefit – large companies with more power in the supply chain are seen to be setting the rules and receiving more of the benefits from certification, whilst not paying higher prices for the producer's investment in certification.

If certification is part of the picture for the international wood products industry, so far it has proven successful in only a small segment of it. Whether it leads to more widespread improvements in global forest management depends entirely on creating broader incentives for the supply chain to place pressure on producers. There is a chicken-and-egg situation of constraints, both to getting

enough supplies on stream to meet targets, and to boosting consumer demand, which would create incentives for certification.

The following **recommendations** are offered:

1. Create demand for further products and sources of supply: Where they have operated, buyers groups (now 'forest and trade networks') have been effective, but they need to expand – sectorally (construction timber and paper) and geographically (some of the large domestic markets).

2. Get the price right: Producers need incentives and want rewards for certifying. Some of the innovations in cost sharing seen in South Africa and Poland, where processors contribute to forest certification costs, may be useful pointers to the future.

3. Avoid market confusion: The current proliferation of certification schemes risks destroying the credibility of all of them – but this is not a reason for a rapid process to force the dominance of one scheme (the benefits of moderate proliferation have not yet all been exhausted – below)

4. Influence threatened forests: Certification has had little effect to date on the management of some of the main areas of forest concern, such as natural tropical forests. Instead, there is a risk that responsible buyers prefer 'safe' softwood or plantation sources. Again, influencing demand patterns is key. Efforts to develop forest and trade networks in South East Asia and Southern Europe will help to address this. So also would the development of step-wise certification schemes, to permit gradual improvement from a lower base.

5. Promote supportive policy: Certification remains most widespread in countries where there are good policies concerning forestry and downstream processing. Certification and trade efforts need to work with policy makers to explore ways to develop the positive interactions between certification and policy. National certification working groups need to adopt a broad perspective to certification's policy context.

Chapter 4 – Maturing certification: progress and ways forward

By reviewing the variety of experiences to date, we can identify an increasing number of uses of certification. These fall into three groups:

1. Market-oriented certification of forest products or forest environmental services:

- increasing the strategic choices available to companies producing for a market with ever-increasing social and environmental concerns (this is the most common use, and reflects the original intention of forest certification)
- commercialising forest services, such as carbon storage, which require independent verification to capture their economic value

- levering finance for SFM/forest business
- lowering insurance premiums by dealing transparently with risk

2. Regulation-oriented verification to strengthen or complement forest law enforcement:
- 'privatising' law enforcement
- encouraging self-regulation as a complement to law enforcement
- allowing exemptions from administrative procedures for certified enterprises
- making certification itself a legal requirement for a forest enterprise's 'licence to operate'

3. Project- or institutional-oriented certification to verify that particular forestry goals or outcomes have been achieved:
- supporting and validating aid interventions (e.g. especially for community forestry)
- monitoring and enforcing contracts (e.g. forest usufruct agreements or joint forest management)
- resolving conflicts, through certification processes involving dialogue and negotiation with other stakeholders
- improving an enterprise's own business management practices or administrative procedures

In addition, there are recent – and often quite exciting – signs that certification has been helping to *change forest policy towards SFM*, through:

- raising awareness of the possibilities for sustainable forest management (through the many conferences, meetings and media articles)

- decentralising and democratising the policy processes (through national working group debates on certification standards and procedures; through raising the profile of some previously marginalized stakeholders and forging new relationships between stakeholders as a result of the certification and audit processes)

- policy definition (largely through defining certification standards, and sometimes agreements with government)

- improving interdisciplinary sharing of ideas and loosening of professional cliques (through all of the above)

Certification's contribution to policy processes derives largely from its participatory approach to standards development – discussion and analysis of what good forestry is, how to recognise it, how to measure it, and who should be responsible. Certification has helped to bridge government, academic and corporate efforts to define SFM, to offer experimental approaches to forest management and audit in the field, and to provide a monitoring function where

previously there may have been little incentive for one. It has required stakeholders to communicate with each other at a number of levels, and has thereby improved awareness about forest issues. It has highlighted the need for changing roles and responsibilities in forest management between government, communities and the private sector, and for greater equality in the power base of forest stakeholders. These functions are all conducive to good, continuous-improvement policy processes. But the limits to government involvement, set by FSC rules, may have constrained the potential policy impact.

However, it cannot be assumed, on the basis of our early observations in some countries, that certification will always play a key policy role in every country. One of the major reasons for certification's policy impact – the existence of a national working group – offers an innovation in only those countries which do not already have multistakeholder forest round tables or fora, or at least fora not dominated by government. Furthermore, successful policy processes tend to build on elements that work within the cultural and institutional context of the country. Finally, certification has inherent limitations and can be costly compared to many alternative instruments. Thus, for the many tasks of SFM – policy-related or otherwise – the best means should be selected. There is no *a priori* reason to select certification unless it is *more effective, efficient, equitable and credible* than other means, and if it can fit within an *integrated set of instruments for* SFM that works well in local contexts.

The *effectiveness* of certification derives from four main impacts:

- *The 'stretch' demanded by certification criteria compared to commonly enforced regulatory requirements of forest management:* The commonest effect has been certifiers requiring producers to meet all current legal requirements which they might normally not bother to meet. But new national standards are beginning to raise the level of all legislation – or at least make it both more practical and a better match with stakeholders' concerns.

- *The extent of certified forest area under different forest and producer types:* Certification is well on its way to being applied routinely in many temperate and boreal forests. Much of the discussion and many of the developments concern competition and equity between producers who are just above or below the threshold of acceptable forest management, as defined by FSC in particular. It will require a 'stepwise' approach, in terms of standards and incentives, to help improve poorer producers and many tropical contexts, such as the Indonesian scheme.

- *Demonstration effect of certified forests on other forests:* Certification has had rather limited influence on the management of non-certified forest land. Such influence has often been constrained by external support to the certified enterprises, making them appear to neighbouring forest managers as atypical. Some certifiers are developing ways to make demonstration a more overt aim of their schemes.

- *Changes in consumption patterns towards sustainability:* Forest and trade networks have been key here, although their scope is still rather limited and they are only just making inroads in markets for paper products and construction.

Certification is becoming more *efficient* – at least as a market-based instrument. There are some useful trends which are bringing costs down: group certification schemes; use of local inspectors; price competition amongst certification schemes and inspectors; streamlining audit procedures; focusing on outputs or environmental/social outcomes to permit flexibility for producers; and national working groups developing local standards – which allows resources to be focused on what really matters. However, although it is beginning to be exercised for some unique non-market roles, certification shows few signs of being more efficient than other means in its non-market purposes.

Although certification has often improved *equity* between forest stakeholders, there are also areas of concern. Larger, industrial players find it easier to benefit from certification, having better access to information and markets, scale economies, and abilities to bear risks and costs. Furthermore, their forest management systems are often more easily 'recognised' by forest standards. The number of 'losers' can be minimized by good scheme design, routinely assessing the distribution of impacts of certification and appropriate adaptation; government support; and better understanding and action amongst buyers.

Certification is clearly one of the more *credible* instruments for improving forest management. The two key ingredients appear to be: focused participation in defining standards; and verification by third parties using tried-and-tested mechanisms with precedents in other sectors. However, the proliferation of certification schemes is leading both to consumer confusion and to a reluctance of firms to be certified at all. The risk is significant for the national schemes of smaller countries, which may not be able to afford to promote their schemes in an increasingly crowded field. Fears of proliferation have prompted considerable efforts by the wood products industry to investigate the potential of mutual recognition between schemes. Unilateral, bilateral, multilateral and universal approaches to mutual recognition are discussed, but it is not yet clear which approach(es) will be adopted. Many actors do want a single label or an 'umbrella' scheme. A more immediate need is for a framework to allow meaningful comparison and convergence in relation to effective certification practice. A recent model is introduced.

It is time to assess how well certification is integrated in specific national contexts, building on the findings in this paper. It is **recommended** that further countries, and further schemes in addition to FSC, need to be examined. This may help to reveal the priority complements needed for certification to become better integrated with other instruments – especially given its characteristic of a market instrument with public policy/regulatory characteristics. Very often this will point to the need for capacity development, and for continued monitoring

of certification's impacts. The national certification working groups, which have had an (often unexpectedly) significant role in policy development, should maintain oversight of the broad national requirements for SFM, within which certification can play a role and should sharpen its focus. A scheme for doing this, and for monitoring the impacts of certification on national capacities for SFM, is suggested.

A key context throughout this study is the observation that certification operates at the boundary of globalisation (which has tended to put the market and/or global forest interests first) with localisation (which has tended to put people and/or development first). As such, it sits at the heart of many of today's greatest economic, social, environmental and political challenges, which involve getting the trade-offs right for sustainable development. Forest certification is an instrument that was developed on broad sustainable development principles. It comprises many elements pointing to a new form of multi-stakeholder governance. Where certification can manage these tensions creatively, it should certainly have a role.

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London, May 2001

Acronyms and abbreviations

APCOB	Support for the Peasants-Indigenous People of Eastern Bolivia
B&Q	UK A major home improvement retailer
BCC	Bristol City Council
BOLFOR	Bolivia Sustainable Forest Management Project
C&I	Criteria and Indicators
CAR	Corrective action request
CEPI	Confederation of European Paper Industries
CFM	community forest management
CICOL	Inter-Communal Peasant Central of Eastern Lomerío
CSA	Canadian Standards Association
DFID	Department for International Development
DIY	Do-it-yourself (or home improvement)
EC	European Commission
EMS	Environmental Management System
EU	European Union
FFCS	Finnish Forest Certification Scheme
FD	Forestry Department
FMU	Forest management unit
FRP	Forest Research Programme, DFID
FSC	Forest Stewardship Council
IFF	International Forum on Forests
IFIR	International Forest Industries Roundtable
IIED	International Institute for Environment and Development
ILO	International Labour Organisation
IRECDP	Islands Region Environmental and Community Development Programme
ISO	International Organisation for Standardisation
ITTO	International Tropical Timber Organisation
LEI	Lembaga Ekolabel Indonesia (Indonesian Ecolabelling Institute)
LGA	Local Government Authority
LKS	Lesser-known species
MBI	Market-based instrument
MCL	Muzama Crafts Ltd.
MDF	Medium density fibreboard
nfp	National forest plan/programme
NGO	Non-governmental organisation
NTFP	Non-timber forest product
NWBP	North West Bee Products
OFI	Oxford Forestry Institute
P&C	Principles & Criteria
PEFC	Pan-European Forest Certification Framework
PHF	Pacific Heritage Foundation
PNG	Papua New Guinea
RDSF	Regional Directorate of State Forests
RSA	Republic of South Africa
SAFCOL	South African Forest Company
SCS	Scientific Certification Systems

SEA	South East Asia
SFM	sustainable forest management
SME	small-medium enterprises
SNV	Nederlandse Ontwikkelingsorganisatie (Netherlands Development Organisation)
TFT	Tropical Forest Trust
TWP	Timber and Wood Products (a UK timber trade journal)
UK	United Kingdom
US	United States
UKWAS	UK Woodland Assurance Scheme
UMT	Uchi Mukula (Honey-Wood) Trust
UZACHI	Union of Zapotec and Chinantec Forestry Communities
WWF	World Wide Fund for Nature

Note on currency exchange rates
All figures are given in US dollars. Unless otherwise stated, the July 2000 inter-bank rate of UK£1.00 = US$1.50 has been used.

Certification – its purpose and evolution

1.1 Questions about certification: an introduction to this study

People like forests. They also like wood, paper and other forest products. But, increasingly, they don't like what comes in between – forest management. Forest certification has been hailed as one of the most significant advances in forestry in recent years, helping to make forest management more acceptable and to improve levels of trust between producers and buyers. Within one decade, it has emerged from just an idea to become a common practice, especially in Europe and North America.

Certifications original purpose – of offering market-based incentives to producers for improving forest management – has become a reality for some. But many stakeholders are not yet involved, through lack of information, capacity, or resources – or purely because they believe their interests are not served by the schemes which exist, or by the (export) markets for certified products. This has led to a proliferation of certification schemes to better suit certain stakeholders' perceived needs. It has also led some stakeholders to employ certification for a variety of other purposes, not necessarily connected to markets. This paper takes stock of this rapid development, reviewing original assumptions and motivations, and presenting recent evidence of impacts and potentials. It attempts to answer the question: how can certification best contribute to sustainable development?

The paper concentrates on three fields of enquiry that are critical for sustainable development and its constituent objectives of sustainable livelihoods, stakeholder equity, responsible production and consumption, and environmental security:

- *How has certification impacted on community forestry and community forest enterprise?* Acknowledging that many rural livelihoods are forest-dependent, we examine how certification has affected the competitiveness of communities in a globalised world, where at the same time the non-commercial values of forest need to be sustained. A significant number of forest certificates have been awarded to community enterprises or very small producers operating under group certification systems.[1] Chapter 2 examines this experience, based on field studies of the practice and results of certification.

- *How has certification helped to improve industrial forest product supply chains and responsible business practice?* Industrial forestry today is driven by the

management of supply chains from producers to retailers. Forest certification has always recognised this, aiming from the start to link demands for sustainably produced goods to verified sources of those goods. The fact that certification took off so quickly is due in large part to the efforts of retailers and environmental NGOs, organised into buyers' groups to influence the supply chain. This presents potential incentives for producers, but it also presents the risk that certification serves only a 'rich man's club' of those with existing good forest management capacity, resources to be certified, and influence over markets. Chapter 3 looks at how certification works as a market-based instrument in practice, focusing on the role of supply chains in coordinating demand and supply for certified forest products. It examines the impacts of certification on product prices, on identifying and improving the forest and business practices of industrial forest producers, and on influencing other responses to social and environmental concerns along the supply chain.

- *How has certification contributed to the kinds of policy processes that lead to sustainable forest management?* Recent advances in sustainable forestry have often derived from multi-stakeholder policy processes that deal explicitly with economic, environmental and social issues in an integrated manner (Mayers and Bass 1999). Since its inception, certification has involved multi-stakeholder processes in setting economic, environmental and social standards for forest management and assessing practice in the field. Furthermore, whilst designed as a market-based instrument, certification has been increasingly employed for non-market applications. These include legal enforcement, claiming land or forest rights, conflict resolution, product and market diversification, self-regulation, and finance leverage. These all have significant policy implications. Chapter 4 examines the early signs of how certification has contributed to policy processes and resultant decisions, and begins to compare it with other policy instruments.

1.2 What certification is and how it works[2]

Certification is the procedure by which a third party provides written assurance that a product, process or service conforms to specified standards, on the basis of an audit conducted to agreed procedures. Certification may be linked with product labelling for market communication purposes. It evolved in the wine industry and is now commonly applied to laboratory quality control and organic agriculture. It bundles together a variety of rather mechanical tasks that aim to produce highly objective assessments. The 'political' side to certification tends to be in the development of standards and in some aspects of their interpretation (below). The International Organisation for Standardisation (ISO) has set precedents in the various tasks of certification, standardisation, and accreditation that are outlined below, and so most certification schemes have chosen to adhere to them, or indeed are strongly based on them because a bonus

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1 These make up 12 and 19 per cent respectively of FSC certificates (September 2000)
2 Sources for this section are: Upton and Bass 1995; Bass 1997; Bass & Simula 1999

is that ISO standards are recognised by the WTO as not creating unnecessary barriers to trade.

Forest management certification serves two basic purposes – to improve forest management through market-based incentives, and to improve market access and share for the products of such management. It addresses the quality of forest management, as opposed to the quality of forest products. It forms part of a growing trend to define production and process standards for social and environmental performance in natural resource management.

Standards used in forest certification schemes are of two general types: performance standards or management system standards. Performance-based systems are typified by the Forest Stewardship Council (FSC) approach; those based on management systems are typified by the ISO9000 or ISO14000 approach. However, all schemes include some elements of both types of standard.

Procedures for conducting forest certification to performance standards can be summarised as follows. At the request of the forest owner or manager, the certifier conducts:

- an independent audit of the quality of forest management,
- in a specified forest area,
- under one management regime,
- against specified environmental, social and economic standards;
- by assessing documents which prescribe and record management, together with checks in the forest,
- followed, usually, by peer review of the assessment,
- resulting in a certificate for a period; and/or a schedule of improvements (known as corrective action requests, or CARs),
- plus regular checks thereafter to maintain the certificate.

Chain of custody certification is a frequent supplement to forest management certification. It involves verifying the successive links in the supply chain of forest products, from transport to processing and distribution. This confirms the origin of forest products.

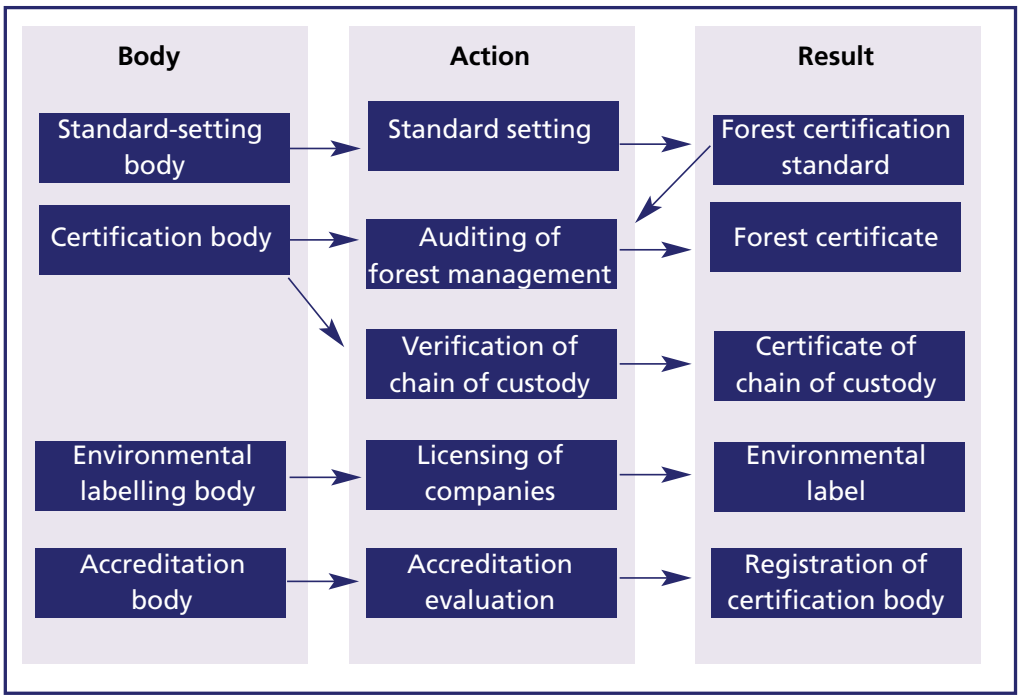
Product labelling is permissible following the certification of both forest management and chain of custody (but not with system-based ISO certification). Certification schemes operate strict rules regarding the use of on-product or advertising labels, which are usually trademarked.

Accreditation effectively licences certification bodies to operate, provided that they follow clearly defined and accepted rules. Accreditation is the process by which an authoritative body – usually a national accreditation body but an international body in the case of FSC – formally recognises the competence and impartiality of the bodies involved in certification of forest management and the

chain of custody. Accreditation is essential to confer credibility to certification bodies in the eyes of producers, consumers and other stakeholders.

Thus 'forest certification' is not one single operation, but a mix of mechanical and political functions. The relationships between these functions and the responsible bodies are illustrated in Figure 1.1.[3] Furthermore, it is driven by the interests and incentives facing different groups, which range from objectivity to extreme subjectivity.

Figure 1.1 Elements of market oriented forest certification



Source: Bass and Simula, 1999

1.3 The early rationale for forest certification

The origins of forest certification lie in the concerns of many stakeholders. Environmental NGOs were disillusioned with the failure of government authorities and regulations to improve forest management, with the inadequacy of intergovernmental efforts to tackle deforestation, and with the forest product trades lack of discrimination in where it sourced its products. By the late 1980s, they felt strongly that both the Tropical Forestry Action Plan and the International Tropical Timber Organisation (ITTO) had failed to halt asset-stripping approaches to forestry – and indeed may have offered 'lubricants' for a 'tropical chainsaw massacre'. Consumer bans and boycotts began to emerge, threatening to destroy the tropical timber trade. The imperative for timber retailers to avoid these – and to explore the more attractive possibilities of developing markets for environmentally- and socially-sound forest products – brought about a unique alliance of NGOs and the industry. The idea developed of a mechanism that would both allow wood sources to be traced back to their forest sources, and offer independent verification that the same forest was well

[3] Annex D provides a glossary of terms

managed. This was spurred on by an influential WWF survey which found that, of over 600 different claims of sustainability in the UK retail market, only three companies could reasonably substantiate these claims (Read, 1991).

The Forest Stewardship Council (FSC) emerged in 1993 to provide an international system which would verify that wood products carrying its label met ten principles of 'good' forest stewardship.[4]

If the problems of tropical deforestation were uppermost as drivers for forest certification, the practice of certification has, however, subsequently come to focus on Northern forests as well. With FSC, this was in response to legitimate worries about temperate and boreal forest practice, and to the interest and opportunism both of producers operating in these forests and retailers selling their products. Indeed, as we shall see, most FSC certificates have been awarded to Northern forests that have (usually) been under uncontentious management for some time.

But numerous other international and national forest certification schemes have now also emerged. This has partly been in response to perceived inappropriateness of FSC's broad-brush, international approach – and/or by the fact that certain stakeholders perceived themselves to be disadvantaged or excluded from the FSC process. Dissatisfaction with FSC – or at least strategic decisions to contest FSC – has been particularly strong amongst governments and sectors of the industry not represented by FSC membership. The various schemes are introduced below.

1.4 Multiple certification schemes – how they evolved and what they do[5]

The Forest Stewardship Council (FSC)

Until the introduction of the Pan-European Forest Certification Framework in 1999 (see below), the FSC was the only fully integrated, international system of forest certification. FSC was founded in 1993, with the objectives to promote global standards of forest management, to accredit certifiers that certify forest operations according to such standards, and to encourage buyers to purchase certified products.

FSC is a membership organisation, with decisions made through meetings of a General Assembly, which is divided into three equal chambers: social, environmental and economic. All three chambers have Northern and Southern sub-chambers, each with half of the total chamber votes. This structure of chambers and sub-chambers is aimed at equality and balanced power between

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[4] It was not, however, the first forest certification scheme: this was established by the Rainforest Alliance, an American NGO, which had set up the Smart Wood forest certification programme in 1990 (and is now accredited to FSC).

[5] Sources for this section are: Upton & Bass 1995; Bass 1997; Bass & Simula 1999; WWF 2000; FSC Documents; (www.pefc.org 25/9/00)

interest groups.[6] Governments are not entitled to participate in FSC's governance, even as observers, although government employees have been very active participants in some FSC national initiatives. This has been the cause of some frictions, especially given the close relationship of certification standards to regulations and the fact that government bodies have direct interests in forest enterprise, environmental sustainability and the welfare of forest-dependent groups.

FSC has a set of ten Principles and related Criteria (P&C) of Forest Stewardship, which apply to all tropical, temperate and boreal forests, both natural forests and plantations with the tenth Principle being exclusively for plantations (see Annex E). These P&C serve as a basis for the development of national and regional forest management standards. Certification standards that are consistent with both the P&C and with FSC's process guidelines for standards development are eligible for FSC endorsement. FSC owns a trademark which may be used to label products from certified forests.

In spite of the rapid take-up of FSC certification (see chapters 2 and 3), FSC remains in a developmental stage, and some of the relevant documentation is still in draft form. The ratified elements include: the Statutes; the Principles and Criteria; and guidelines for minimising conflicts of interest, for national initiatives, and for developing regional certification standards. A manual for evaluation and accreditation of certification bodies is also available. Working groups deal with unresolved or emerging issues. Key issues have been addressed recently, notably:

- Chain of custody in the case of multiple sources of paper and composite wood products. This allows processors a mix of certified and uncertified material where this reflects local supplies, and so reduces cost.

- Group certification of smallholders, to allow for several small enterprises to be covered by one certificate, which is held by the group manager. This can reduce certification cost, provided group members are sufficiently similar to create scale economies.

- Harmonisation of different national FSC standards covering similar ecological zones. This comprises both formal FSC National Initiatives to tailor FSC's P&C to local situations, and other nationally driven forest standards which have been accepted by FSC.

As such, FSC intends to be a learning organisation. It is hoped that this assessment of its early impacts will help that process.

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[6] FSC has recognised under-representation from the South and in the social chamber, and the economic chamber remains dominated by representatives of large companies.

The International Organisation for Standardisation (ISO)

ISO is a worldwide federation of national standards bodies. Its mission is to promote the development of standardisation in many sectors. The ISO 14000 process standards for environmental management systems (EMS) can be implemented by any type of enterprise in any sector, including forestry. Whilst it does not set any minimum performance requirements (the enterprise is free to use any performance standard, such as FSC's, or to develop its own), one of its key principles is that performance must continue to improve. It does not confer the right to use the ISO label on products.

Although ISO had been around for a long time before forest certification was developed, in the late 1990s, many larger forestry companies and some governments sought to establish a forest-specific ISO14000 standard as an alternative to FSC. They believed that ISO's process approach was both better business practice and provided for the very different starting points and operating conditions of forest enterprises in different countries. Furthermore, they were familiar with ISO approaches (which they had been using in e.g. mills) and were comfortable with the fact that ISO standards are not considered by the World Trade Organisation to be unacceptable barriers to trade. An ISO forestry technical working group was set up under a New Zealand industry chair. Whilst the result was that no forest-specific ISO standard could be agreed, a guide to the many possible forestry performance standards (including FSC) was produced to enable a forest producer to define its own standards under ISO14000 (but not to require any particular standard).

In practice, many companies see the performance focus of FSC and process focus of ISO 14001 as complementary and implement both. In South Africa, for example, many producers consulted by IIED had found ISO certification to be an excellent learning process which prepares the business for FSC certification.

The Pan-European Forest Certification Framework (PEFC)

In Europe, some small-scale and non-industrial forest owners and some governments have been strongly antagonistic towards FSC – feeling that their systems and cost structures would not bear the FSC P&C and possibly also the scrutiny of FSC's strong NGO membership. This led to the first real alternative to FSC in the form of the Pan-European Forest Certification (PEFC) scheme as a framework for the mutual recognition of national certification schemes. Worries in the European Commission about possible internal trade imbalances caused by FSC may have given further impetus. The initiative was started by Finnish, German, French, Norwegian, Austrian and Swedish forest owners. It was supported by the national forest certification schemes that had been emerging in some of these countries (for similar reasons) yet which felt themselves to be individually too small to develop an adequate presence. This was a rapid evolution: PEFC was started in August 1998, and was launched in June 1999. Now there are 18 countries involved, and a greater area of forest certified than with FSC (35 M ha against 22 M Ha in April 2001). This rapid development

has entrenched the position of many environmental NGOs. They believe that the ease of PEFC certification, in countries which they perceive to have imperfect forest management, demonstrates that the scheme is not helping to improve forest management and thereby achieves little beyond attempts at market protection.

The PEFC is a voluntary private-sector initiative, designed to promote an internationally credible framework for forest certification schemes and initiatives. Its criteria are consistent with the intergovernmentally agreed Pan-European Criteria and Indicators for Sustainable Forest Management, thereby attracting considerable support from both European and national governments. It has been designed to ensure that small woodland owners are not disadvantaged, and that local conditions are catered for. Thus national certification schemes that meet PEFC requirements can apply for endorsement and the right to use the PEFC trademark for product labelling.[7] In contrast to accreditation by FSC, PEFC leaves this function to national accreditation bodies. National PEFC governing bodies set standards and operate national schemes, and are represented on the PEFC Council Board. National standards and schemes are submitted to the board for assessment against the PEFC criteria in application to use the PEFC logo.

National certification programmes

At the level of individual countries, the number of certification schemes under development is increasing rapidly. Bass & Simula (1999) provide details of 12 active schemes (summarised in Table 1.1), and report that development work is under way in at least 12 other countries. National schemes can be divided into three main groups:

1. Schemes aligned from the outset with either FSC or PEFC;
2. Schemes that develop independently but aim for compatibility with FSC and/or PEFC; and
3. Schemes without any links to an umbrella scheme.

Some bespoke national schemes are assisting others: for example, Indonesia's Lembaga Ekolabel Indonesia has been assisting Vietnam and Malaysia. The majority of national schemes are market-oriented, voluntary and performance-based, but some also incorporate elements of the ISO 14001 EMS standard – the Canadian Standards Associations scheme was a pioneer in this respect.

Comparing the forest certification schemes

Table 1.1 summarises the major national, regional and international schemes. Whilst most cover similar ground to FSC in terms of the standards, and to ISO in terms of procedures, they vary in terms of participation in their development and governance, and are specifically tailored to local and regional conditions. Where there is contention over their differences, it tends to be over:

[7] PEFC is able to endorse both European and non-European schemes.

- perceived dominance or exclusion of certain parties; or over
- the lack of comparability between specific standards in a given region; or over
- the degree of challenge or 'stretch' represented by the gap between normally applied legal standards and certification standards.

Section 4.5 reviews the issue of comparability and convergence.

Table 1.1 Market-oriented certification schemes

Country	Title	Coverage			Status	International framework for the standard
		Forest	*Chain of custody*	*Label*		
International	Forest Stewardship Council (FSC)	Y	Y	Y	Operational, 22 mill. ha certified	FSC
Regional	Pan-European Forest Certification Council (PEFC)	Y	Y	Y	Operational, 5 national schemes endorsed, 35 mill. ha now certified	Pan-European C&I and Operational-level Guidelines for SFM
Austria	Austrian Forest Certification Scheme	Y	Y	Y	Operational; 0.6 mill. ha certified	Pan-European C&I and Operational Guidelines, PEFC endorsement
Bolivia	Bolivian Voluntary Forest Certification Council	Y	Y	Y	Operational, 7 forest management/ COC certificates completed	FSC
Brazil	CERFLOR	Y	Y	Y	Pilot, testing of criteria	ITTO C&I, FSC
Canada	CSA	Y	N	N	Operational, 7 companies certified, nearly 3 mill. ha.	Montreal Process C&I, ISO 14001 EMS standard
Finland	Finnish Forest Certification Scheme (FFCS)	Y	Y	N	Operational, 8 certificates cover over 22 mill. Ha	Pan-European C&I and Operational Guidelines, FSC P&C; PEFC endorsement
Germany	German Forest Certification Council	Y	Y	Y	Operational 2000, 3 mill.ha certified	Pan-European C&I and Operational Guidelines, PEFC endorsement

Country	Title	Coverage			Status	International framework for the standard
		Forest	*Chain of custody*	*Label*		
Ghana	Forest Management Certification System Project	Y	Y	Y	Planning and pilot phase	FSC, ITTO C&I, ATO C&I
Indonesia	Lembaga Indonesia Ekolabel (LEI)	Y	Y	Y	Pilot, testing; operational in 2000	ITTO C&I, FSC
Malaysia	National Timber Certification Council (NTCC)	Y	Y	Y	Development phase, operational in 2000	ITTO C&I, but also FSC, German Tropenwald Initiative
Norway	Living Forest	Y	Y	N	Operational, 6mill ha certified, mainly smallholding	Pan-European C&I, FSC, PEFC endorsement
Sweden	Family Forest Certification	Y	Y	N	Operational, 1.3mill.ha certified	Pan-European C&I, PEFC endorsement
United Kingdom	UK Woodland Assurance Scheme (UKWAS)	Y	N	N	Operational	Common audit protocol with FSC
USA	Sustainable Forestry Initiative (SFI) of American Forest & Paper Association (AF&PA)	Y	N	N	SFI operational since 1995; voluntary verification since 1998, 15,158,116 acres enrolled in SFI licensing programme	Montreal Process C&I, International Forest Industry SFM Vision, Principles and Elements.

Adapted from: Bass and Simula 1999.

[8] This target could be accused of being a somewhat arbitrary figure. It was developed jointly by the World Bank and WWF as a totem for an Alliance which intended to marry the World Bank's 'push' of policy, legal and economic reform of the forest sector with WWF's 'pull' provided by retailer/consumer pressure and certification. As such, it may reflect as much the *machismo* of this new relationship of powerful bodies as any rational plan on FSC's part.

[9] Possibly as a result of the discontinuation of a single certificate of a large woodland zone in Zambia.

1.5 How much forest certification to date?

Over 21 million hectares have been certified under FSC, with a target of 200 million by 2005.[8] PEFC, the only other fully operational multi-national scheme, already covers over 25 million ha in Scandinavia. There is a strong likelihood that most commercial forestry in Scandinavia can be certified under PEFC.

FSC's longer history permits an observation of trends in the distribution of certificates – and this is the principal reason why the current study has focused on FSC (Table 1.2). In section 4.4, we attempt an assessment of just what such a rapid spread has achieved, but it is immediately evident from the figures that industrial forestry operations in the North are dominant amongst FSC certificates. This is a fact not unrelated to the emergence of new national schemes in the 'weaker spots' such as Ghana, and of PEFC to accommodate smaller forest enterprises in Europe.

Table 1.2 Some emerging trends in FSC certification

	February 1999 % of total certified area	February 1999 % of total certificate numbers	August 2000 % of total certified area	August 2000 % of total certificate numbers
Regions: Increasing dominance of Europe, but also more in Latin America				
Europe	62	34	72	35
North America	14	34	12	32
Latin America	8	15	10	20
Africa	14	8	5	5
Asia	1	4	1	4
Oceania	1	5	<1	3
North/South: Increasing dominance of developed countries [9]				
Developed countries	80	66	84	69
Developing countries	20	34	16	31
Ownership: Growth in small (community, group, private) certificates				
Communal	3*	25*	2	12
Group/Resource Manager			5	19
Non-Industrial/ Private	1	19	7	30
Industrial	66	35	59	19
Government	22	20	26	18
Forest types: Increasing certification of plantations				
Natural	93	68	81	69
Plantation	7	32	8	13
Mixed	n/a	n/a	11	17
Totals	**14,992,960**	**156**	**18,039,626**	**245**

* combined communal, group and resource manager certification

Source: Thornber 1999b and FSC website 25/9/00

1.6 Motivations, drivers and assumptions behind certification

Early motivations

So what has motivated the widespread drive towards forest certification? Amongst the early promoters of FSC, motivations include the pursuit of both public interests and the private interests of the forest industry (Bass, 1997):

- *NGOs* were motivated by the prospect that certification would convert bad forestry practice to good practice, as well as raise the level of all forest management, and so enhance multiple values from forests. They also wanted to improve on the ways in which they were informing consumers about the distinctions between 'good wood' and 'bad wood', building on the interest and dealing with the difficulties associated with Friends of the Earth's 'Good Wood Guide' of the 1980s. Certification was a first foray into the realities of the market and the private sector behaviour for many environmentalists.

- *Forest producers* were motivated by the prospect that certification would provide an alternative to timber boycotts and offer a useful marketing tool in the face of consumer concerns and competition with other materials. Precise expectations ranged from premium prices (the strongest hope initially, but subsequently often to be dashed), to reducing market risks, to maintaining or increasing market share, to product 'green branding' and differentiation to access further markets – although it has to be said that many producers, even those who became certified, were sceptical and treated the experience as an experiment. *Non-market* producer motivations have also been influential: most of these relate to desires to be recognised as credible and reliable, as either resource managers or as businesses.

In practice, decisions to certify operations have sprung from a variety of motivations and expectations. We shall explore this further in chapters 2 (in relation to community forest enterprises) and 3 (in relation to larger producers).

Buyers' groups as a major driving force

These convergent motivations led to some producers and some NGOs becoming potential bedfellows in forest certification (although this did not stop many other producers and NGOs from strongly opposing what they perceived to be an unnatural partnership). Some NGOs, and notably WWF, realised that a 'supply-side' push towards forest certification would be unlikely to succeed on its own. A 'demand-side' pull was also needed. This was exerted through creating 'buyers' groups'. The first such group was the British WWF 1995 Group, made up mostly of large retailers working with WWF and committed to buying and promoting certified products. The corporate strategies of some group members have been particularly influential in driving demand for certified products, and in getting forests certified to supply that demand. Similar groups have now been established in 14 countries, co-ordinated under a *Global*

Forest and Trade Network. (http://www.panda.org/forest4life). However, as we shall see in Chapter 3, while these groups have been effective in convincing many large retailers to demand certified products, they have much less impact on small independent retailers and on some sectors such as construction timber and paper.

Occasionally, other groups have been influential driving forces. For example, donors have tended to promote and subsidise certification. This has been either to demonstrate that their community forestry projects have been successful in achieving SFM, or to improve the commercial viability of the project. This will be explored in Chapter 2.

The assumptions behind certification

It is evident that most actors were motivated by the potential 'prospects' of certification, rather than by proven experience. In other words, supporters of certification launched their new initiatives on a sea of assumptions, some of which created biases. Principal amongst these are:

- *Consumer demand* for certified products would be significant enough to encourage a critical mass of producers to cover the incremental costs of improving management as well as of certification, and thereby offer the consumer a choice.

- *Voluntary, market-based* certification would be a cost-effective complement to traditional administrative regulation in improving forest management and ensuring the protection of forest environments.

- *By involving consumers, producers and other forest stakeholders* in standards development, certification would be more credible than traditional instruments.

- *Poor management / deforestation* would be amenable to the incentive effects of market-based certification, as would good management.

- *By not involving government*, certification would be able to avoid charges of trade discrimination under WTO rules, and would not be hide-bound by any less progressive notions of forestry within the government system.

- *One set of standards* would be broadly applicable to all types of forest producer (although different standards would be needed for specific forest types). (Bass and Simula 1999; Markopoulos 2000)

Furthermore, the standards of early certification programmes displayed a *bias* towards western, scientific principles of forest management, with its emphasis on records and clear business strategy, and towards natural forests (Markopoulos 2000).

The opponents of certification also made assumptions – ranging from:

- rational forest management being impossible in many tropical forest types, to
- timber markets being incapable of turning against agents of forest destruction and supporting responsible stewardship, to
- producers being unwilling to bear the extra costs of certification, to
- the illegitimacy of non-governmental groups defining standards for forestry, to
- claims that certification would act as an unfair trade barrier

As forest certification matured during the 1990s, many of the underlying assumptions of both proponents and opponents have been modified or discarded, but others have not been addressed directly. Equally, as an increasing range of purposes of certification has become more evident (both through the application and mis-application of certification as we shall discuss in section 4.1), further assumptions may have been added.

1.7 The purpose and scope of this study

Certification has come to dominate many forest agendas – in terms of policy discussion, the investment of time and resources of many forest enterprises, and the development of dozens of schemes, if not yet huge areas covered. But there are still clashing views on such questions as:

Which groups will really improve their forest management through certification? Will it tackle the most pressing forest problems, or merely reward a few responsible producers? Who will be the winners and losers?

Any answers tend to be speculation at best. There has been almost no assessment of the early impacts which certification is having on the forests, stakeholders, and trade of any country. Nor is there any baseline against which to track its impact in future, or protocol for doing so. Informed analysis is needed, to enable certification to progress. It is time that stakeholders are able to review the purposes and assumptions surrounding certification, and its benefits, costs and their distribution – and thus to find a mature role for certification.

Hence the *purpose* of the study described in this book is:

To assess the actual and potential impacts of certification, in order that stakeholders, and especially those in developing countries, can improve their decisions about if, and how, to develop, apply and monitor certification as one instrument for encouraging SFM and sustainable markets.

The *objectives* are:

1. To assess the actual and potential impacts of certification at the *local level* with a focus on community groups: specifically on their forest management, on stakeholder capacities, rights, responsibilities, revenues and relationships, and on the relative distribution of costs and benefits.

2. To assess the actual and potential interaction of certification with *markets*:

specifically examining its impact along the product chain from forest producer to final consumer and the role played by corporations.

3. To assess the actual and potential interaction of certification with *policy processes, policies and institutions*, and in particular with the evolution of national frameworks for SFM.

4. Based on the above assessments, to suggest routine *impact assessment and monitoring frameworks* for future use by those involved in certification.

A key *context* for the study is the observation that certification operates at the boundary of globalisation (which has tended to put the market and/or global forest interests first) with localisation (which has tended to put people and/or development first). As such, it gets to the heart of today's greatest challenges, which involve getting the trade-offs right for sustainable development. Where certification can accommodate these tensions creatively, it should certainly have a role. Problems will become apparent where it cannot acknowledge them or handle them.

The *hypothesis* is that certification has a place amongst the array of instruments for improving forest management, forest-based livelihoods, responsible business, sustainable markets, and environmental security. But it has often been misapplied, or applied where conditions are not supportive. There is a need to mature its rationale and approach in relation to other instruments.

An important *premise* is that the short but extensive experience of certification so far should be treated as a learning process to inform the continuous improvement of certification – rather than just looking at the past and pointing fingers at 'mistakes'.

Equally, a number of *caveats* apply to the study:

- There has been a tremendous growth in both the processes and application of certification. However, only the FSC approach has been applied over a number of years, so this has been the focus of our inquiry.

- Lessons of very early certification experience are not all relevant to 'mainstream' certification, as they refer often to the particular challenges of early adoption (scheme development, promotion and refinement; stakeholder awareness; etc).

- Records have been patchy or not in uniform formats, especially in early stages.

- We have focused on small producers and poorer developing countries, in accordance with IIED's mission and that of our financial supporters, DFID and the European Commission. We have not had the time or resources to

comprehensively review the experience of major corporations and countries in the North. Information on these has been used where available and relevant – but it has been conspicuously absent (and indeed we recommend a review of experience and impacts in this area, including of non-FSC approaches).

The *activities* employed to develop this study will be described in more detail in the relevant chapters, with supplementary methodological detail in Annex A. They can be summarised as:

- The development, with FSC, of a database of all 156 certificates as of early 1999 in terms of enterprise and forest type, forest products, forest area, country, and – importantly – the conditions attached to the certificate (by FSC P&C). [10]

- Analysis of this database to reveal significant trends (Thornber 1999b), to suggest areas of impact that FSC may wish to make a special effort to monitor in future, and to help in identifying case studies (below)

- Field assessments of the practice and impacts of community forest certification in five countries. The first three were undertaken by the Oxford Forestry Institute (OFI) [11], the fourth by IIED and OFI jointly, and the fifth by IIED:
    1. Lomerío Community Forest Management Project, Bolivia
    2. *Campesino* Forestry Groups, Honduras
    3. Union of Zapotec and Chinantec Forestry Communities, Mexico
    4. Bainings Ecoforestry Project, Papua New Guinea
    5. Muzama Craft Limited, Zambia

- Field assessments of the interactions of supply chains and certification in three countries, Poland, Brazil and South Africa, together with structured interviews with companies at different stages of these supply chains

- Assessment of the policy impacts and implications of certification through literature review and interaction with the five country teams taking part in IIED's project, *Instruments for sustainable private sector forestry*

- Interviews with *key informants* to enrich the above and to gain insights on future options for certification

- Preparation of the current *synthesis* paper. This brings together the above findings and makes recommendations directly relevant to the areas of inquiry. The temptation has been resisted, however, to make anything other than broad suggestions for issues not directly associated with the scope of IIED's research. These issues – which include the role of governments, and procedures for mutual recognition or convergence of schemes – are the subject of other ongoing work by several other institutions and colleagues, and will be addressed by IIED in future research.

10. This has subsequently been developed for FSC's own use.
11. Undertaken by Matthew Markopoulos as part of his work towards a DPhil thesis, 'The role of certification in supporting community-based forest enterprise (CFE) in Latin America'

Certification's impacts and prospects for community-based forest enterprises

2.1 Introduction

Many different forest enterprises – from small community-based operations to large multinational companies – have been certified under one of the national and international forest certification schemes. These experiences, however, have already raised a number of questions about the efficacy and necessity of certification for communities and other small-scale producers (Scrase 1999; Thornber, Plouvier & Bass 1999).

This chapter summarises a preliminary effort to evaluate and answer such questions. The Oxford Forestry Institute (OFI) and IIED have jointly carried out detailed case studies of certified community-based enterprises in Bolivia, Honduras, Mexico, Papua New Guinea and Zambia.[1] Annex A sets out the field methodology used for the case studies. Annex B provides one-page case study summaries (the full country case studies being available on IIED's website www.iied.org).

This chapter presents a synthesis of these studies, which are field assessments of the social, economic and environmental impacts of market-based certification. It highlights the main lessons and trends to emerge from the case studies, supplemented by analysis of additional literature and relevant experience. The chapter also analyses stakeholder motivation for certification, the challenges and outcomes of certification, and concludes with some suggestions for making current certification schemes more 'community-friendly'. Although the conclusions address community enterprise in developing countries, and projects with development assistance in particular, some of the findings may have some resonance elsewhere – although caution should be exercised in extrapolating the findings.

Although many certification schemes are emerging in different regions and countries of the world, FSC is as yet the only international scheme with a substantial history of implementation at the forest level. It therefore forms the focus of this chapter.

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[1] The 'community' role in the enterprises differs somewhat between the projects, e.g. the Honduran case is a group of small entrepreneurs living in a community, but most other enterprises are owned by the community.

2.2 Background: communities, forestry and certification

Despite many government-led attempts to manage forests sustainably and for public benefit, there has been a strong trend towards devolvement of forest management responsibilities to communities. Community forestry[2] has formed one of the main thrusts of donor funding for forestry for the past two decades (Dubois & Lowore 2000). Donors have promoted community forestry as a way of improving the livelihoods of rural communities by generating income and employment, and by securing a long-term supply of forest goods and services. The closer involvement of communities in forest management is believed to improve their understanding of the value of forests, thus reducing the risk of forest degradation or liquidation by mining, logging and other activities. Many community groups have shown a keen interest in managing their forests, and community forestry initiatives have spread worldwide.

Community forestry operations differ widely in terms of their social and cultural context, systems of organisation, sources of financing and degree of market integration. It is possible, however, to identify certain common features that define community operations and distinguish them from large-scale, corporate operations:

- *Informal and limited management capacity.* Many communities have traditional forest management practices, but few are accustomed to formal, 'scientific' methods of tree husbandry and protection. Community members may also be unfamiliar with market-based enterprise, and may lack the necessary business skills. Most communities have only a limited knowledge of the timber trade and forest products marketing (Kwisthout 1999).

- *Low production.* Harvesting by communities is generally on a smaller scale and less capital intensive than industrial harvesting systems (although some communities may manage large forest tracts) (Salafsky *et al.* 1997). Low production is often a function of limited financial and technical capacity, or wastage from outdated or poorly maintained equipment, or conservative business goals.

- *Low mobility of capital.* The capital and profits of a community enterprise tend, of necessity, to be invested locally, whereas those of a large-scale, corporate industrial enterprise are easily moved to other localities or sectors of the economy (Salafsky *et al.* 1997). Communities thus have a greater incentive to maintain their forest stocks, but may be more vulnerable to macroeconomic fluctuations.

- *Sporadic activities.* In most communities, forestry takes second place to agriculture (Irvine 1999; Thornber *et al* 1999). Harvesting may occur only during a lull in the agricultural cycle, or when extra cash income is needed, for example for a religious festival. The rhythm of for-profit forest management

[2] This report uses the term community forestry to refer to any form of community-based forest management where communities are involved in the planning, management or overall control of the forestry operation (Dubois & Lowore 2000).

may necessarily be compromised by community traditions, such as the regular rotation of management positions within community enterprises in southern Mexico (Markopoulos 1999a).

- *Remote locations.* Forest communities are often found in isolated areas with poor or non-existent transport, energy or communications infrastructure. Isolation increases production and transport costs, and limits access to markets, information and capital. The lack of access to information within a community impedes understanding and awareness of new concepts and issues (Penelon 1997).

- *Policy and legislation vacuum.* Community forest enterprises often have difficulty obtaining formal recognition and support, as forest policies and legislation tend to be biased towards large-scale producers, and sometimes the corporate sector. In general, communities have only a limited ability to influence policy developments that might favour them (Mayers & Bass 1999).

As a result of such factors, the development of a stable, freestanding community enterprise may take many years – where it is relevant (community forest enterprise should not always be considered an effective way of improving livelihoods – ODA, 1996). Experience in Brazil indicates that community enterprise development takes an average of 8 years (Dubois 2000); in Honduras, between 10 and 15 years (Richards 1997). In south-east Mexico, community-based forestry operations of nearly 20 years standing still rely on outside assistance to maintain their production systems (Southgate 1998). Where forest enterprise has been a commercial success, for example among the forest *ejidos* (communities) of south-eastern Mexico, the main contributing factors have been a high standard of technical assistance, aggressive marketing and processing strategies, local political support, strong community organisations and the development of an autonomous institutional framework (Richards 1997).

In 1999, community forest enterprises accounted for 25% of all FSC certificates, but only 3% of the total area certified by FSC-accredited organisations (Thornber 1999a). Recent figures from FSC's website indicate that the situation has changed little since then. The majority of certified community enterprises are in developing countries, and most of these are aid projects designed to alleviate rural poverty and improve forest management (Bass & Simula 1999). The distribution of certified community forestry, therefore, is not an accurate reflection of market demand or capacity to meet this demand.

On the supply side, the uncertain economic status and conservative business goals of most community forest enterprises (CFEs) would suggest only a limited constituency for a relatively new and untested market instrument such as certification. On the demand side, the nature of most CFE trading relations – either with price-conscious local markets or, more rarely, with socially conscious overseas markets – would suggest only a limited need for the rigorous environmental accountability provided by certification.

The use of certification by donors has converged with the trend towards community forest management mentioned above. By the early 1990s, it had become clear that marketing and income generation were crucial to the success of community-level forestry activities (ODA 1996). Consequently, donors began to look for ways to put community forestry on a sound economic footing. This coincided with the launch of certification, which many donors subsequently adopted as a means of supporting market-oriented interventions and encouraging growth and activity in civil society organisations. Donor support has been encouraged by the emphasis of FSC processes on public consultation, as well as increased public pressure on donors to 'do the right thing'. But, essentially, donors have been promoting two concepts together – community forest enterprise and certification – in which their experience is minimal.

In absolute terms, the number of certified community forest enterprises is low. Reportedly, the number that has been able to exploit the market potential of certification is even lower (Irvine 1999). Observers have expressed concerns that current certification systems put community enterprises (and small-scale enterprises in general) at a competitive disadvantage in the certified products market place (Thornber *et al.* 1999; Scrase 1999), although national working groups have been able to improve the way in which standards can recognise local conditions. Some of the main concerns are:

- *The costs of the certification process*. Certification is a 'regressive' instrument – in relation to income, the costs of certification are proportionately higher for small enterprises than they are for large enterprises (Markopoulos 1999b).

- *The high documentary and administrative requirements*. The heavy administrative demands of certification add to the overall cost burden for small enterprises, not least because such enterprises cannot afford to hire specialist staff, and must therefore incur extra opportunity costs through the re-deployment of ordinary staff (Thornber *et al.* 1999; Markopoulos 1998, 1999a).

- *The rigour of certification standards*. Although a degree of rigour in certification standards is necessary, it can, if coupled with inflexibility, put small enterprises at a severe disadvantage. For example, standards that specify particular types of inputs or technologies penalise enterprises which cannot procure, or afford, the required inputs. (Thornber *et al.* 1999; Markopoulos 1998, 1999a).

- *The inaccessibility of certified products markets*. Small enterprises often lack the specialist expertise and technical economies of scale needed to identify and serve global and regional markets in general, and certified products markets within these in particular (Markopoulos 1999a).

Seven years after FSC began operations, this report is one of the first to address these concerns through a practical evaluation of the impacts of FSC-based certification. The report seeks to answer the question: how has certification promoted or improved community forest enterprises?

2.3 Community motivations and expectations

Community forest enterprises have sought certification for a variety of reasons. Some of these concern the internal functions of the enterprise; more often they concern its external relations with government, donors and the market. Internally, certification has been seen as an aid to management monitoring, as a problem solving or conflict-resolution tool, or simply as a means of obtaining feedback on management practices. Externally, certification has been seen as a marketing tool, as an instrument to enhance status and credibility, or as a means of attracting financial support. Of these, only marketing is linked directly to the structure and objectives of the FSC system.

Internal motives

Monitoring and feedback. Internal, non-market motives have not figured prominently in the cases studied. In some cases, however, the value of certification in monitoring and providing feedback on management practices has been an important motivating factor. A number of communities have learned a great deal from the certification evaluation itself, which invariably exposes them to new ideas and perspectives. This factor alone can decide the heuristic value of the certification exercise, provided that community members are actively involved in the evaluation. These benefits notwithstanding, market-based certification is probably not the most cost-efficient way of monitoring or evaluating community forest management.

Problem solving and conflict resolution. The motives for certification have, in certain cases, included a desire to resolve long-standing problems or conflicts within the enterprise. Certification – through its independent, impartial approach – is well suited to this purpose, although its effectiveness is limited by the voluntary, performance-based nature of most schemes. Certifiers can only work with an enterprise if it accepts their prescription for resolving a conflict, or if it meets the required standard in all other areas of management. Certification could play a conflict-resolution role in countries such as Bolivia, where a number of large-scale, corporate forest concessions have been awarded on lands claimed by indigenous communities. In such cases, any attempt by the concessionaire to seek certification would automatically lead to a public review of the tenure dispute (C. Vallejos, personal communication).

External motives

Forest products marketing. Forest certification was originally developed as a market-based instrument of forest conservation. By identifying products from well-managed forests, certification enables the exercise of consumer preference in favour of environmentally responsible producers. Such producers can, in turn, enjoy improved market share or access, or a price premium that reflects consumer preference. In most of the cases studied, these putative market benefits have driven the certification process, with subsidiary goals only emerging later (if at all). It is worth noting that such expectations have rarely been supported by detailed market forecasts, either by the enterprise or by its supporters. Box 2.1 gives some examples from the cases studied.

Box 2.1 Certification to enter environmentally sensitive export markets

Honduras: The organisations supporting the *campesino* (peasant farmer) forestry groups assumed that certification would open export markets for abundant but hitherto unmarketable lesser-known species (LKS).[3] Both domestic and foreign buyers of certified timber indicated that they would be willing to buy certified timber from the groups, provided that the LKS showed commercial potential. In the end, demand from a local furniture export company led to the first certification evaluation in 1991.

Zambia: Until 1996, Muzama Crafts Ltd (MCL), a community-based forest products company, operated only in the domestic market. MCL began considering certification after a sister company realised large profits from organic certification of its honey product and consequent improvement in its export relations. Subsequent increases in domestic sales tax and tree licence fees made domestic marketing unprofitable for MCL, and alternative market opportunities became critical. The chosen course of action was to access the international market through certification.

Status and credibility. Communities often have to contend with forest policies biased towards large-scale forestry on public land, which either fail to recognise communities as legitimate forest managers, or which give them a secondary, non-timber production role. In some countries, for example Mexico, communities also have to defend themselves against persistent anti-logging campaigns by urban environmental groups. Faced with these challenges, a number of communities have seized on the potential of certification to provide objective proof of their management capabilities. Such proof may not only lend greater weight and credibility to community forest management efforts, but also allow communities to claim a moral advantage over competing corporate operations with poor social or environmental track records (Kopp & Domingo 1997; Dubois 2000). Box 2.2 gives some examples.

Financial support. Communities have used certification deliberately to attract financial and technical support from aid agencies, which are keen to encourage such a visible sign of project success. In other cases, certification has been made a condition of continued donor support, and is therefore unavoidable (see below, Box 2.3). In future, the use of certification to attract public funds can be envisaged, as can its use in advertising the 'health' of a community enterprise to insurance and capital markets. Certification could prove to be an important bargaining counter for communities wishing to attract private capital, for example through joint ventures and other corporate-community partnerships (Markopoulos 1999a).

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[3] LKS are species currently outside the range known and demanded by the timber trade. They may form a significant proportion of the annual allowable cut, but often do not contribute to incomes as they lack markets

[4] The *miombo* woodlands of southern Africa are the largest continuous dry deciduous forests in the world (Campbell 1996).

Box 2.2 Certification to gain recognition for management capability

Bolivia: Since its inception, the Chiquitano forest enterprise at Lomerío has battled against insecure land tenancy and the exploitation by commercial enterprises of natural resources on its traditional territory. The idea that certification might help in this struggle came from a grassroots organisation representing indigenous groups in Bolivia's eastern lowlands. Once the Chiquitano had decided to pursue certification, the possibility that it might help their land and resource claims became one of their main motives.

Papua New Guinea: Non-governmental organisations (NGOs) have supported certification in Papua New Guinea as a way of demonstrating the viability of small-scale forestry (in contrast to industrial logging), and proving that sustainable forest management can be achieved in a local context. In this way, NGOs hope to raise the status and profile of small-scale forestry in the national forest policy arena.

Zambia: MCL was established as a model project with donor support. Certification, it was hoped by the supporters, would help the aim of demonstrating that community-based forest management in the *miombo*[4] woodland region was a viable form of land use.

Box 2.3 Certification and donors

Papua New Guinea (1): The Bainings Ecoforestry project received support from a British 'do-it-yourself' retailer to improve forest management and apply for certification. The retailer was making efforts to support certification and good forestry, and get certified wood products on its shelves. It is unlikely that the retailer would have bought timber from the Bainings project without certification. For the project's part, certification would not have been considered in the absence of external pressure because export marketing was not a priority.

Papua New Guinea (2): The European Commission (EC) made certification a condition of second phase funding of the Islands Region Environmental and Community Development Programme's (IRECDP) community forestry projects. At that time, the EC was using certification as an indicator of progress towards sustainable forest management in its overseas aid projects.

Bolivia: The principal donor to the Lomerío project, the Bolivia Sustainable Forest Management Project (BOLFOR), supported certification for several reasons. One was its wider goal of assessing the requirements and implications of a programme of certification for Bolivian forests. BOLFOR's work in management and marketing at Lomerío also emphasised, from the outset, the role of certification in securing markets for the range of species in the Chiquitano forest.

Zambia: An Italian company has recently expressed an interest in establishing a joint venture with MCL. This would provide a critical injection of technical capacity for export products, but is dependent on MCL being certified.

Only some of these expectations have been met, as we shall discuss in section 2.5.

2.4 The Challenges of certification for community-based forest enterprises

Certification of any kind is about meeting standards. Almost without exception, the enterprises that have embarked on forest certification have had to alter the way they operate in order to meet the required standard. The fact that this process of improvement has often presented a disproportionate challenge to small-scale and community enterprises is seen as a constraint to the wider uptake of certification (Scrase 1999; Thornber *et al*. 1999). The main areas for improvement by community forest enterprises are highlighted by the principal corrective action requests in the cases studied (see below, Table 1).[5]

Table 2.1 Principal corrective action requests in each case study
The requests are taken from the first certification evaluation (in the case of Honduras, the first evaluation under FSC rules)

Enterprise	Corrective action requests
Lomerío community forest management project, Bolivia	Complete forestry inventory; improve forest monitoring; develop ecologically and culturally appropriate silviculture systems; develop management plan for protected forest areas; strengthen communal commitment to forest management; establish efficient and transparent administrative structure.
Campesino forestry groups, Honduras	Incorporate wider community participation into management planning; re-evaluate silvicultural prescriptions and implement growth studies of crop species; incorporate non-timber forest products (NTFPs) into management; develop marketing plans.
Union of Zapotec and Chinantec Forestry Communities (UZACHI), Mexico	Systematise post-harvest evaluations; clarify management objectives for conservation areas; rationalise permanent sample plot system; explore market potential of NTFPs and broadleaf species; improve community education efforts; prepare market strategy for certified products.
Bainings Ecoforestry Project, Papua New Guinea	Improve monitoring of harvest impacts and forest regeneration; improve recording and documentation of harvests; improve participation of villagers in management.
MCL, Zambia	Create inventory for more reliable planning; improve community understanding of, and involvement in, forest management.

[5] In three of the cases studied (Bolivia, Honduras and Mexico), corrective action requests take the form of 'conditions' and 'pre-conditions'. In effect, pre-conditions are equivalent to major CARs, and conditions are equivalent to minor CARs.

Table 2.1 shows that the main challenges for community forest enterprises, as highlighted by certification, have centred on:

- their capacity to administer management (rather than their understanding of what good management should be);
- their capacity to document and monitor management practices;
- their capacity to provide reliable inventory data for management planning; and
- the extent to which community members not directly involved in the enterprise are aware of, and committed to, the goals of sustainable forest management.

Costs and risks

From the point of view of efficiency and equity, the central issue of certification is cost. This can be separated into the costs of inspection and assessment (direct costs), and the costs of meeting the required standard (indirect, or compliance, costs). Direct costs, on a per-hectare basis, vary widely among the cases studied, from around $0.02/ha for MCL in Zambia to $0.90/ha for the Lomerío enterprise in Bolivia. The figure for MCL is distorted by the large area certified (1.27 million hectares) but otherwise these figures fall into the range of costs reported in other cases.

Indirect costs are more difficult to quantify, owing to high donor subsidy levels, the long history of most cases (which has meant substantial historical costs) and the parallel costs of compliance with new forest legislation and international agreements on sustainable forestry. Table 2 below, taken from the Zambian study, highlights the potential scale of indirect costs. The estimates from Zambia do not include opportunity costs or management costs, which similarly have proved difficult to quantify.

Table 2.2 Muzama Crafts Ltd: Estimated costs of preparing for and implementing certification

Component	Estimated cost ($)	Source of funding
Certification feasibility study	12,000	Certifier/Donor
Forest management consultancies	22,500	Donor
Certification assessment inspection fees	19,500	Donor
Local expenses of certification visit	750	MCL
Certification monitoring inspection	12,000	Donors
Local expenses of certification visit	450	MCL
Forestry Advisor (3 year contract)	270,000	Donor
MCL Forestry Assistant (2 year contract)	3,000	MCL
Total Cost	**340,200**	

Source: Thornber 2000.

In theory, certification should allow producers to choose their own least-cost solution to meeting standards. In practice, certifiers have often – inadvertently in some cases – set a minimum level of expenditure by requesting particular actions or inputs. As most community enterprises have been subsidised by donors and other parties, such expenditure has rarely presented serious problems. Indeed, in some cases donors have taken the financial aspects of certification out of the community's hands entirely. This has led community members to underestimate the costs involved, and overestimate the consequent benefits. There is also evidence that certifiers have been led by the availability of subsidies to make corrective action requests that could not be satisfied were an enterprise to draw on its own resources. Such requests can reinforce dependence and degrade a community's capacity for self-help.

A similar pattern can be seen in the distribution of risk. The risks of certification are substantial: the global market for certified products is relatively small and fragmented and, for most community enterprises in developing countries, requires risky investments in opening export channels. Communities that invest in technology to satisfy the high expectations of product and service quality in export markets may, at the same time, limit their ability to react to future market changes – particularly those in more immediately important domestic markets. Again, the involvement of donors, timber buyers and other parties has buffered such risks for community enterprises. And, once again, there is evidence that certifiers have been led by the presence of third parties to make corrective action requests that would involve an unacceptable level of risk were an enterprise to act alone. Box 2.4 illustrates these issues with examples from the cases studied.

Box 2.4 The distribution of costs and risks

Bolivia: Following the identification of serious social conflicts and institutional weaknesses, the certifier requested that an expert in social analysis be contracted to evaluate the situation and prepare a work plan for tackling the main problems. As the cost and logistics of such a consultancy were beyond the resources of the Chiquitano communities, the request was carried out by BOLFOR. A foreign anthropologist undertook the study and the resulting work plan was accepted apparently without debate or modification by the communities concerned.

Mexico: The certifier made two corrective action requests for a certified products marketing strategy and related promotional materials. Such requests could be considered flawed for three reasons. Firstly, they do not directly address a weakness in forest management. Secondly, the decision on how to exploit certification should rest with the certified enterprise, not the certifier, because the enterprise will bear the risks associated with a particular course of action. Lastly, the enterprise cannot be penalised for failing to comply if policy or market conditions change (political and market risk) and certification is no longer able to play the role envisaged for it. In the end, the certifier's requests were met in part with external assistance.

Local capacity and rates of change

In the early stages of forest certification, it was assumed that low-impact, community-based forest enterprises would be more easily certified than large-scale, corporate enterprises (Irvine 1999). In fact, the process of compliance has presented special challenges to community-based enterprises, both from the point of view of capacity (i.e. ability to comply) and from the point of view of rates of change (i.e. ability to balance compliance with local planning and decision-making dynamics, and livelihood demands). Although many communities have received external assistance to deal with these challenges, such help has all too often replaced local effort and investment – rather than stimulated, supported or complemented it.

That community forestry initiatives are more likely to succeed if they are allowed to develop at an appropriate pace is well documented (see for example ODA 1996). As already noted, the process of development may take many years. The point in this process at which certification could, or should, be introduced is debatable, but, given the demands of evaluation and compliance, it is likely to be later rather than sooner. Introducing certification at too early a stage increases the risk that development will be artificially accelerated, or skewed towards export markets, and can lead to certification of 'good intentions' rather than concrete achievements. When certification is introduced, communities can sometimes find that the required pace of compliance outstrips their ability to change and adapt. There have been many instances in the cases studied where communities have been unable to satisfy a corrective action request within the deadline imposed by the certifier. The response of the certifier in such instances is usually to extend the period of compliance. This approach, however, is not a substitute for carefully tailored – and paced – improvements.

From the point of view of capacity, the main challenge for communities is the assumption in market-based certification systems that forests will be under formal, well-documented and stable management regimes, strictly delimited according to area and institutional responsibility (Bass & Simula 1999). This assumption does not hold for the majority of small-scale and community enterprises in developing countries. Enterprises in this study have had to document formally their management data, plans and financial records specifically for certification. They also have had to delimit and map their forest boundaries, begin ecological studies and obtain official confirmation of their ownership or usufruct rights. Some of these actions were legal requirements, and therefore unavoidable. Others required the assistance of a third party, and arguably have achieved little beyond satisfying the rules of the certification scheme (see Box 2.5).

Box 2.5 Community capacity and the demands of certification

Honduras: The *campesino* forestry groups were required, amongst other things, to initiate growth and regeneration studies, and to incorporate NTFPs into their management plans. The demand for ecological studies is beyond the capacity of the groups and has had to be met by externally sponsored research. The demand for NTFP management also exceeds local capacity, but fortunately is already part of one donor's work programme. Neither of these demands addresses the real weaknesses of group management, which include organisational conflicts and a lack of markets for LKS.

Zambia: Until donor support made the retention of trained foreign staff possible, management planning was based on out-of-date and unreliable inventory data. The annual allowable cut was adjusted following a new inventory carried out with external support. The associated management plan was also drafted with external support as community members lacked the necessary expertise.

Participation in forest management

A concern with the form taken by community forest management – as much as the outcome of such management – has also manifested itself in the social aspect of community forest certification. Certifiers have shown an interest not only in *how* the forest is managed, but also in *who* is involved. Several enterprises in this study have had to prove that members of the wider community understand, and are committed to, the goals of sustainable forest management. This has occasionally caused problems, particularly in the Honduran case.

The *campesino* forestry groups in Honduras are self-contained business organisations, most of which hold an exclusive usufruct contract with the State. Although they are community-based, they have never come under community control. Indeed, most communities in the study area lack the ability to take effective decisions on forest resource management at the community level. The group system is a good compromise because each group, by definition, represents community members who share a common interest in forest management (and who often lack an alternative source of income). A successful group can also be an engine of economic development in the community.

These considerations notwithstanding, the certification team heavily criticised the group system and demanded that forest management be opened up to the whole community. This demand not only ignores the legalities of usufruct contracts, but also assumes a capacity for collective action that the communities still lack. Indeed, as an attempt at social engineering, it apparently owes more to the certification team's idea of social improvement than it does to the realities of *campesino* society.

The imposition of an external notion of social improvement is an issue in the certification of forest communities in developing countries. Apparently, when inspecting such communities, certification teams have been more likely to focus

on what they *want* to see (i.e. their values, albeit often reflecting donors' ideas) than on what they *do* see (i.e. local values). The danger in this approach, as the case of Honduras highlights, is that it can lead to simplified prescriptions for social change that are ignorant of internal social and institutional differences.

2.5 The outcomes and impacts of certification of community-based forest enterprises

The analysis of certification impacts is hindered by the same difficulties that affect the quantification of indirect costs (see section 3.1). In each case, certification has modified an existing activity with a unique history and multiple options for future development. This makes it extremely difficult to isolate the effects of certification from those of external subsidies, new legislation, changing market conditions and all of the other influences on a growing business. Nevertheless, the present study has highlighted a number of outcomes that can be at least partially attributed to certification.

Impacts on forest management and administration

Bass & Simula (1999) observe that, in general, the enterprises that get certified are those that already practise good forest management. Consequently, although preparations for certification may result in minor changes to management practices, the incremental impacts of certification itself tend to be limited. This observation also applies to certified community enterprises, but with certain provisos. The definition of 'good' forest management adopted by a community enterprise can differ markedly from that of an industrial enterprise (see section 3.2). The two definitions may be equally valid, but only one (i.e. that of the industrial enterprise) is likely to satisfy the requirements of market-based certification. Thus, in several of the cases studied, one effect of certification has been to shift local perceptions of good forest management towards a more scientific, western ideal.

As local perceptions have changed, some communities have been able to increase their capacity to practise formal management, and strengthen their internal mechanisms of monitoring and reporting. In other cases, the process of change has conflicted with some long-standing management practices. The four members of UZACHI were asked to suspend pine regeneration fellings in mixed pine-oak forests because of the wastage of oaks and other broadleaf species. This proved to be a difficult request because the purpose of regeneration felling is to restore the natural dominance of pines that pre-dated earlier selection felling.[6] The chain-of-custody evaluation of the Lomerío enterprise emphasised sustainable 'forest' management by prohibiting the use of timber from cultivation plots. The forest management evaluation, however, promoted sustainable 'landscape' management through integrated land-use planning. The contradiction between these two views (arguably timber from anywhere in a sustainably managed landscape should be eligible for certification) suggests that narrowly focused certification procedures are failing to put forestry in a wider land-use context.

[6] Between 1956 and 1981, UZACHI's forests were leased to a pulp and paper company and selectively exploited for pine. The concessionaire removed only the largest and best-formed pine trees, a process which left the canopy substantially intact and favoured the regeneration of shade-tolerant broadleaf species (Markopoulos 1999a).

Box 2.6 Improving forest management?

Bolivia: Existing high technical standards within the Lomerío project, as well as new forest legislation that imposes strict standards for inventories, plans and other tools of management, have meant that the incremental impact of certification has been limited. Certification has put greater emphasis on conservation management, however, and has led to the development of a protected area plan and measures to reduce human disturbances such as fire setting and hunting.

Zambia: In contrast to the Lomerío project, MCL did not have a forest management system in place before certification. It was operating almost entirely as a trading enterprise, allowing village pitsawyers to fell trees how and where they wanted. Preparations for certification included several forest management consultancies and the preparation of a new forest management plan. An expatriate forester was also added to the management team.

One important outcome of certification has been a change in the administration and governance of community enterprises. This has affected areas such as bookkeeping, reporting, the structure of management and relations with community authorities. In most of the cases studied, the enterprise has had to improve its procedures for planning and documenting forest operations (see Box 2.7). Certification has allowed enterprises to evaluate and improve the cost-effectiveness of their administrative and managerial systems. In some cases, certification has benefited donors by suggesting ways to improve the delivery and deployment of support within the enterprise. The downside to these improvements has been high administrative costs, which are often exacerbated by the complex, multi-stakeholder nature of many community enterprises.

Box 2.7 Changing enterprise administration

Bolivia: One of the most important results of certification was a change in the administration of Lomerío's communal sawmill. Certification led to the removal of the incumbent sawmill administrator, who had been responsible for gross financial mismanagement. It also led to the creation of a new administrative council to oversee sawmill management. The work of the council, which represents individual communities, their umbrella organisation and donors, will increase the efficiency and transparency with which sawmill resources are administered.

Papua New Guinea: Although the evaluators observed that forest management in the Bainings Ecoforestry Project was low-impact and probably sustainable, there was very little documentary evidence to support this observation. The key changes promoted by certification included greater emphasis on formal recording and monitoring of management activities. This led to the development of an administrative support system.

Impacts on production and marketing

Certification has forced many community enterprises to take a more businesslike approach to production and marketing, usually as a result of switching attention from local markets to more demanding and competitive export markets. Few of the enterprises studied have entered export markets directly – most of their orders

have been brokered by a donor or other market intermediary. This change in market orientation has, for a number of reasons, failed to deliver the expected benefits. The demands of export markets have sometimes affected trading relations with long-established local customers, or with members of the community itself. More usually, community enterprises have been unable to meet market expectations because they lack the necessary production capacity, processing technology, managerial skills or distribution channels. Such obstacles could have been foreseen in the majority of cases, had there been a systematic assessment of supply and demand issues. In the absence of such assessments, however, communities have often based their marketing efforts on out-of-date and incomplete information.

Although there have been some positive experiences, most community enterprises have yet to see a significant increase in their incomes following certification. In most cases, the higher prices obtained for certified timber have been offset by the increased costs of production and marketing, or have been discounted by the time lag between production and payment. In Bolivia, most of the income from certified timber sales has been channelled into the under-capitalised community sawmill. In Honduras, much of the value added by certification has accumulated higher up in the market chain, between a local buyer of certified timber and a retailer in the United States. The *campesino* groups, who have little choice but to sell their timber to the buyer at local market prices, have received little of this added value (see Box 2.8).

Local markets continue to provide the bulk of sales in several of the cases studied. Indeed, in the case of UZACHI, local pine markets have grown considerably since certification in 1996. The recent liberalisation of Mexico's forest products markets has not led to the expected price competition from imports, owing to high transport costs and the devaluation of the Mexican *peso* in the mid-1990s. The gradual recovery of the Mexican economy has increased local demand for timber, while the low value of the *peso* fuelled demand for Mexican pine timber in North American markets. As the majority of Mexico's community forest enterprises are found in temperate pine forest regions, these changes have improved the economic outlook for community forestry. In these circumstances, the need for certification – at least as a marketing tool – is not as obvious as it once was.

The market failures experienced by community enterprises have thrown the issue of certification costs into sharp relief. Hunt (2001) estimates a total cost of certification (direct and indirect) of landowner forestry in Papua New Guinea of US$47 per m^3, which is not covered by a premium. But he also calculates, for Papua New Guinea, that the environmental benefits of certified small-scale forestry are large, and that subsidising such certification might be more efficient and effective than direct payments to landowners for forest conservation.

In the absence of direct financial benefits from certification, it becomes increasingly difficult for a community to justify the annual fees and other expenses of certification. This can place a serious strain on intra-communal

relations – between the enterprise on one side (which is better placed to appreciate any long-term benefits of certification), and community authorities on the other (who must meet community needs in the short to medium term). In practice, the availability of subsidies has allowed communities to continue with certification despite limited financial gain.[7] The desirability of such subsidies, and their possible side effects, are uncertain (see section 2.6). But it is clear that certification subsidies prevent communities from seriously considering their commitment to – and willingness to pay for – certification.

Box 2.8 Certification and marketing

Bolivia: With the support of BOLFOR and several timber wholesalers and processors (both in Bolivia and abroad), the Lomerío project has found profitable export markets in Europe and the United States for several LKS. Higher timber prices, however, have not translated into significantly higher community incomes, owing to the financial demands of the under-capitalised sawmill enterprise. Also, administrative and managerial capabilities are still limited, and the demand for certified timber is being met only with difficulty. Export market requirements are forcing the project to face difficult choices concerning production levels, capital allocation and the role of community labour. Lastly, the extent to which higher prices are the result of certification *per se*, rather than improved marketing techniques, is open to question.

Honduras: The desire of a local furniture export company to secure a source of certified timber for its markets in the United States led to the first certification evaluation and the creation of a commercial relationship with the groups that persists to the present day. In terms of direct export marketing, however, the groups have never been able to exploit the value-added potential of certification because they lack the capacity to process and market timber according to international standards. Only three shipments of certified timber have been exported since 1991 – all were commercial failures affected by long delays, high wastage rates and the diversion of resources to satisfy restrictive export regulations. These failures have contributed to the groups' current focus on consolidating their domestic markets and exploring non-certified export markets in Central America.

Zambia: MCL adopted certification enthusiastically with interest from several buyers. In its haste to meet orders, however, MCL was unable to maintain product quality. Buyers received timber they could not use and consequently withheld payment. Instead of the expected boost to income from certification, the enterprise has suffered heavy financial losses and has had to rely on donor support. These losses apart, the rise in demand following certification did allow MCL to pay a preferential rate for timber cut for export, and to bring more pitsawyers into employment, making pitsawyers more supportive of MCL.

[7] For example, SmartWood temporarily waived its annual fee for some of the *campesino* groups in Honduras because of financial constraints in their umbrella organisation (Markopoulos 1999c).

Impacts on community institutions and external relations

Certification's emphasis on transparent and equitable participation in forest management has, on the whole, had a positive effect. With the exception of the Honduras case, all of the enterprises in this study have benefited from a re-evaluation of their institutional arrangements designed to strengthen local commitment to forest management. In some cases, certification has given greater emphasis to active community control of forest operations and enterprise management – a welcome development as 'community-based' management often means that, although communities are involved in the harvesting activities, the project donor or support NGO is responsible for planning and decision making.

Certification has also enhanced the professional status of some community enterprises, and their relations with government, donors and other external organisations. Some enterprises, such as UZACHI, have strengthened their links to local (state) government and are now better placed to influence the development of forest policy. UZACHI's efforts at sustainable forest management have won it two prestigious government awards in the years following certification. The Lomerío enterprise in Bolivia has found that the international publicity generated by certification has increased awareness of indigenous peoples issues in general, and its land and resource claims in particular.

A key issue here is that certification has highlighted the issue of changing roles and responsibilities in forest management between government, communities and the private sector. According to Dubois & Lowore (2000), the recognition of appropriate roles and responsibilities can be an important first step towards improving forest management in situations where existing arrangements have not been successful.

Box 2.9 Successfully enhancing participation and profile

Bolivia: Debilitating weaknesses in the social and institutional aspects of the Lomerío project were identified under certification. In addressing these weaknesses, certification has refocused attention on individual communities, rather than their umbrella organisation or any other entity, as the basic socio-political unit of forest management. Certification has also promoted the redefinition of community roles and responsibilities in forest management and enterprise administration, with greater emphasis placed on active community participation in decision-making. Without certification, it is likely that the conflicts engendered by enterprise development would have received far less attention.

Zambia: One of the motives for certification on the part of MCL's donors was to prove to other projects in the region that community-based sustainable forest management was possible. In this they have succeeded, as several projects have watched and learned from MCL's experience. However, the certification has not improved MCL's relationship with the government. The government has subsequently found faults with harvesting boundaries and fee payments, despite being involved in initial consultations. Many observers, however, believe that the international profile of certification has forced the government to moderate its response to these problems.

Indirect impacts on policy and legislation for community forestry

In most of the cases studied, certification has not directly influenced policies for community forestry. Given that most governments adopt a *laissez-faire* attitude towards community forestry, the act of certification itself is unlikely to alter the policy-making process. In some cases, however, certification has accelerated the implementation of a favourable law or policy, or has allowed a community to claim special dispensation from a particular legal requirement (see Box 2.10).

More often than not, the involvement of national forestry departments and local officials has been limited to the initial consultation period of certification. Government officials have rarely been involved in the process of compliance, and are mostly unfamiliar with the mechanics of certification. This was also because CFEs tend to be in remote areas away from forest authority presence. As a result, the impact of certification on natural resource management and rural development agencies – even at the local level – has been limited.

However, in Mexico, the involvement of academics and professionals in certification evaluations has increased their voice in political arenas, usefully bringing local practice into policy discussion. A highly influential forestry official had previously taken part in an evaluation: certification is now mentioned in forest policy.

Indirect impacts of community forest certification can be seen in alternative fora, such as national FSC Working Groups. These groups involve different forest stakeholders in public consultation on the development of forest management standards. Where such groups exist, the enterprises in this study have been active and vocal participants. This has enabled the standards development process to incorporate practical experience from community forest certification. In some countries, certification has given these enterprises the credibility and respect they need to play a role in national fora, or to make direct demands of the government. The work of FSC Working Groups may filter into formal policy-making channels,[8] although the speed of this process will be limited by the exclusion of government representatives as official members of such groups (as opposed to observers).[9] The need for community-oriented political and legal reform, therefore, is no less pressing now than it was before certification.

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[8] South Africa is a good example of where certification debate has begun to influence forest policy change (IIED forthcoming) – there, certification is a condition of the privatisation of the state forestry company. However, it has not done so with a focus on community or smallholder forestry, which remains on the margins of policy.

[9] This issue is under discussion in FSC.

Box 2.10 Influencing governments

Bolivia: Certification was expected to facilitate the demands of the Lomerío project for a forest concession (which for many years had been refused by the authorities) and for a legally recognised indigenous territory for the Chiquitano people. To a large extent, both expectations have been overtaken by new land and forest legislation that recognises the legal right of indigenous peoples to their traditional lands and the natural resources therein. The demand for an indigenous Chiquitano territory was officially recognised by the government in mid-1997. Certification is thought to have contributed to this process by generating favourable national and international publicity for the achievements of the project. Not only have the Chiquitano shown themselves to be pioneers in sustainable forest management, but the experience gained at Lomerío will also benefit other indigenous forest enterprises developing in lowland Bolivia.

Honduras: The years between 1991 and 1995 saw the development and introduction of usufruct contracts by one of the main donors. Although this process was not directly prompted by certification, there is evidence that its eventual successful outcome was accelerated by the certification of the *campesino* groups. Certification provided the donor with a key bargaining counter against government indifference towards the issue of tenure rights. Indeed, without certification, it is possible that the donor would still be arguing the case for usufruct contracts today.

Zambia: The process of certification of MCL took place without a national debate on certification, and national certification standards have yet to be developed. The Zambian Forest Department was consulted extensively at the time of the initial certification, but there has been no subsequent involvement. Consequently, when the government revised the national forest policy in 1999, certification did not receive any mention. In view of the policy's focus on 'joint forest management', it appears that an excellent opportunity to accommodate the principles of FSC certification and the experience of MCL has been wasted.

2.6 Future challenges for community forest certification

The role of certification in promoting rational forest management and improving the economic status of forest communities is not as straightforward as was first thought. Community forest enterprises face two main sets of challenges:

- The challenges of getting certified, i.e. ability to *access* certification
- The challenges of getting certification to work, i.e. ability to *exploit* certification.

Although some communities value non-market benefits of certification such as recognition and credibility, the main driving force is the promise of greater market security. Without this security, communities cannot be expected to continue with certification beyond an initial 'honeymoon' period when support from donors and certifiers – and interest from researchers – is at its highest.

Reconsidering donor subsidies

The question of subsidies and the role of donors is thus critical. In order to justify subsidies, communities are sometimes portrayed as 'victims' in need of special support. This and other pro-subsidy arguments ignore two important observations:

1. Many communities are constrained in exploiting their forests by internal conflict and disorganisation, which is often exacerbated by a lack of policy and field-based support from governments for community-based management;

2. Donor subsidies can undermine efficiency and quality control – already two of community forestry's main weaknesses. In practice, subsidies have a one-off effect on enterprise performance, but fail to increase a community's capacity for self-help and continuous improvement.

Such considerations lead to the following *guidelines* for supporting community forest certification:

- Rather than subsidise the certification process directly, donors should try to improve enterprise performance at a pace that is consistent with learning approaches and the adaptability of local institutions. Short-term certification subsidies may be legitimate if they help groups to gain experience and evaluate the utility of certification, i.e. with capacity-building and learning objectives built in to the subsidy.

- Donors should also try to ensure that certification standards and procedures are flexible and non-prescriptive, and do not raise any unnecessary barriers to community entry, by e.g. supporting community producer interaction with FSC.

- Certifiers should encourage communities to find their own solutions to management problems, and avoid making demands that necessitate external intervention (a problem which is exacerbated by the – often rather ambitious – donor components integral to the forest management regime being certified).

- All parties should assess the extent to which market-based certification is central to community enterprise aims. If it is, then parties should encourage demand-driven approaches to certification, in which communities work closely with their customers to supply the desired product. On the other hand, non-market motivations should be treated seriously and not ignored through misapplication of market-based approaches.

Before addressing these guidelines in detail, it is worth remembering that forest certification was designed with large-scale, corporate forest operations in mind. The public demand for accountability was never consciously extended to

community enterprises, which operate at a different scale and with different (sometimes wider) objectives to most large-scale, corporate enterprises. Although certifiers have made efforts to address inequalities, most certification schemes continue to operate uniformly without regard to the size or type of producer. Furthermore, they have not yet addressed the proposition that the smallest, occasional producers (who often maintain many public forest services as part of their livelihood systems) need not be held accountable in the same way as the largest industrial producers (whose main motivation is making private profit from fibre production). This is one reason why fair-trade schemes, which put the producer – not the resource base – first, may be worth considering for community enterprises seeking new market opportunities (or at least a good complement to certification). This subject deserves further exploration.

Raising performance and lowering entry barriers

Develop local market capabilities and experience first: This study has highlighted the prominent role of donors in setting the agenda for community certification. Although external support has helped in some circumstances, in others it has forced growth and encouraged excessive risk-taking in the drive to meet certification standards. In future, donors should encourage growth and learning in relevant local market contexts before communities turn their attention to overseas markets and – perhaps – certification. This approach will allow community enterprises to gain the maturity and stability they need to cope with the demands of certification. It will also reduce the costs of certification and prevent market opportunities from being wasted by a lack of preparation.

Improve group certification approaches: The best way to reduce the cost and risk of certification is to ensure that communities are properly prepared. Another option is group certification – the evaluation and certification of groups of forest owners or managers under a single certificate (Nussbaum, forthcoming; FSC 1998). Group certification has become popular among small-scale enterprises because it allows groups of producers to realise scale economies in organisation, administration and evaluation. SGS-Qualifor now uses group certification for most of its community clients (Irvine 1999). The system would benefit from further development in the light of assessments of experience to date.[10]

Build local certification capacity: A common complaint of developing countries is that FSC-accredited certification services are available only at high cost from Europe and North America (although this is increasingly being addressed, through groups such as Imaflora in Brazil). The creation of local certification capacity – ideally within independent institutions rather than subsidiaries of existing certification bodies – would reduce costs and increase competition, and could promote more locally-aware schemes and standards.

Develop new financial mechanisms: Funds to defray the costs of certification for community enterprises may help, but only if ordinary sources of credit are

[10] FSC is carrying out an internal evaluation of group certification to date, and is planning to introduce a group chain of custody scheme.

unavailable. For example, the First Nations Development Institute in America has established a Sustainable Forestry Fund to help with evaluation costs (Irvine 1999). Otherwise, development banks, rural credit agencies and other financial institutions should be encouraged to include certification to validate forest management practices in their lending programmes. Customers of community forest enterprises should also be encouraged to invest in community enterprise capacity-building and the associated certification as part of a demand-driven strategy for market development.

Appropriate standards and procedures

Ensure local standards are developed: Inconsistencies between the formalised model of certified forest management and local systems of management are common. These could be eradicated in many cases by the development of locally appropriate standards. Some national certification initiatives, such as Mexico's, are developing sub-national standards based on major biogeographical regions. This approach promises greater specificity, but could be complemented by the parallel development of standards based on different enterprise types.

Focus on outcome criteria, to encourage community-driven responses: Appropriate standards will be useful only if they are applied with sensitivity and a proper understanding of social and cultural context. The experience in Honduras (2.4) highlights the danger of approaching evaluations with preconceived ideas and assumptions. In future, it may be better to limit verification of the social impact of forest management to readily measurable 'outcome' criteria that reflect local group's aspirations (such as income levels and improved livelihood assets – see below), rather than ambiguous and subjective 'input' criteria (such as the social organisation of forest management). Outcome criteria, amongst other things, may be easier for communities to meet without external assistance.

Communities should participate in standards development: Increasing community participation in standards development initiatives will help to inform the debate on alternative certification schemes specifically for community forestry. As already noted, communities may have motives other than market promotion for verifying their management performance. Communities managing public lands may have to prove that they are not contributing to forest degradation. Communities in countries that are deregulating forestry may have to adopt certification as a means of self-regulation. Other communities may want a simple system of verification for internal monitoring and reporting purposes. As the cost and complexity of market-based certification rules it out of such applications, alternative systems will almost certainly be required.

Look beyond timber at other forest goods and services and livelihood systems: The benefits of taking market-based certification beyond the current timber-based management model must be evaluated. Many communities depend on a

wide range of economic activities, and a focus on timber alone could have adverse consequences. The use of a 'five capitals' livelihood approach might be useful to evaluate forestry where it is only part of people's livelihoods.[11] Systems for NTFP certification have been developed, and, like group certification, need continued improvement in the light of field experience. Systems for certification of environmental services (such as carbon sequestration and watershed protection) must also be assessed from the standpoint of community needs, and good local land use practice, so that these are not ignored in the pursuit of large numbers of tonnes of carbon or cusecs of water. Bass & Simula (1999) note the possibilities for non-market certification and that there are lessons to be learnt from the related worlds of organic and fair-trade certification.

Demand-driven support for community growth

Promote partnerships and other approaches to tackle community diseconomies: The problems that communities face in marketing certified wood products must be addressed. Diseconomies of small size put most communities at a competitive disadvantage in global markets. These can relate to: technical capacity (e.g. higher labour to capital ratio), management (e.g. lack of specialist staff), trading (e.g. low and irregular output), finance (e.g. higher cost of credit) and risk bearing (e.g. limited range of products). Cooperation between communities, or between private companies and communities, can overcome this problem, but is not without its drawbacks. One of these is reduced flexibility – partner communities must sacrifice their right to pursue a unilateral course of action if they are to meet common goals. This issue again highlights the need for communities to be properly prepared for, and committed to, the certification process. Finally, in circumstances where anomalous laws (inherited from colonial regimes) do not support community access to forests or community management, advocacy for community-based management should be a priority.

Integrate supply-driven and demand-driven approaches: Support for community forest certification is all too often supply-driven rather than demand-driven. Communities are given assistance to become certified and bring certified products to market, but the final sale and subsequent contracts are frequently not guaranteed. This is not to argue that markets should be guaranteed, but that communities should be helped to find reliable customers so that they have sufficient confidence in the future to begin investing in business improvements. Again, there are lessons to be learned here from fair-trade approaches, in which sympathetic buyers have supported the efforts of their suppliers. A two-pronged approach to community forest certification, in which demand-driven support is linked to sector-level cooperation, seems the best way of preparing communities for the demands of a new market environment (see below, Box 2.11). Forthcoming work on implementing supportive company-community partnerships (Mayers forthcoming) is a useful complement to the development of community certification.

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[11] The 5-capitals approach assesses livelihood sustainability by looking at the balance between human, natural, social, financial and physical capitals within communities (Carney 1998).

Box 2.11 Demand-driven approaches to supporting certification

Bolivia: A good example of demand-driven support is the series of '*encuentros*', or meetings, between local producers and foreign buyers organised in Bolivia by the Tropical Forest Management Trust (see TFMT 1997). The meetings were designed to bring producers face-to-face with potential customers, allowing them to gauge demand and lay the groundwork for the start of business negotiations (E.S. Goldman, personal communication). Such meetings help to create a problem-driven, results-oriented approach to certification, in which producers are encouraged to help themselves rather than rely on external assistance.

Brazil: The Buyers Group formed in Brazil in late 1999 has more than forty member organisations, including the major household and furniture retailer, Tok & Stok, and small furniture design companies. Such companies are increasingly working both to influence opinion leaders and consumers about certification, and to provide an outlet for community forest operations trying to get certified but with only small-scale production.

Zambia: One of the motivating factors in MCL's FSC certification was the success of its neighbouring company, North West Bee Products (NWBP). NWBP gained organic certification of its honey with the help of its British trade partners, who helped prepare the company for certification and to pay for it. These trade partners continue to pay a share of certification fees, taking the cost out of the payments they make for the honey, which is sold into niche markets in Britain at a premium with organic and fair-trade labels.

Supply chains and certification – catalysts for improving forest management

3.1 Introduction

Improving forest management has traditionally been seen as the responsibility of national governments, but frustration at the lack of progress and the changing role of the state and private sector has led to an increased use of market based mechanisms to encourage more sustainable practices. This chapter looks at how certification (in particular FSC certification) has worked as a market-based tool in practice, examining the mechanisms by which market demands for certified products translate into decisions by forest managers to certify. A key focus is on the potential leverage provided by the supply chain – the succession of end users, retailers, wholesalers, importers, exporters, manufacturers and intermediate processors that links consumers to forest managers.

The supply chain can be a powerful conduit for different stakeholders' demands for improved performance. In many sectors, corporate and institutional sectors have increasingly been integrating environmental and social criteria into their supplier contracts. This pressure has in some cases led to swift changes in production conditions, where previously governmental initiatives had made little impact. Yet there are differences between sectors in the extent to which supply chain pressure has an effect, depending on how trading links are structured and the relative power in the market place of the different actors involved. While supply chain action can lead to sustainability gains, it can also be unpredictable and pose considerable threats to some firms in the trading network.

"As the number of certified companies grows, this will have a cascade effect down the supply chain".

Alun Watkins, Club Green, Timber and Wood Products 20 May 2000.

Certification is driven by a number of factors, both market and non-market related. Risk and reputation management and extended corporate responsibility may be a more important motivating factor than end-consumer demand. Supply chain pressure may not be the main driver in these cases although it may play a catalytic role.

A recent study of key sectors in developing countries (copper, textiles, semi-conductors and ecotourism) has demonstrated the dramatic differences in the structure of supply chains and pointed to the need to understand the role and position of different actors along the chain, if steps to promote social and

environmental responsibility are to result in cost-effective, equitable and sustainable results (von Moltke *et al* 1998).

These issues are particularly acute for international timber trade between developing countries and industrialised markets. In some cases, notably between the UK DIY retail sector and producers in South Africa and Poland, forest product supply chains can be very effective mechanisms for transmitting demands for increased environmental and social responsibility. In these cases certification has been effective. It has been demand-led: there is a clearly identifiable chain from retailer through first tier supplier, exporter, manufacturer and forest operation which has allowed the demand for certification to pass along the chain. Outside of the DIY retail sector, supply chains are more complex, more fluid, and in some ways less transparent. As a result, transmission of demand for improved forest management has been less effective.

This chapter examines the following issues:

- How important supply chain pressure has been in relation to certification
- Which other drivers, both market and non-market related, have been important
- Differences between sectors in the spread of certification and the nature of supply chains
- How certification has affected the nature of supply chains in the forest products industry
- How costs and benefits of certification are distributed along the supply chain

Approach and scope

The analysis focuses on certified operations in Brazil, Poland and South Africa and their links with the UK market, although other market outlets are mentioned for the purpose of comparison or to highlight emerging trends. These three countries were selected as being amongst the few non-OECD countries with large areas of FSC-certified industrial forestry: only Sweden is much more significant than these countries, with the USA of equal significance. They also cover different types of forest: temperate, tropical, plantations and natural forest. The various links in the supply chains from selected forest operations in these countries to the UK market were first identified. Interviews were held with companies at different stages of these supply chains either face-to-face or by telephone, as well as with the forest managers themselves. The findings from these interviews were supplemented with information obtained from the literature on forest certification, including company literature and certifier reports. The analysis also draws on studies by local researchers in Brazil and South Africa, commissioned as part of IIED's Instruments for Sustainable Private Sector Forestry project.

3.2 Using the supply chain to spread certification

The spread of certification

By April 2001, over 22 million ha of forest had been FSC certified and, with a number of other certification schemes also now under way, the total certified area is expected to increase steadily. The World Bank-WWF Alliance for Sustainable Forestry has committed to seeing 200 million hectares certified by 2005. WWF-UK wants to see 75% of the UK's wood trade certified in the next five years.[1] These are challenging targets, but WWF believes they are achievable.

The market for certified wood products is growing, albeit in fits and starts. By 1999, market penetration for certified forest products had reached 5 per cent in much of Western Europe and one per cent in the USA – representing $500 million in the States alone.[2] PriceWaterhouse Coopers estimated that the certified forest products market in the USA will grow between 100 and 150 per cent per year.[3] With a number of extremely large producers and buyers joining the Forest and Trade Networks, growth is also expected in many other regions.

Certification as a market-based tool

For many forest and forest industry enterprises, the main motivation to certify has been market benefit. Market benefits anticipated have included:

- *Premiums* – Higher than prevailing prices for certified products.
- *Maintaining markets* – Avoiding losing sales to producers already certified, as well as to substitutes for timber.
- *Increasing market share* – Getting bigger volume orders from existing customers.
- *Expanding markets* – Gaining additional customers looking for certified supplies.
- *Product differentiation* – FSC certification was seen as a way of getting ahead of competitors.
- *Access to new markets* – As demand for certified timber has grown it has given some producers, particularly in developing countries, the inspiration to attempt trade with European partners for the first time.

But there is no guarantee for producers that these benefits will actually materialise, particularly when the forests concerned are located far from the consumers demanding certified products. Embarking on certification can be a risky business for forest managers given the upfront costs involved.

At the same time, for retailers and end users of wood products, there are risks involved in making commitments to buying certified products when they cannot ensure a regular and sufficient supply.

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[1] Francis Sullivan, Director of Programmes, WWF-UK, speaking at the Millennium Forests for Life Conference in London, June 7th 2000.
[2] www.ForestWorld.com, August 1st 1999
[3] Dixon A. Beauty and the Beasts. TWP International 3rd July 1999

Supply and demand need to move in tandem otherwise there are problems of unmet demands and loss of credibility, or excess supply and unmet producer expectations. Both types of problem, if they persist, can undermine the process of certification as both producers and buyers will lose interest if they cannot meet their expectations. Coordinating demand and supply of certified products is one of the major challenges involved in using certification as a market-based tool.

The supply chain, if transparent and not too complex, can be a mechanism for addressing these market coordination problems. Demand for certified products is transmitted from the retailer or end user, and each stage in the chain has a vested interest in pressuring or encouraging the next stage to become certified. The first task is to stimulate the demand for certified products at the top of the supply chain.

Creating market pressure through new partnerships

The WWF was one of the main NGOs which drove the development of the FSC. It has played an instrumental role in building demand for certified products. This has included convening 'buyers groups' of companies committed to sourcing FSC-certified products. These groups have created the pressure at the top necessary for the process of transmitting demand along the supply chain. It is estimated that the membership of the UK group, the longest running buyers group, accounts for 20% of the total UK consumption of timber (pers.comm. Catherine Graham, 2000). The buyers groups have recently been renamed Forest and Trade Networks to reflect their broader remit of representing anyone who supports independent certification of forests. Forests and Trade Networks are now operational in Australia, Austria, Belgium, Brazil, France, Germany, Ireland, Netherlands, North America (the Certified Forest Products Council, operating mainly in the USA but also Canada), Russia, Scandinavia, Spain, and Switzerland, as well as the UK. The group formed early this year in Brazil is the first of its kind in the developing world (see Section 3.3). However, other networks are in development in Bolivia, East Asia, South East Asia and West Africa – some of them focusing on producers, which will help with the capacity-building required. The Global Forest and Trade Network is expected to comprise about 1000 companies in all major markets by 2001 – to contribute to an 'ever-increasing push towards a total certified reality'.[4]

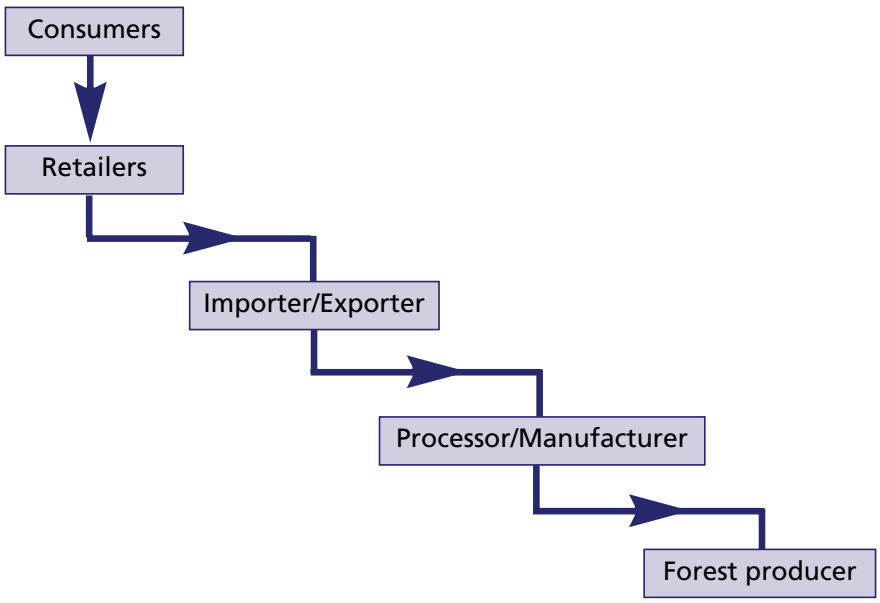
Passing the message along the supply chain

These buyers groups have played a catalytic role, in particular their DIY retail members. Creation of demand at the retail end of the forest products chain has led to pressure for certification being passed along the supply chain very effectively. Figure 3.1 shows the path of buyers' pressure. This has worked particularly well in the case of softwoods and is discussed in more detail below, using examples from supply chains originating in Poland and South Africa and ending in UK DIY retailers. It has been less effective so far for certified products

[4] Claude Martin, DG of WWF International, speaking at the WWF Forests for Life Conference, June 2000, London

based on tropical hardwoods – these are still in short supply relative to demand. The UK's Homebase, for example, has only five FSC certified tropical garden furniture lines out of a total of 40.[5]

Figure 3.1 Demand links in a forest products supply chain – a simplified picture



Outside the DIY retail sector, the effect of supply chain pressure on forest operations is less evident or has not worked in the same way. While the buyers groups now include companies from other sectors besides DIY retail, including timber merchants and the construction industry, so far there has been less of a clear line of pressure all along the chain from end user to forest operation. Some timber merchants put pressure on their suppliers, or work with them to achieve certification, but without specific demands of a buyer further along the chain. They are motivated more by personal values or by a belief that the market in the future will require certification. However some of the end users, in the face of limited action from other actors in the supply chain, may also play a very active role in locating sources of certified woods, and in training manufacturers. Section 3.3 discusses this further.

Non-Market motivations for certification

Even for forest producers supplying the DIY retail sector, for whom supply chain pressure has been the direct catalyst for certification, market benefits may not be the only driving factor. In fact, some certified companies sell only a small proportion of their products to markets interested in certification. They have taken the decision to certify based on a variety of perceived direct and indirect benefits:

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[5] Telephone interview with George White, 23rd June 2000.

- Risk management and improvement of reputation – notably indicating environmental responsibility, and demonstrating that the firm is adaptable and forward-thinking – one which it would be good to do business with
- Improving management systems and cost control
- The prospect of cheaper insurance and better access to finance

FSC certification has certainly been seen as a way of demonstrating that management practices rank among the best in the world. These factors were key drivers in countries such as South Africa and Poland, which feel that Western Europeans tend to automatically assume that their standards will be low, due to their political and economic histories. Box 3.1 notes further examples.

Box 3.1 Certification – demonstrating environmental responsibility, bringing credibility

In South Africa, some companies sought non-market benefits from certification, particularly in terms of increasing their reputation as responsible firms who care about quality and the environment. This was the major motivation behind the certification of SAFCOL, the government-owned company managing state forests – it saw FSC certification as a mechanism for improving its troubled domestic reputation.[6]

In Brazil, the only certified natural forest operation in the Amazon, Precious Wood Amazon[7], sought certification to demonstrate to its investors that it was managing its forest well. It only began to think about market benefits afterwards when prospective buyers came looking for certified timber.[8]

3.3 Supply chain pressure and the DIY retail sector

The role of the UK DIY retail sector commitments and targets

In the late 1980s, UK DIY retail chains such as B&Q and Homebase became high-profile targets of environmental campaigns linking European consumption to tropical deforestation. This revealed the companies' lack of knowledge about the source of timber in their wood products. It prompted retailers to drop controversial species such as mahogany altogether and, in B&Q's case, to state publicly in early 1994 that it would buy no more tropical hardwoods from Brazil.[10] At the same time they initiated more positive policies to encourage improved forest management. In addition, B&Q embarked on the difficult task of tracing the sources of all of its wood-based products, asking questions about the source and forest management quality that were difficult to answer – as few routine records were

"The FSC path will eventually open up into a motorway".

Gunnar Palme, CEO AssiDomän, June 2000.[9]

6 This has become an important issue with SAFCOL forests now being transferred on long-term leases to the private sector.
7 This has recently changed its name from Mil Madeireira.
8 Interview with Tim van Eldik, Forest Manager, Mil Madeireira, August 1999
9 Speaking at the WWF Forests for Life Conference, June 2000, London
10 Telephone interview with John Frost, 23rd June 2000.

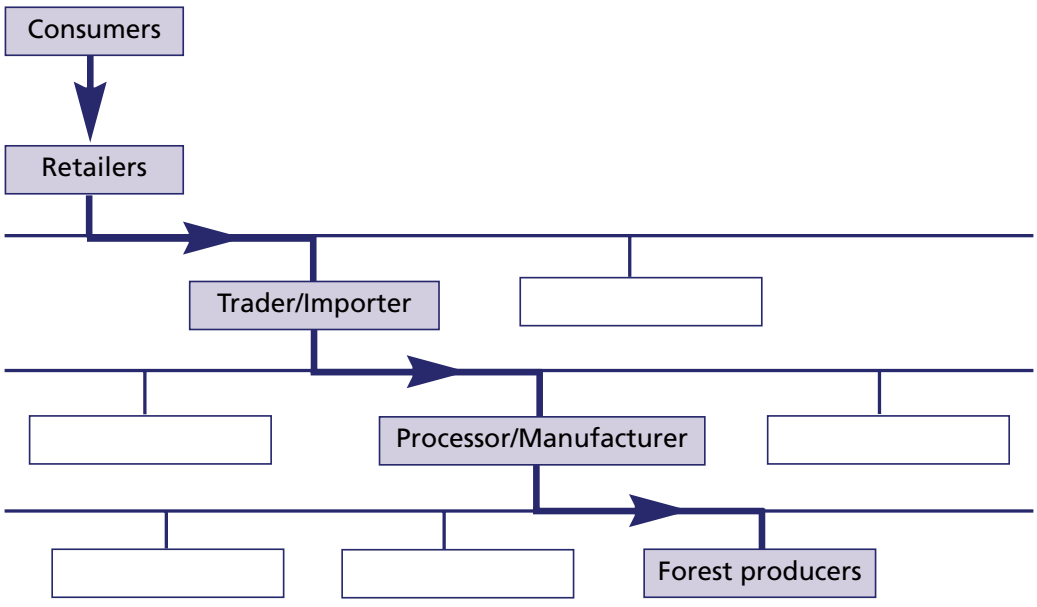
kept on such matters. Joining the WWF 1995 Buyers Group gave B&Q a framework within which to develop their sourcing policy and a means to rebuild their reputations, but it became clear that, to do so, they required sources of certified products.

Their approach was to persuade their existing supply base to become certified. Retailers asked their 'first tier' suppliers to start supplying FSC products, letting them know that in the medium term their aim was to source only FSC products. Most 'first tier' suppliers source products from a range of manufacturers in a number of countries, and so their requests for certified products began to spread awareness about FSC across the world. Figure 3.2 indicates how supply chain messages can be spread widely in this way.

Responses to these demands varied. Some manufacturers – seeing certification as a means to increase their standing with buyers, increase market share and develop new relationships – took the initiative and approached their timber sources, asking them to implement FSC certification. In other cases, certification was treated as simply another 'hoop' to 'jump through' in order to retain markets. Further manufacturers were resentful of the whole process, facing difficulty in finding certified sources and perceiving few benefits to justify the cost and effort involved when markets for uncertified timber remain dominant.

As a result, the major DIY chains in the UK have made significant but varying degrees of progress in sourcing FSC products. Over 95% of the wood products sold by B&Q are now certified. The vast majority are FSC certified but B&Q has also recognised the Finnish national scheme (the Finnish Forest Certification System – FFCS)[11] and the Indonesian LEI scheme.[12] Twenty-nine percent of

Figure 3.2 How supply chain messages can be spread widely



[11] Interview with Alan Knight, Environmental Coordinator, B&Q, March 2000
[12] Beyond 2000: A proposed Revised Timber Buying Policy for B&Q Alan P Knight June 2000

Homebase's 5413 product lines are FSC certified, accounting for 44% of the 609,000m^3 of wood that they sell each year.[13] Great Mills have 17% of their product lines FSC certified, accounting for 25% of sales by volume.[14] However, growth in timber demand means that retailers have to struggle to maintain these percentages. B&Q is now selling five times more timber than it did in 1992. In its proposals for timber buying policy, it gives the example of laminate flooring – where rapid growth in demand meant that though the target to source only FSC certified products was reached in late 1999 it could not be maintained in 2000.

Poland – swift certification benefits the entire chain

The 1995 certification of the Regional Directorate of State Forests (RDSF) of Szczecinek in Poland was a breakthrough. It was the first state-owned forest in the world to be FSC certified and its size (662,563ha) significantly increased the total forest area then certified. It also proved to be a catalyst for the certification of other state forests in Poland, almost half of which have now been certified. Its early certification was the result of strong supply chain relationships being exerted to find a way for certification to benefit the whole trading chain (see Box 3.2).

Box 3.2 Certification in Poland: a chain reaction

The first link in the chain was Premium Timber, a Bristol based firm which purchases timber products for the major UK DIY chains. B&Q is Premium's main customer, and so when B&Q asked Premium to start supplying FSC products, the firm reacted quickly. Premium had links with Seeger Dach, a Polish producer of pine products, for several years and put considerable effort into convincing the managing director, Wojciech Karlikowski, that FSC certification was in both their interests.

Mr Karlikowski came from a forestry family and knew that Polish forest could easily meet FSC standards. He saw FSC certification as a means of consolidating his export position and so asked the director of the local state forest to consider it. Although the director was interested in principle, seeing FSC certification as a means of demonstrating the high standards of Polish forestry to the international community, he was unwilling to pay for it without a financial incentive. Mr Karlikowski agreed to cover the costs: a special fund was set up in the forestry department for certification contributions, and certification went ahead.

The certification of this supply chain thereby acted as a catalyst for widespread certification in Poland. Other companies, who had been approached by their UK buyers, turned to their local RDSFs and struck similar deals. Both Premium and Seeger Dach have gone from strength to strength. Seeger Dach has increased its exports and Premium has strengthened its relationships with customers. Over 90% of the timber purchased by Premium is now FSC certified and the company will not look at a new supplier '*unless they are willing to go for it.*'[15] Seeing this positive experience, others have followed Premium/Seeger Dach's lead (see Box 3.3 for an example)

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[13] Interview with George White, Environmental Manager, Homebase, March 2000
[14] Interview with Kathryn Vowles and Steve Crewe, Environmental Executives, Great Mills, March 2000
[15] Interview with Simeon Le Gras, Quality and Environmental Manager, Premium Timber, March 2000

Box 3.3 From ship repairer to fence manufacturer: gaining new export orders from certification

'Complex' was a ship maintenance firm in Gdansk before it branched out into wooden product manufacture five years ago. It now has 2 factories employing 280 people making garden fences and decorative garden products. Nearly three-quarters of its production is exported to EU countries, particularly to the UK and France, although the domestic market is becoming increasingly important, now that Castorama, part of B&Q, is expanding in Poland.

In 1997, one of Complex's major customers, the UK firm Grange Fencing, supplier to the UK DIY retail sector, asked Complex for certified products. Complex's owner reacted positively, since Grange Fencing was a big customer and he felt that certification was important for their future in the UK market. Grange Fencing assisted Complex with the initial costs of certification, estimated to be around £5000, and they were certified one year after the initial request. Meeting the chain-of-custody requirements was straightforward, since most of Complex's timber came from forests which had already been certified.

Since becoming certified, Complex has found new export trade partners, and expanded sales. It has increased its capacity and is now selling 60% more than 3 years ago. Not all of its markets are demanding certification. For instance, there is no interest from Spanish buyers, but the French are beginning to enquire about certification and Complex has recently begun to supply new Danish clients for whom FSC was a pre-requisite.

Source: Interview with Marcin Sulkowski, Complex

The certification of Szczecinek and Gdansk acted as a catalyst for rapid take-up of certification across Poland – demonstrating both the ease with which RDSFs could meet FSC standards, and benefits to the exporter. Other Polish processors began to approach their local RDSFs. Increasing numbers of manufacturers applied for chain-of-custody certification – despite the fact that it was still only UK buyers demanding certified products (sometimes less than 10 per cent of their export sales). Certification thus began to be seen as a way of developing medium-term market advantage.

There were, perhaps, also some non-market driving forces as well. Polish foresters were keen to demonstrate to the international community, and particularly the European Union, that the asset-stripping ways of the communist past had been dispensed with. Certification was viewed as *'an opportunity to put Polish wood back on the map'*: with manufacturers picking up most of the costs, there was little to lose for the forestry community.

South Africa – certifying to ensure market access, and more besides

There were a number of other business and reputational reasons why South African timber companies took the decision to go for international certification.[16]

[16] This section draws on material from IIED's Private Sector Forestry project in South Africa, coordinated by CSIR.

- *Demonstrating proactive environmental commitment*. Some companies were very supportive of the aims of FSC and certification as a proactive means for demonstrating their environmental credentials.

- *Improving internal systems and efficiency*. Sappi's environment department was looking for the means to provide the discipline required to cope with a changing legislative framework and national and international expectations, and to gain management commitment. ISO 14000 fitted the bill since its continuous improvement ethos allowed companies to enter a commitment, whatever their existing level, and ISO's familiar management system framework made it easy to sell to senior management. Sappi felt that adopting ISO 14000 would help it certify to FSC standards quickly if the market required it.

- *Staying ahead of legislation*. Mondi sought to develop rigorous systems that would have no difficulty meeting forthcoming domestic legislation.

- *Responding to environmental and social criticism*. SAFCOL had faced considerable criticism from local NGOs and had been looking for a way of demonstrating their environmental credentials for a number of years. Social concerns had also surfaced more strongly on the company agenda – helped to the fore by CBOs, labour organisations and 'social' consultants. FSC fitted their requirements and SAFCOL's KwaZulu-Natal region was one of the first plantation areas in the world to be FSC-certified. The remaining 45 plantations followed and, by early 1998, the company's entire forest area and all its mills had been certified. It was only once certification was underway that SAFCOL began to receive requests from buyers for certified timber.

- *Shining up the silver for sale*. Another potential motivation for SAFCOL's certification, according to some industry commentators, was to increase their attractiveness to private investors – since it had been known for some years that privatisation was in the offing.

- *Anticipating certification becoming an industry standard*. As awareness about FSC spread, many manufacturers felt that they might find themselves unable to supply European export markets unless they could supply FSC products. As one exporter put it: "*We got certified to maintain our supply position down the line*", illustrating how certification had rapidly moved from a means of differentiation to a condition of doing business.

- *Improving competitiveness and first-mover advantage*. South African timber products manufacturers operate in the highly competitive low cost DIY and house-wares market, with Brazil and Poland as key competitors. South African manufacturers were aware that FSC was positively regarded in this market segment, and were keen to be able to use FSC certification to differentiate themselves from competitors (both within and outside South Africa). The pressure to become FSC certified intensified considerably once

significant volumes of certified pine products became available from Poland. These pressures came initially from the UK market. This story is taken up below:

In South Africa, as with Poland, interest in certification was also triggered by demand from UK buyers. The B&Q agent in South Africa, Alpine Trading, played a key role in raising awareness of FSC and a number of export-oriented firms quickly became interested in selling certified products. The pressure mounted once certified products became available from Poland – one of South Africa's key competitors in the DIY sector – with the increasing concern that, without certification, South African companies would be denied access to the UK market (see boxes 3.4 and 3.5). Whilst this concern was actually misconceived – the publicity surrounding UK market changes towards certified products did not really reflect the reality at the time – it has nonetheless helped South Africa to develop early mover advantage.

The spread of certification in South Africa is illustrated in Figure 3.3.

Box 3.4 Moxwood: passing pressure along the supply chain

Moxwood has developed from a family firm manufacturing lounge suites and coffins to a 600 strong part of the Steinhoff furniture group, exporting pine products to the DIY industry in Europe and North America. The UK accounts for almost two-thirds of its market, where it supplies companies such as B&Q, Wickes, Homebase and Jewsons primarily with doors and door components.

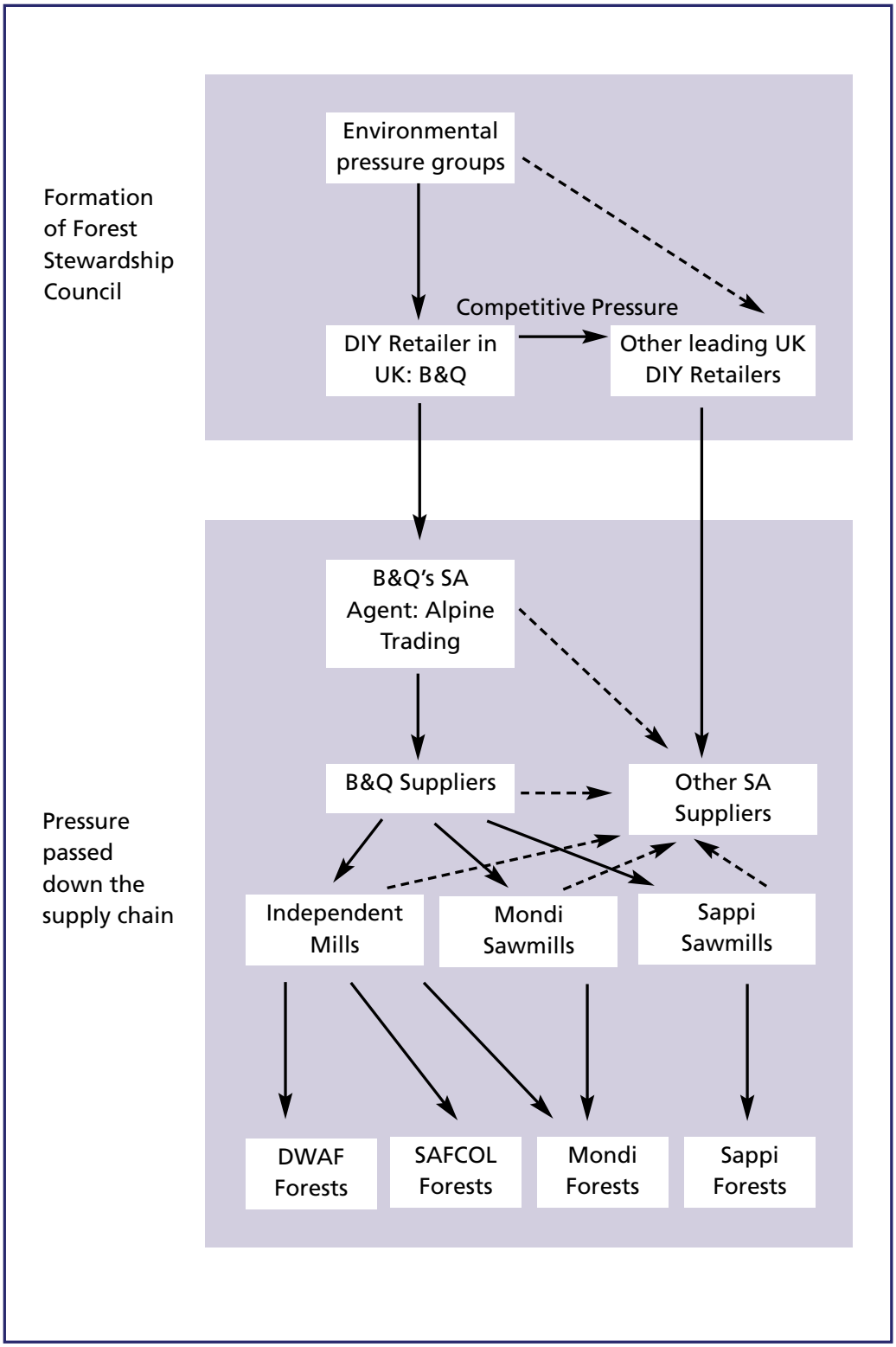
As Moxwood is an exclusively export oriented company, it is very responsive to international trends and three years ago developed an ISO 9002 quality system for the company. Soon afterwards the company began to face pressure to demonstrate its environmental credentials. The UK market increasingly required FSC certification, especially once Polish firms began supplying certified pine. Moxwood felt that there was no efficient way of segregating certified and non-certified supplies so they have been putting significant pressure on all suppliers to gain FSC certification. The company helped to facilitate a meeting between the certification agency SGS and sawmills, to convince them that it would be worth getting FSC chain of custody certification and now purchase solely FSC certified products.

Although Moxwood now has people based in the UK and the US, it organises a visit to the UK twice a year to give a report to buyers. By getting FSC certification when it did, Moxwood believes that it has managed to keep its South American competitors out of the market for at least a year. At present, the US market is still more interested in ISO 14001 environmental management system than FSC and Moxwood is integrating ISO 14001 with ISO 9002. The biggest difficulties have been developing systems that work for people who can't read, and ensuring that they are abiding by all the national legislation.

Moxwood found putting the ISO management system in place initially very expensive, as it had to keep flying in UK-based certifiers, but this has ceased to be an issue now that there is an SGS office in South Africa. It estimates a cost of around R60,000 to get ISO 9002 certification and about a third of that to get FSC chain of custody certification.

Source: Interview with Phil Flowers, 1999

Figure 3.3 The spread of FSC certification in South Africa



Source: modified from Dunne 2000

Box 3.5 Surejoy Industries: accessing new markets through certification

Surejoy is a small wood products producer, employing 95 people based in Harding, kwa-Zulu-Natal. It has been operating for 18 years and exporting for the last eight. It now produces 'knockdown' units and boxes (e.g. laundry boxes, potting benches), almost all destined for the UK DIY and garden furniture market. Although in Surejoy's case, profit margins from overseas sales are below those in the domestic market, they are focusing solely on the export markets due to the large volume of orders which allows them to produce continuously.

One of Surejoy's partners is based in the UK which prompted Surejoy's decision to gain FSC chain of custody certification, the first secondary processor in South Africa to do so. This was a purely market driven decision, enabling them to join the list of certified suppliers and be considered by the DIY retailers. Most of their contracts are one-offs which they hope to have renewed. Surejoy is hoping that the advantage of being FSC certified early on will endure as other processors gain FSC certification.

Wiedie Vorster, Surejoy's managing director, is also looking at moving into the German, French and US markets but feels that there is still quite a lot of resistance to FSC in Germany, particularly from German forest companies, and that the US market '*doesn't understand FSC*'.

Mr Vorster sees the FSC as '*a good green movement*' although he identifies a number of practical problems with the way that certification is implemented. For a company such as his, it is not worth separating timber on site, so he only went for chain of custody certification once he knew that he could source only FSC timber. However, while there are only a few forest companies with FSC certification, they can 'call the shots'.

Source: Interview with Wiedie Vorster, Managing Director. May 1999.

When the first requests from the UK came in, there were no certified timber sources in South Africa, so Alpine Trading and a number of manufacturers facilitated a meeting between the sawmills, the timber companies and the certifiers (SGS) to raise awareness and support for FSC certification. Pressure from manufacturers on the sawmills was a key factor in the certification of their parent companies, Sappi and Mondi, the two largest private forest owners in South Africa. For Mondi, the decision to certify was seen as a way of '*staying ahead of the game*' – the timber division had received requests from their buyers who were selling into the UK market. Both companies had a stronger overall focus on paper production, which at that time did not demand certification, so pressure had to come through the timber side of the companies (see Box 3.6).

The effect of this supply chain pressure, together with the influence of non-market motivations discussed earlier, was quite striking. Nearly 800,000 ha of forest are now certified in South Africa. Sourcing FSC timber in South Africa is now relatively straightforward.

Box 3.6 Sawmills – crucial links in the certified supply chain

Sappi had been focusing on expanding its international paper business, which was not demanding certification, and had therefore little interest in FSC certification, concentrating instead on ISO 14001, which seemed more appropriate to its needs at the time. However, its sawmills soon came under pressure from South African furniture manufacturers for certified sawn timber. This led to continued pressure on Sappi's plantation division to get the timber resource certified, to make chain-of-custody certification easier. The agreement that the sawmills would cover half the cost of forest management certification eventually led to the decision to certify the saw timber plantations.

Source: Sean Gannon, Lomati Mill, Sappi, 1999.

Brazil – where supply chain pressure is not always the driver

The dropping of Brazilian sources of tropical hardwood by overseas retail companies has so far had limited impact in terms of stimulating certification of producers in the Amazon region – a major region for which the environmental concerns behind certification are frequently expressed. The first certified operation in the Amazon, (Precious Wood Amazon, mentioned earlier) was not responding to supply chain pressure or market pressure and is a rather unusual case. Its example did, however, encourage Gethal, a plywood and veneer company nearby, to try out certification. As the first certified plywood producer in the world, it expected clear market benefits. It started by sourcing a small part of its wood supplies from Precious Wood Amazon and obtaining chain of custody certification in early 1999. This gave it an opportunity to test the market for certified products before proceeding with certification of its own forests (Braga 2000). The company has recently obtained FSC certification for its forest operation and expects to be able to produce exclusively certified products by 2002. It is now encouraging the companies that supply 40% of its wood inputs to certify their forests (May and Veiga Neto 2000). While Gethal's certification was market-driven, it was more a case of acting on a perceived market opportunity than responding to supply chain pressure. Investor pressure also played a role, as certification was one of the conditions required by GMO Renewable Resources which acquired a majority holding in the company in early 2000 (Azevedo *et al* 1999 cited in May and Veiga Neto 2000).

If Brazil is usually associated with production of tropical hardwoods from the Amazon region, the South of the country is also an important producer of softwoods and plantation hardwoods such as eucalyptus, and this is where most of Brazil's certified forests are located. Here, there are signs of supply chain pressure leading to certification but again this does not apply in all cases. In one case, a major forest producer certified for a mix of motivations, and local manufacturing companies only afterwards saw an opportunity to use this new certified source to access new overseas markets (see Box 3.7).

Box 3.7 Taking advantage of certification to tap into new supply chains

Klabin is a large pulp and paper company with operations in several states of Brazil and Argentina. It sought certification for its operation in Telemaco Borba, Parana – in the South of Brazil – which has pine and eucalyptus plantations and produces primarily paper products (521,000 tonnes in 1998) but also some solid wood. However, Klabin has not since sought chain of custody certification for its paper manufacturing operation. According to the company's forest manager, the decision to certify the forest was due not to pressure from the paper market but to a realisation that very little effort would be involved to meet FSC criteria.[17]

Other motivations may include a desire to promote a local economy based on certified wood and a long-term strategy of Klabin to diversify into value added solid wood products. Thus the local municipal government and Klabin launched a programme in 2000 to establish a certified furniture hub in Telemaco Borba to supply both the national and international market (FSC Brazil 2000).

Once Klabin's certification was in place, several manufacturers of furniture and wood products, who purchase timber from the company, sought chain of custody certification, in the expectation of improving their prospects on the export market. One of these companies doubled its number of employees in just 18 months after becoming certified. These companies are now trying to persuade other suppliers of timber in the area to seek certification, offering support and economic incentives. This is so that they can reduce their dependence on Klabin and create more competition locally (Braga 2000).

One clear example of pressure from the retail supply chain is provided by Duratex, a major MDF and hardboard manufacturer, which obtained certification in 1998 with a view to meeting requirements of Home Depot in the US.[18] This also generated requests for certified hardboard and MDF from Europe, as at the time Duratex was the only producer of certified MDF in the world. In the UK, retailers (or their suppliers) such as Great Mills started sourcing from the company. However the domestic market for Duratex's products is now so strong that it has reduced its exports considerably. Great Mills has therefore been obliged to switch to other sources of certified hardboard.[19]

There are also signs of DIY retail supply chain pressure influencing companies that are currently in the process of certifying. Homebase has held up the example of South Africa to Brazilian companies to demonstrate what can be done, and how alternative sources of certified wood products can be found. Chindwell Doors, another member of the UK Buyers Group, supplies B&Q with cabinet doors from a company in the south of Brazil which is in the process of certifying its forests. The company was told by Chindwell that it needed to certify otherwise it would be dropped as a supplier. Chindwell has dropped another supplier in Brazil for environmental reasons.[20]

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17 Interview with Paolo Kikuti, Klabin, August 1999.
18 Technology-led giant, Timber and Wood Products International, 5 June 1999.
19 Telephone interview with Kathryn Vowles, Great Mill, 23rd June 2000.
20 Telephone interview with Wai Walsh, Chindwell Doors, 28th June 2000.

3.4 Beyond the DIY retail sector – more challenging supply chains

Compared to the DIY retail sector, the pressure for certification from intermediate or end users of construction timber (which accounts for over half of UK wood consumption), joinery, and paper has been much less evident. Even members of the UK Buyers Group have experienced limited success. Clarks Wood, a timber merchant supplying mainly joinery manufacturers, was one of the early members of the Group yet still has only a small proportion of its trade in certified timber.[21] Despite this, it has made efforts to promote certification – described in Box 3.8 below. Wood International, which acts as an agent for Gethal in Brazil and sells to timber merchants and construction companies amongst others, estimates that less than 1% of its business is in certified timber, although it expects this to increase in the future.[22] Without demand from end-users, the vision of a chain of accumulating pressure on the forest producers is far from complete. The problem may not always be one of demand directly, but of matching demand to supply, requiring improved information and other ways to deal with fragmented markets.

"The only buyers asking for certification are those supplying the big DIY sheds who insist on it"

TWP, 8 April 2000

Box 3.8 Working with suppliers and influencing buyers

Clarks Wood, a member of the UK forest and trade network, is a builders' merchant with an annual turnover of £10 million, specialising in hardwoods and selling mainly to joinery manufacturers. While it has exerted pressure on, or worked with, its suppliers to seek certification, it believes that it has always been ahead of its clients and has never had to respond to a client ultimatum. Its entry into the UK buyers group was prompted by its desire to move away from Brazilian mahogany, and by its associated steps to track the origins of the timber that it was buying. The company has bought certified plywood from Gethal and hardboard from Duratex in Brazil as well as from other certified suppliers. In the past it had problems in maintaining continuity of supply from certified sources, reflecting its small buying power in comparison to the big retailers. But it could now move over to certified wood completely as it has links with most of the certified producers in the tropics.

Furthermore, suppliers that walked away in the past when Clarks Woods raised the issue of good forest management, are now coming back, expressing willingness to change. The problem is finding customers for certified wood. While there is some interest, customers have specifications on dimensions which do not always match that of certified wood available. They are also often unwilling to look at alternative species. As a result, the company sells 80% of its certified wood to customers who have not specifically asked for certification. Moreover, it has had difficulties in selling some of its certified timber. For example, the certified plywood bought from Brazil has proved difficult to market partly because of its high price relative to other sources of a similar quality, in a segment of the market where buyers are very cost-conscious. The grade of plywood available also did not match the typical requirements of Clarks Woods clients. One of Clarks Wood's customers is Bristol City Council which is now aiming to buy more certified wood (see Box 3.10)

Source: Geoff Osborne, Clarks Wood, April 2000

In some cases, pressure from the buyer end of the supply chain may not be sufficient to reach decision-makers at the forest producer level. The end user or consumer may need to get actively involved with forest producers and not rely on the intermediate links of the supply chain to transmit its demands for certified wood. This is likely to be the case when the end user is a relatively small player in terms of wood consumption. Railtrack in the UK provides a good example of this situation, as discussed in Box 3.9.

Box 3.9 Unblocking the chain: an example of direct support for forest certification from end users

Railtrack is a founder member of the UK Buyers Group, its main use of wood being for railway sleepers. Each year it requires about 130,000 softwood sleepers and 30,000 hardwood ones, equivalent to just over 8,000 m^3. Only recently has it been able to source from certified operations. Railtrack does not buy wood itself – the large contractor companies that carry out construction and maintenance do this. This may explain why the outcome has been rather different from that of the retail sector. The contractors at first did not take Railtrack's aim to use only certified wood very seriously, with the result that nothing changed very much between 1995 when the WWF buyers group was formed and 2000 when certified sleepers were first used. As only two species have traditionally been used for sleepers and as the manufacturing specifications are quite demanding, there was a view that it would be difficult to find alternative sources of supply.

Two factors helped to change this situation: firstly, Railtrack in 1998 set a firm target for the end of 2000 to use wood only from certified sources or from operations which were working towards certification. This has now been incorporated in its sleeper specifications and contract requirements. Secondly, Railtrack went actively looking for sources of certified wood, trying to convince existing suppliers in Western Australia and France to become certified as well as identifying new sources of supply. It tested new species and identified 14 others that would be suitable for manufacture of sleepers. It also arranged training for manufacturers. As a result, 45% of Railtrack's hardwood sleepers now come from a certified operation in South Africa and 10% from one in Guatemala. Tests are currently being conducted on hardwood timber from Brazil. As of next year, no further timber will be sourced from Western Australia unless there is concrete progress there on certification. Softwood suppliers in France are also now taking action to achieve certification.

Sources: Telephone interview with Darren White, Assistant Environmental Manager, Railtrack, 16th August 2000
Railtrack 1999/2000 Corporate Sustainability Report.

21 Telephone interview with Geoff Osborne, Clarks Wood, April 2000
22 Telephone interview with Alan Lamont, Wood International, 20th June 2000.

The paper sector was previously not very interested in certification, as it was too difficult to get enough supplies to meet the 70% minimum percentage of certified raw material required for chip and fibre products. Now after extended debate this percentage requirement has been reduced to 30% until 2005 when it will increase again to 50% (FSC 2000). This will make certification and labelling easier to access for paper manufacturers, and other processing companies sourcing from many producers, which include both certified and non-certified forests. It should also help to prevent smaller producers being squeezed out of local markets as a result of not being certified. With a high demand from retailers for certified paper products – Castorama has committed to all FSC certified paper, and Homebase is desperate for sources of certified wallpaper – the paper sector should become a bigger player in the chain of pressure for certification.

Newspaper publishers are another major user of paper. Although the recycled content of newspapers has been increasing, the UK newspaper industry currently consumes about 1 million tonnes of virgin fibre annually, equivalent to 2.5 to 3 million m^3 of wood. Environmental concern amongst newspaper publishers has typically focused on recycling but there are signs of change. The Newspaper Recycling Working Group in the UK which reviews targets for recycled content is planning to consider forestry in future discussions and to look at the possibility of setting targets for certified newsprint.[23]

Government agencies constitute another potential source of supply chain pressure as they are increasingly required to address sustainability issues, and are purchasers of paper and wood. For example, government agencies in the Netherlands are significant buyers of certified hardwoods from Precious Wood Amazon for use in maritime applications. In the UK, many local authorities introduced bans on tropical timber in the 1980s and some have moved on to establish 'buy certified' policies. However, they are small buyers relative to the retail sector, which means that securing supplies can be difficult and the extent to which they can favour certification depends on the nature of tendering processes. It is rare that certification is a specific requirement. However, detailed questions about environmental performance are increasingly included in the tender documents.[24] Normally, suppliers are assessed on various criteria. They can gain or lose points depending on whether they are certified but they cannot be struck off altogether because of the difficulties in securing supplies. Unable to place big-buyer pressure on suppliers' decisions about certification, government bodies have had to go looking for supplies of certified timber. Box 3.10 provides an example of some of the difficulties a local government can face.

23 Grieg-Gran M. 1999 Review of the Recycled Content Targets for UK Newspapers
24 Timber and Wood Products 20 May 2000

Box 3.10 Challenges of securing supplies of certified timber in local government

Bristol City Council (BCC) is one of ten UK local authorities involved in a WWF and Soil Association pilot project to use certified wood. It has a purchasing policy which favours well-managed or local timber. This followed on from a tropical hardwoods boycott from the 1980s which was not fully implemented. BCC has annual meetings with its five main suppliers to discuss progress on securing certified supplies.

The Council's main use of wood is for housing maintenance. In 1997 it used 570m^3 of timber for this purpose, of which 82% was softwood and 18% hardwood – a tiny amount in comparison with the purchases of DIY retailers. Its experience so far illustrates the difficulties for small buyers interested in certification.

BCC first used certified timber in 1998 for making window frames, carrying out a trial with mahogany from Belize, purchased through Clarks Woods, a timber merchant that is a member of the UK Buyers Group.The trial was successful and BCC was hoping to set up a regular order with the operation in Belize – but before they were able to do so, a larger buyer in the US had secured all the supplies. Similarly, an order of certified softwood from Assi Domän in Sweden was not possible to follow up with a regular supply. An earlier attempt to use certified hardwood for decking faltered when the Solomon Islands company lined up to supply went out of business. BCC has also used certified plywood from Gethal in Brazil, again purchased through Clarks Wood, but only to a limited extent. The problem in this case has been finding suitable applications for the certified plywood, as it is not of the grade that the Council would normally use and it is also relatively expensive.

There are signs of improvement in the supply situation and BCC now expects to have a regular supply of certified hardwood (*kamerere*) obtained through Clarks Wood.

Source: Telephone interviews with Martin Fodor and Darren Campo, Bristol City Council April 2000

3.5 The limits of international supply chains

Forest producers are most likely to be interested in certification if their timber ends up in the environmentally sensitive markets of North America and Western Europe. In developing countries, forest producers or the manufacturers that source from them will be motivated by certification if they are aiming to access these markets.

However, it is only a surprisingly small percentage of annual global timber production which is traded internationally. In 1996, 3358 million m^3 of timber was harvested for use as charcoal, fuelwood and industrial roundwood. Of this, it is estimated that only around 6-8% enters international trade and the majority of this is between countries in the same region. Asia alone accounts both for more than 80% of tropical wood exports and for more than 70% of

tropical wood imports by value.[25] Demand for certified timber has yet to develop in Asia, though efforts are being made by the Global Forest and Trade Networks, and by the Tropical Forest Trust (TFT).[26]

Dealing with domestic markets

For certification to have a more significant impact worldwide, it is clear that domestic markets in countries endowed with forest resources need to become environmentally sensitive. The recent formation of a buyers group in Brazil is an important model in this regard (see Box 3.11). While the international spotlight has been on export of tropical timbers from Brazil, the local market is much more important. Only 14% of timber production from the Amazon is exported, and the southern regions of Brazil consume more than twice the total amount of tropical timber imported by the European Union.[27] For this reason Brazilian NGOs have been working to influence domestic supply chains and to raise awareness amongst Brazilian consumers about certification. The formation of the Buyers Group was preceded by a pilot agreement between Brazilian NGOs and Tok & Stok (a leading furniture and household retailer, exclusively supplying the Brazilian market) to promote certification and purchasing of timber from certified sources. This retailer was targeted because it has long-standing relationships with its suppliers and well-developed systems of quality control, facilitating relatively easy incorporation of an additional specification on certification. On the demand side, Tok & Stok is a widely recognised brand amongst the younger professional classes who are receptive to social and environmental concerns; it became the first Brazilian retailer to make a commitment to stocking certified products.

Even for companies that are primarily export-oriented, the presence of a local market for certified products can be crucial for profitability. Greenpeace has recently announced a partnership with Precious Wood Amazon to market certified hardwood products on the domestic market. While this company has primarily targeted the export market, it has found it difficult to export the wood offcuts and this has represented a serious threat to its profitability.[28] The implication is that international supply chain and market effects may motivate companies to certify but the long-term survival of these companies may also require a good local market for certified products.

A number of commentators (e.g. Irvine 1999, Bass and Simula 1999) have noted the potential for domestic market-led certification in countries such as China and India, where there are both major forest problems and huge numbers of consumers dependent on forest products. However, in such cases certification standards and procedures should be relatively simple, and build on existing precedents e.g. to control the transport of fuelwood and poles.

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25 FAO 1999. State of the world's forests 1999. Food and Agriculture Organisation, Rome.
26 TFT is a group of tropical timber buyers who are committing a small percentage of their sales to supporting enterprises to work towards certification.
27 Smeraldi R. and Verissimo A. 1999 Hitting the Target. Timber consumption in the Brazilian domestic market and promotion of forest certification. Friends of the Earth Amazonia Programme, Sao Paulo, Brazil
28 Interview with Tim van Eldik

Box 3.11 Spreading certification through domestic supply chains: The Buyers Group in Brazil

The Buyers Group was formed in April 2000 and is being coordinated by Friends of the Earth. The group aims to source 20% of its wood from certified sources by 2002 and 50% by 2005. As well as encouraging the certification of their domestic suppliers, the group will assist enterprises in accessing the certified wood market.

"*The demand for certified timber is already a reality here. It is up to producers to be able to meet it.*" (Roberto Smeraldi, director of the Buyers Group).

There are 42 members from a range of sectors including a large domestic retailer, Tok&Stok, manufacturers such as Tramontina which exports worldwide, a construction company Cikel, as well as small furniture designers. Volumes of wood involved range from 200 m^3 per year for a typical furniture designer to 20,000m^3 for a retailer and over 120,000m^3 for Cikel. The group also includes state-level and local government – the State Government of Acre (which recently committed to certifying all of its Amazonian forests), the State Government of Amapa and the municipal government of Guaruja in Sao Paulo State. This group shows promise for expanding demand for certified products beyond the current confines of Western Europe and North America. Nevertheless, some of its members are exporters and are motivated by the requirements of US and European markets. In particular, the group includes the US furniture company, Sylvania Certified, which currently buys from community groups in Bolivia, but is looking for certified sources in the Brazilian Amazon.

Source: Tony Horta, Seminar on Sustainable Forest Management, 23rd April 2000, Cuiaba, Mato Grosso Brazil, Press Release March 2000. www.amazonia.org.br/compradores

3.6 Impacts of certification on supply chains

Forest certification remains a new idea. The concept is about ten years old, and it has been in widespread application for less than five. However, as evidence here shows, lessons and trends are emerging on what drives companies interested in certification, and on what difference it makes. Transparency seems to be improved. But equity does not always seem to: suppliers bear most of the costs and buyers reap most of the benefits. And market advantages, to be secure, seem to require other strategies in addition to certification.

Transparency

One significant impact of certification has been to increase the transparency of forest product supply chains. Ten years ago, most companies had little idea of the original source of the timber in their products. Now any company selling to consumer markets in 'environmentally sensitive countries'[29], and many who are selling to business or governments[30], have to be able to answer the question 'where is this from' and give assurances that the forests in question are well

29 These are mainly in Western Europe (largely UK, Netherlands, Germany to date) and North America.
30 Increasingly corporations and local governments are stakeholders interested in practising and proving what they preach on sustainability.

managed. Consequently supply chains have become far more transparent. FSC certification allows this by tracing each link from the forest to the final supplier through the chain of custody certificates. Because all certified products are clearly marked with the manufacturer's certification number, it becomes easier to monitor quality standards and to spot whether a particular supplier is also supplying its competitors (Box 3.12).

Better transparency is facilitating a change in corporate mindset. Traditionally companies have kept the identity of their suppliers confidential, seeing this as a means of maintaining comparative advantage. However, in an era of increased pressure for corporate responsibility and the linking of production impacts to product consumption, making supply chains transparent can be a means to reduce threats to corporate reputation and hence become a source of comparative advantage.

Box 3.12 Improving transparency: implications for quality control and competitiveness

Because all certified products are clearly marked with the manufacturer's certification number, defects can be traced back to the manufacturer, whereas before it might only have been possible to say that the defective products came from a given country.

Initially, some manufacturers in South Africa found this a little uncomfortable, as their customers were able to walk into competitor's stores and determine by the FSC certificate number whether their supplier was also supplying its competitors!

Impacts of certification on choice of suppliers

Most companies seeking FSC certified products start by asking (and sometimes assisting) their existing supply base to become certified and only switch if their current suppliers show no interest in complying. However, companies switch suppliers for a whole range of reasons and environmental or social performance may only be one factor – B&Q have changed every single one of their tropical timber suppliers over the last few years for a combination of business and environmental reasons. In particular, they dropped all wood suppliers in Brazil in the early 1990s because of concerns about illegal logging in the Amazon. Although their concern was about hardwoods, their decision to walk away from Brazil had a knock-on effect on softwood producers outside of the Amazon. In their search for alternative sources of hardwoods from well-managed sources, they found other softwoods as well. Overall, B&Q have reduced their trade in tropical timber or substituted it by certified products made from plantation eucalyptus or in some cases, pine.[31]

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[31] Telephone interview with John Frost, 23rd June 2000

[32] Scrase 1999. Certification of forest products for small businesses: Improving access – issues and options. A research paper for FRP, DFID, UK.

Buyers will only switch from an uncertified source to a certified one if sufficient supplies of certified products which meet all their other criteria – price, volume, quality, delivery, reliability – are available. However, being certified may be the factor that persuades a buyer to consider a previously unknown supplier. A review of small businesses and certification concluded that for some developing country firms, certification '*was perhaps the only way of persuading the European market to consider them as new suppliers*'.[32]

Companies in some countries have gained through the way that certification has promoted a change in buying habits. The need to find sources of FSC-certified tropical timber led to B&Q considering Bolivian firms and using species unfamiliar in the UK market for the first time – because they were certified. Similarly, South Africa has gained market share at Homebase: South African companies now account for 10% of Homebase's wood purchases, including almost all their pine doors. According to George White, Homebase's environmental manager, South Africa did not even feature on their supply list in 1996 and '*came from nowhere, getting FSC quickly, at just the right time, when buyers were looking hard for certified sources and SE Asia was in turmoil*'. While Brazilian suppliers are still a relatively insignificant part of B&Q's supply base, they have recently doubled their share of business from Homebase from around 3% to 6-7%. This is mainly in pine products supplied by companies in the South of Brazil that source from Klabin and other smaller operations that are certified or are working towards it.

Certification has also led to changes in European suppliers. The UK and Finnish forest products sector have both been very resistant to FSC certification, leading to loss of lucrative contracts to Polish and Swedish firms. In the UK, however, increasing demand for certified timber and the development of the pragmatic UK Woodland Assurance Scheme (which has brought about a convergence of Forestry Commission standards with FSC standards) has improved things. In 1998, Homebase switched a £7 million contract for planed timber from Finland to Sweden after certified sources became available and the Finns showed no interest in implementing FSC. Finland's share of Homebase's supply base has dropped from 15% to 4%, almost all of which is of wall coverings for which Homebase cannot find suitable certified sources. In contrast, after lengthy discussions with the Finns, B&Q recognised the Finnish Forest Certification Scheme. This is a decision that has caused considerable controversy, since one of the aims of FSC is to provide a single scheme which can cover all types of forest and will be clearly recognisable to consumers: the fact that B&Q has consistently shown itself to be a leader, however, is significant here.

Prices

The existence of a premium of between 5 and 15% was presumed from surveys such as WWF (1991), which found that two-thirds of consumers would be willing to pay up to 13.6% more for tropical wood products from sustainable sources. Taken together, these two incentives were predicted to affect around 20% of the European market for tropical timber and 10% of the corresponding

United States market (Varangis, Crossley & Primo Braga 1995, cited in Markopoulos 2000).

As it turned out, large DIY retailers in the UK are adamant that they will not pay premium prices for certified products, regarding them as unjustified and unsustainable. The DIY wood products chain is retailer-driven, and the retailers by virtue of their large size and increasing international presence wield considerable power. B&Q, which now has stores in Europe, Asia and Latin America, has an annual trade in wood products equating to over 3 million m^3 of roundwood equivalent.[33] In contrast, many producers of certified products have volumes measured in only thousands of m^3, or at best tens of thousands, and rarely form part of multinational chains. This gives the large retailer more power than producers in price negotiations.

In the absence of good information on how much retailers are investing in advertising certified material, it is difficult to ascertain whether they are intent on capturing any potential market benefits of certification from consumers. But little investment in customer awareness raising is evident. This, along with the fact that they are rarely paying a premium to producers, would make it appear that retailers are seeking to control demand in certified products: risk management and reputation assurance might thus form the retailers' main motivation.[34]

The only situation where premium prices have occurred in the DIY retail supply chain is when there has been a mismatch between supply and demand, if buyers are competing for certified wood with few sources. However, this tends to be a temporary phenomenon. The UK timber trade journal TWP reports that companies pushing suppliers for FSC certified wood are still struggling to reach their targets, as there is not enough on stream.[35] In Scotland, some sawmills are offering an extra pound per ton for certified timber, but observers believe this will only last whilst there is difficulty in sourcing it.[36] The recent certification of the UK's state Forest Enterprise will help to end the mismatch.

The premium has been more enduring for certified tropical hardwoods – which are still in relatively short supply – and in other sectors. Great Mills has been paying a small premium for certified hardwoods for manufacture of its own products – but no premium is paid for softwoods.[37] Certified producers of tropical hardwood in Brazil and PNG report that they are receiving premiums of up to 20% for well-known commercial species, mainly from buyers in the Netherlands. However, many expect this premium to diminish or disappear altogether as more supplies come on to the market. Gethal, as the world's first

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[33] Knight 2000. Beyond 2000: A proposed Revised Timber Buying Policy for B&Q Alan P Knight June 2000

[34] If demand derived directly from consumers, more retailers would demand certified products, a premium would emerge, and buyers groups might break down. This 'cartel' possibility needs to be assessed.

[35] TWP 8 April 2000

[36] Personal communication, Bill Reynolds, Scottish Woodlands.

[37] Telephone interview with Kathryn Vowles, Great Mills, 23rd June 2000

producer of certified plywood, has also managed to sell at an average 7-8% premium in certain European markets (May and Veiga Neto 2000). But it has made few inroads to date in the UK retail sector. In the case of Homebase this is because of the limited range of dimensions that Gethal currently offers and the perceived high price.[38]

For Railtrack, certified hardwood wooden sleepers are costing up to 30% more than from its traditional suppliers. Like other members of the Buyers Group, it initially said that it would not pay a premium, but found that there was no alternative. Unless it was prepared to absorb the direct costs of certification it simply would not secure certified sources. Part of the extra cost reflects the direct costs of certification, but part of it is a result of the reduced scope for bulk buying. Whereas before Railtrack's sleepers were purchased in bulk from one or two suppliers, there are now a number of sources involved. All the suppliers have to be certified by the end of 2000.

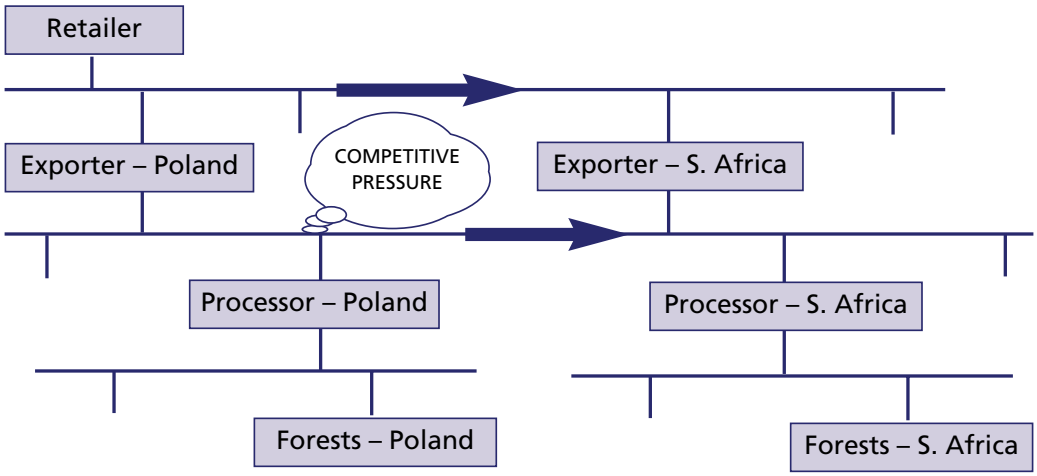
3.7 Impacts on forest management and stakeholder relations

There is evidence of significant demand being passed along the supply chain leading to certification of forests. As we have seen, in most cases, the pressure has come from the DIY retail sector, where large buyers keen to protect their public image have been able to exert considerable influence on their suppliers, and in turn on their competitors (Figure 3.4).

"Providing an incentive in the market place for responsible forestry"

FSC [39]

Figure 3.4 Competitive links spread the trend – the case of Poland and South Africa



[38] Telephone interview with George White, Homebase 23rd June 2000
[39] FSC website, May 17, 2000, www.fscoax.org

The retail sector's supply chain is formal and corporate in nature, and mainly trades manufactured goods sourced from forestry operations already practising good forestry. In most of the cases above, whilst certification has helped make some improvements, it has been relatively easy for the forestry companies to achieve the necessary standards. Businesses not supplying retailers are a different story. For example, the international hardwood timber trade still operates on a traditional, 'handshake' basis, and the 'supply chain' is a rather murky concept. It is also far more likely to be sourcing timber from the natural, tropical forests which are so environmentally contentious. Success stories of demand-led pressure leading to real and widespread forest management change in these areas of serious forest concern are less evident.

Certification's role in improving corporate forest management[40]

Larger (industrial) forest enterprises manage about 60 percent of global FSC-certified forest area; and about 80% of that area is managed in units of over 10,000 ha (See Table 1.2 in Chapter 1). In other words, bigger corporations manage most certified forests. Most of those companies who have been certified already had reasonable capacities in place. Most large companies start by getting one area or one division certified first and use that experience to inform the rest of the certification process. However, FSC certification has had a positive incremental impact on management capacity:

"Since certification came we have all become greenies – now I watch the Discovery channel!"

Mill owner, Weza, South Africa

- helping to improve management systems – streamlining procedures and filling gaps
- developing staff skills, through certification-related training and tasks
- improving the company's status and ability to deal with other stakeholders
- positively influencing cost-effectiveness all-round; stock control; and occupational health and safety records

There are three main ways in which certification may have an impact on the forest management of forestry companies:

Firstly, where the certification process has demanded improvements to forest management. These improvements are either as part of the *preparations for certification* (most enterprises have to undergo changes prior to the certification inspection in order to be confident that they will meet the standards) or as a result of *the certification audit and its recommendations*. IIED and FSC analysed all certificates to June 1999. This revealed that almost every certificate had forest management conditions attached to it.[41] In other words, forest management has been considered adequate enough for a certificate, but

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[40] Sources for this section: Bass, 1999; Counsell, 1999; Bass and Simula 1999

[41] These are often known as "corrective action requests" (CARs), and can be major (requiring action before the certificate is awarded or within a given time period), or minor (to be corrected before the next inspection).

certifiers have required improvements.[42] Furthermore, this revealed some trends in the frequency of these requests in relation to the Principles and Criteria (P&C). Typically, the actual areas of change and improvement are different for different types of enterprise. Clear differences exist between large, formally managed companies and small, informal ones (especially community operations), between developed country and developing country enterprises[43], and between natural forests and plantations. What is clear across the board is that certification has equal or greater impacts on systems and administration of management as it does on the technicalities of practices on the ground. For industrial forestry operations:

- The most frequent conditions required precautionary or mitigating measures for reducing *environmental impacts* – specifically assessments, safeguards, set-aside of sample areas, and written guidelines (FSC Principle/Criteria nos. 6.1, 6.2, 6.4 and 6.5).

- The next most common require improvements to the *management/monitoring system* – specifically to training and supervision to implement management plans (7.3) and research and data collection to assist monitoring and assessment (8.2).

Although certification records show the conditions associated with certificates, they do not show the changes that were associated with audits prior to certification. Hence the records may underestimate the possible impact on forest management. This suggests that certified forests may gradually improve in forest management quality.[44]

Secondly, certification recognizes cases of existing good management:
Certification's major early impact has been to recognize good existing practice, mostly in the North. This is to be expected, because certification standards were based on particular notions of best practice which will take time for some companies to develop, but which exist already for others. However, the advantage of this is where certificates have a 'demonstration' effect by influencing other forest managers. There is some evidence of this, but it is not yet conclusive (section 4.4). This could have a tremendous impact if it catches the attention of investment bodies i.e. showing that successful, certified companies do not need to strip forest assets.[45]

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[42] It should be noted that the FSC/ IIED database at this stage gives no indication of whether the conditions included relate to initial certification assessment (which might be expected to raise a high number of conditions), or subsequent annual checks or re-certifications. It has been assumed that the range included in the database will balance out, but the trends should be examined with some caution.
[43] The average number of conditions applied to each certificate is higher in developing countries (7.5), compared to developed countries (5.5). The highest number of conditions are applied to S or C American enterprises, and the least to certified European enterprises.
[44] However, such improvements depend upon the assessor fully understanding the local situation and the standards directing him to relevant indicators; and upon there being sufficient incentive for the producer to actually carry out the improvements (Bass and Simula, 1999)
[45] Friends, Ivory and Sime, which is a market leader in socially responsible investment, has become the first financial services company to join the Global Forest and Trade Network (eFinancialNews, United Kingdom, 9 April 2001)

Thirdly, there is a risk that certification could reward or entrench bad forest management. Notwithstanding much contention around a few certificates, the FSC/IIED database of certificates suggests that very few, if any, of the products from certified forests come from forest-degrading processes. One extreme may be where producers feel that they cannot reach the required standards, and/or they may feel unable to bear the costs. They might then divert their production towards less discriminating buyers – considerably worsening forest management in the process. Negative impacts could also arise from poor certifier/assessor work. This is the concern of many NGOs. If any very occasional individual cases of this have occurred with large companies, they should become increasingly uncommon, as many of the mistakes can be put down to learning.

Certification's role in improving corporate stakeholder relations

Certification has been key for many enterprises in helping them to address internal relations. FSC in particular pays strong attention to social and community issues.

Poland. Certification has helped some processing companies to increase their production significantly, which in turn means extra local employment in typically rural areas, where unemployment has soared since the liberalisation of the economy in 1989.

Brazil. For Klabin, certification is part of a long-term strategy to develop local wood-based industries. The company is working with the municipal authorities in order to reduce local dependence on Klabin and develop the local economy. It is doing this by guaranteeing small industries 10 years supply of timber and by developing outgrowers schemes with small farmers rather than buying more land.

South Africa. Until recently, some social problems – health and safety, stakeholder consultations, social responsibility requirements and tenure security legislation – have tended to be viewed by the (large) companies consulted as nuisances which, if ignored for long enough, will disappear. Certification has contributed to a broad recognition within management that such an attitude is untenable. However, even where there is the necessary company commitment and initiative, the role certification plays in promoting learning is limited by the nature of the process and the way it is carried out. Certification should be considered as a part of an overall process for ensuring that social standards are met and maintained within a forestry enterprise. The critical need, however, is for an internal system for managing labour issues and social impacts within the organisation, in which issues are identified and ways to address them are tested and developed on an ongoing basis. To date however, internal systems for managing social elements of the process have not been adequately developed, and therefore the auditing cycle is compromised and the tasks of assessors become confused with other elements in the overall process.

Furthermore, IIED's South Africa research team have noted that, whilst *stakeholder consultation* is a vital part of the certification process, its practice

has generally been weak. The companies that have been certified have just produced a list of their stakeholders – typically clients, contractors and suppliers, friends and neighbours – which the assessors have augmented. Information and a questionnaire in English have been sent through to these stakeholders, usually by fax. To date this has been almost identical for every assessment. Groups of forest managers, contractor managers, forest consultants and academics respond promptly and eagerly, but unions, local and provincial government are difficult to get hold of and local communities, labour tenants, worker representatives and traditional authorities are in general not consulted at all. Lack of response is assumed to mean no concern about forest management in the area. Some leads are followed up with phone calls or meetings, sometimes set up by the companies themselves, but personal visits are costly, time-consuming and therefore rare. Whilst technical forestry and environmental CARs have been quite common, social CARs have not been. Social issues seem to have been harder to pin down – it has often been difficult to gather the objective evidence in support of suspected failure – and are open to different interpretation since mutually accepted and commonly understood operating guidelines are not clearly specified.

The successful certification of large companies now seems to have pushed out some of the 'bushmills' who cannot afford certification. Group schemes may be improving the situation; and percentage-based labelling could help in the future.

Finally, the major certified South African forestry companies say that they no longer come under a siege of criticism in meetings with civil society and government – they can engage with such groups better, and involve other specialists in their work without fear of being attacked. This contrasts with some experiences in Brazil, where larger companies feel that certification means that stakeholders now feel entitled to subject the company to eternal scrutiny (Carlos Alberto Roxo, *pers comm*. 2001).

3.8 Costs and benefits of certification, and their distribution

Direct costs

The largest direct costs are the costs of *forest management certification*. These vary according to the type (chain of custody and/or forest management), size of the enterprise and the distance that certifiers have to travel. Indirect costs – which refer to the changes in practice that the operation has to make – depend primarily on the existing quality of forest management. In tropical natural forests, the costs of certifying natural forest management appear to be comparatively high unless the area is very large: a study of six natural forest areas in Latin America revealed costs of $0.26 to 1.1 per m^3 and up to $4 for very small areas.[46] For most medium to large manufacturers and reasonably

[46] de Camino R and Alfaro M. 1998. Certification in Latin America: Experience to date. Rural Development Forestry Network paper 23c. ODI, London

well-run forestry operations in simpler forest types such as plantations and many temperate areas, the costs seem affordable. In Poland, direct costs of forest management certification are suggested to be around 2-3 cents per m^3 for large forest enterprises such as Krakow's State forest. In South Africa, SAFCOL calculated that the combined cost of the environmental manager's time and certifier's charges amounted to 19 cents per m^3 or 0.03% of the logging cost. In the USA, costs range from 20-75 cents per ha for an initial assessment and from 3-15 cents per ha for annual surveillance – the same order of per m^3 costs as in Poland.[47]

The costs of *chain of custody* certification have varied considerably. In South Africa, much has depended on the level of prior knowledge and understanding of the FSC system. One manufacturer reported spending just twenty hours preparing for FSC chain of custody certification, while other firms assigned the task to a dedicated employee for several months. In Poland, chain of custody certification costs about $3000-8000, dropping to around $750 for annual surveillance. Running a dual system requires more time to set up, as more detailed paperwork and procedures are required to keep FSC certified and non-certified timber separate throughout the production process. Firms that were ISO certified generally found FSC relatively easy to introduce in their factories, with most integrating FSC and ISO into one system of paperwork.

The direct costs of forest certification and/or chain of custody certification may be paid for by producers, processors or buyers and end-users. In general, costs tend to have been borne at the 'lower' (producer) end of the chain – although Poland (and some community enterprises – see Chapter 2) are exceptions:

- *Producers:* In South Africa, two of the three major forest companies have paid for forest certification directly from a central budget line, despite the fact that they expect few direct financial benefits. The cost is justified on the grounds that it will yield significant non-financial benefits, such as improved systems, relationships with local people and reputation. In contrast, in Poland, while many of the Regional Directorates of State Forestry saw some reputational benefits from being certified, this was not enough to justify the costs and they refused to pay.

- *The processors:* In the case of Sappi in South Africa, the forest division was not convinced of the overall benefits of certification, which only went ahead when the sawn timber division, which was championing certification, agreed that it would cover half the costs. Polish manufacturers were so convinced that certification would help expand their export trade that they were prepared to cover both their own chain-of-custody costs and contribute to the costs of certifying the forests. Likewise, some UK suppliers to the DIY sector, looking to gain 'first mover' advantage from certification, were prepared to contribute to the certification costs of some of their suppliers.

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47 Mater C.M. 1999. Third party performance-based certification. In Journal of Forestry 97 (3):9

- *Buyers and end-users:* For the most part, costs borne at the producer end of the chain have not been passed on to buyers in the retail sector. The very few examples of end-users or retailers contributing to certification costs were short term only, and mainly in the tropical hardwood sector (as in the Railtrack example). However, many retailers have had to spend more effort and time on sourcing timber.

Indirect costs

In many cases, for example in South Africa and Poland, the main indirect costs involved have been relatively small. Forest management was already good, such that very few changes were needed to achieve certification. In contrast in Brazil, some companies have had to make far-reaching changes to their operations. The company Frame Madeiras Especiais in the south of Brazil has gone from considering its forest as a 'raw material store' to a strategic planning and management approach over a period of 20 years (Braga, 2000). Gethal in the Amazon region, which prior to certification obtained most of its wood from local suppliers, has bought its own forest land in order to establish a forest management plan. The company has introduced pre-harvest planning and reduced impact logging techniques and has put in place a community development programme. Much of the costs involved are associated more with meeting the requirements of Brazilian legislation than with the additional requirements of certification (May and Veiga Neto 2000). Nevertheless, as compliance with relevant legislation is a prerequisite of certification, and as much timber harvesting in Brazil does not normally bother to comply, i.e. not based on a management plan, a move to certification could involve significant costs for many companies.

Benefits

The benefits of certification have rarely been direct price increases, as noted earlier, but wider market advantages have been observed.

- *Producers and processors:* Some have seen benefits in terms of increased orders and new buyers, at least partly as a result of certification. For others, certification has been a defence against losing market share to certified competitors, and in these cases the expense is more likely to be resented.

- *End users:* Despite refusing to pay more for certified products, the retailers seem to be gaining significant benefits in terms of reputation – an obvious source of resentment at the producer end of the chain.

The distribution of financial benefits between the different players along the chain is ultimately influenced by the structure of the market at each stage. In Brazil, Paledson and Cascol – manufacturers sourcing from Klabin – have expressed disappointment at the unwillingness of buyers in Europe to pay premiums.[48] In this case they have the disadvantage of being relatively small

[48] Interview with Edimilson Silva (Paledson) and Cesar Castanho (Cascol), August 1999

companies buying from a single large certified company and selling into concentrated retail markets. The certified timber that they buy is expensive compared to prices in other parts of Brazil, but they have been unable to pass on this extra cost. Benefits from certification have been purely from market access.

Some producers of certified hardwoods would appear to be in a favourable situation given the premiums that they are currently commanding on some European markets. But others are struggling to survive. The logging practices used by Precious Wood Amazon in Brazil are claimed to cost some 30 per cent more than traditional methods.[49] In theory this can be offset by greater efficiency, in particular through reduced wastage of wood. But such benefits can only be realised if the wood saved is of commercial value. In order to meet prescriptions of sustainable forest management and to spread its fixed costs, the company harvests no less than 49 species, many of them not well-known commercially. While it is receiving premiums on well-known species it is exporting lesser-known species at prices which do not cover average production costs.[50]

In summary, market benefits accrue mainly when certification is combined with other strategies, as the IIED South Africa study has concluded. Few producers receive premiums, rather they may guarantee or increase market share. And FSC certification alone appears insufficient to command new business, but combined with an *existing relationship* with a customer sourcing FSC products, strong *manufacturing capacity* or a specific *position in the market*, it can offer market benefits.

3.9 Future challenges for certification in the supply chain

In the seven years since the FSC was established, it has clearly had a significant impact in the wood products market – directly on specific wood product supply chains and forest management practices, and indirectly on governmental and corporate forest policy.

Small tail wagging a big dog – getting beyond a narrow DIY retail sector

As a market based tool, certification relies on market demand. Success to date has been limited to small segments of a few markets in Western Europe and North America – perhaps the biggest being the UK DIY sector, where supply chains are simple and there is aggressive buyer pressure. Key challenges lie in:

- *Bringing a wider range of companies on board*. Box 3.13 notes some emerging possibilities. The Forest and Trade Networks need to continue their current drive.

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[49] http://forests.org/recent/bramedge.txt 31st January 2000
[50] Interview with Tim van Eldik August 1999

- *Recognising different types of supply chain*. For tropical hardwoods the route between forest and consumer is highly varied and strong pressure needs to be generated.

- *Promoting serious market implications for non-compliance with certification in other sectors* – certification must be demanded, and interest has to be backed up with action to influence existing and potential suppliers. In particular, this requires a demonstrated commitment to drop suppliers that show no interest in certification in favour of those which take active steps to achieve environmental and social performance.

- *Public awareness raising and creating a more global consumer demand* – another important role for the Forest and Trade Networks. At the moment, the signs are promising. Demand is growing in more European countries such as Germany, the Netherlands, Denmark, France and Spain, and in the USA where interest is coming from multinational brands as well as DIY retail chains. Efforts in South East Asian markets will be important. The model of the Brazilian domestic Buyers Group should provide useful lessons – the principal market for native timbers from the Amazon lies in South and Southeast Brazil. Improving awareness of the final Brazilian consumer, concerning the origin of purchased wood, can also help to resolve the problem of competition from clandestine timber extraction, which continues to be one of the greatest obstacles for companies wishing to adopt forest management plans and certification.[51] Following this up in countries such as India and China may be useful, but these will have to be tuned to very different market conditions and (simpler) certification standards and procedures.

Box 3.13 Getting beyond the DIY stores[52]

"I think [the demand from DIY sheds] will soon be followed by a push from the building sector. Some of the big architectural practices are beginning to ask where timber is coming from and there is a groundswell towards certified timber."
Hamish Macleod, Howie Forest products, UK.

"Paper is an enormous problem. There's not enough certified pulp out there for us to buy for our own-brand paper, and most of the branded paper products are in the same boat. This may change now that the FSC have reduced the percentage of certified pulp required for paper products to carry the FSC logo. I hope so."
George White, Sainsbury's, UK.

Getting beyond rewarding good practice

As described in Table 1.2, certification has led to improvements in forest management but in a small proportion of the global area, and generally the forests where management is already fairly good. The main concerns are about:

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[51] Pro-Natura. 2000. Barriers to forest certification in the Brazilian Amazon: the importance of cost. Report to IIED's project, Instruments for Private Sector Forestry.
[52] Source: TWP 2000. News 10 June 2000, p3.

- Getting more certified supply from tropical forests and natural tropical forests in particular. In Brazil, for example, only two of the nine certified operations are natural tropical forest.

- The perceived trend to switch from natural forest to 'safe' softwood and plantation sources. "*The critical and disturbing point about this is that there are so few FSC-endorsed natural forests in the tropics. As a result, retail stores across Europe are being filled with FSC-endorsed eucalyptus plantation wood from tropical countries such as Brazil; or from pine and eucalyptus plantations in South Africa. This approach sends a very clear but very bad message to forest owners throughout the tropics: cut down your own forests and grow plantations*".[53]

Matching supply and demand – is the price right?

Whilst some companies, especially those in the 'first wave' of certification, have seen market and reputational benefits, only occasionally have premium prices been realised. The 'who pays' issue will remains contentious, with key issues being that:

- Retailers consistently refuse to accept certified products at higher prices, stating that certified products should be as competitive as other products, and more so, if they are to enter the mainstream.[54]

- Producers need incentives to cover the costs of investing in certification, until certification becomes an accepted, routine cost of the forest industry. Better distribution of costs and benefits is important. The example of Polish manufacturers paying into forestry department forest management certification funds, in proportion to the amount of timber bought, may be a useful mechanism.

- Meanwhile, those retailers who are committed to targets of higher certified product levels in their stores are crying out for more certified products. Resolving the chicken-and-egg situation of getting enough supply on stream to meet targets and boosting consumer demands, in order to provide an incentive for certification, will be key to ensure benefits are felt throughout the supply chain.

Different schemes – conflict, confusion or mutual recognition?

The emergence of an increasing number of certification schemes, many of which have regional or international scope, is leading to confusion amongst buyers and consumers and indecision amongst many producers. This is one of the biggest dilemmas facing certification today, and is addressed in section 4.5.

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[53] Poynton cited in TWP June 2000

[54] Pricing of certified products was a hot issue in questions to the panel at the Millennium Forests for Life Conference in London, June 7th 2000.

Maturing certification – progress, challenges and ways forward

4.1 New uses of certification arising from early experience [1]

After several years of experience of certification, the challenge is to identify where it works well, and where it does not, and then to integrate it with the broader range of instruments for sustainable forest management. In other words, to find a mature role for certification following the 'pioneering' period of the 1990s. The challenge is complicated by the broadening scope of uses to which certification has been put.

The original purpose of certification was to provide market incentives to improve the quality of forest management. But it has also been applied by groups with non-market motivations instead of, or in addition to, market motivations. Thus Bass & Simula (1999) have identified three basic uses of certification, discussed below:

1 Market-oriented certification of forest products or forest environmental services
2 Regulation-oriented verification to complement or strengthen forest law enforcement
3 Project- or institutional-oriented certification to verify that particular forestry goals or outcomes have been achieved

Market-oriented certification of forest products and environmental services – as a financial incentive to improve forestry

This form of certification is intended for market communication and usually involves product labelling. It is the original form of forest certification, and remains dominant. Various market roles may be expected of it – reducing market risks, raising prices, maintaining or increasing market share, and differentiating the product base. In effect, certification can be used to increase the strategic choices available to companies in the competitive and constantly changing forest sector – provided they have the information and capacity to exploit this. Sometimes the expectations of those who are *promoting* such roles

[1] Principal sources for this section are Bass and Simula 1999 and Markopoulos 2000

of certification (e.g. donors and buyers) have not matched those of the producers *undergoing* certification.

Whilst certification has focused on common wood products, it has also raised the prospects for diversification into lesser-used species and NTFPs.[2] Schemes are emerging for verifying carbon storage, biodiversity conservation and watershed management services. Indeed, the commercialisation of such forest services, notably carbon storage, may be impossible without certification, because independent verification of the provision of these services is essential for capturing their economic value.

An increasingly important purpose within a market-based approach is levering finance. Companies that can demonstrate responsible practices may increasingly be able to attract investment capital, or to secure loans and insurance on favourable terms.[3] Certification may provide a vehicle for educating financial markets about the investment potential of sustainable forestry, and thereby influencing the growing influx of private capital into forestry in developing countries; there are already signs of this.[4] Independent assessment of the environmental, social and economic aspects of specific forest-based investment projects makes risk assessment transparent. It can also help to eliminate some risk factors before investment decisions are made.

For community groups, certification can attract support from NGOs, donors or other parties for technical improvements, training and other needs – many of which will be independently identified through the certification process. In practice, the opposite has also been observed: donors' and NGOs' own accountability requirements, and the technical forest management practices that they are promoting within community projects, have attracted certification (Chapter 2).

Regulation-oriented verification – to complement or strengthen forest law enforcement

Certification standards require compliance with applicable laws, e.g. FSC's Principle 1. The audit process can thus stimulate compliance, or encourage implementation of a particular law or policy, or the award of dispensations from a particular legal requirement.[5] This role for certification has particular

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[2] The FSC Peruvian standard for Brazil nut (*Bertholletia excelsa*) is the first national standard for a major NTFP.

[3] For example, Piqro, a certified flooring manufacturer in Mexico, was able to obtain investment capital from the largest importer of tropical timber flooring in the United States in return for an exclusive distribution agreement (Crossley *et al.* 1996). See also Precious Woods in Box 4.1.

[4] For example, groups such as Bureau Veritas and SERM offer frameworks for assessing corporate social and environmental risk, to help investors and insurers to make decisions. These frameworks include identification of policies and standards adopted by the enterprise. WWF's Forest and Finance Initiative has identified individual cases of financial bodies taking note of certification.

[5] In Mexico, UZACHI's efforts at sustainable forest management have won it two prestigious government awards in the years following certification. In Bolivia, certification helped to facilitate the demands of the Lomerío project for a forest concession (which had been continually refused by the Bolivian authorities) and a legally recognised indigenous territory for the Chiquitano people.

appeal to governments and civil society groups in countries where illegal activities in forests are widespread, and who want to reduce illegality (as is under consideration in the Mekong Basin). But the effectiveness of certification as a law enforcement tool is limited by the voluntary nature of most certification schemes: certification can only induce producers – not coerce them – into complying with legislation, and an economic incentive is required. This means that certification is unlikely to have much impact on those companies whose business models are based on evading the law.

Some countries are considering making certification itself a legal requirement, as in Russia, although this leaves certification open to all of the problems traditionally associated with regulation, such as corruption and inflexibility to changing needs (Markopoulos 2000).

In other countries, the authorities view certification as a complement to law enforcement – an effective mechanism for self-regulation. This may also encourage the forest authorities to exempt certified enterprises from certain administrative procedures:

- In Bolivia, the Forest Law of 1996 allows for independent, third party certification to replace statutory audits of compliance with national management standards in forest concessions.

- In Indonesia, with LEI's 'stepwise' approach to certification, increasing numbers of exemptions will be available to those enterprises that are certified to higher thresholds.

- In South Africa, certification against national standards is now mandatory within two years of commencement of a forest management lease on government land; this substitutes for direct government monitoring of compliance with lease conditions. [6]

- In Guatemala, FSC certification within three years is a condition of concessions in the Mayan Biosphere Reserve (Dawn Robinson, FSC, *pers. comm.,* 2001).

- Similarly, 'privatised' chain of custody verification mechanisms are emerging in countries such as Cameroon, PNG and Ghana, to enforce the implementation of forest management legislation, timber transport rules and/or revenue capture.

[6] The South African national standards for sustainable forest management - required under the 1998 National Forests Act - are being developed through a process involving various working groups coordinated by a sub-committee of the National Forestry Advisory Council. They are expected to be completed by August 2002, and to be enshrined in law thereafter.

Project or institutional certification – to verify particular forestry outcomes and to establish forest manager credentials

As we have seen in Chapter 2, certification has been used to support and validate aid interventions, or to encourage civil society organisations to develop forestry roles, albeit under the guise of offering market incentives. Donors' and NGOs' own accountability requirements, and the technical forest management practices that they are promoting within community projects, have attracted the certification 'industry'. Some donors have favoured forestry projects that are certified or that are working towards certification, offering them training or financial support (Maynard and Robinson 1998). In some cases, donors have even made certification a condition of their support. For example, a European Union-funded project in Papua New Guinea supports 42 community-based forestry groups, and holds a group certificate; the EU has made certification a condition of second phase funding (which has implications for the sustainability of both the enterprise and the certificate).

Project-oriented certification can also be employed by an enterprise for its own purposes. The process of inspection and verification can – even if an enterprise fails to be certified – offer ideas and suggestions for improving management practices or administrative procedures, notably documentation, monitoring and management systems (Irvine 1999). Equally, certification has been employed, at least in part, to establish the credentials of a forest manager (Box 4.1).

Further project-oriented/institutional purposes are now being discussed. Certification could also be used to monitor and enforce contracts, for example forest usufruct agreements, or joint forest management. As Chapter 2 discusses, the processes used in certification can potentially play a role in conflict management, especially in the absence of other instruments to do so. Certification involves dialogue and negotiation with other stakeholders, and so can help communities to resolve forest-related conflicts or to improve local attitudes towards forest-based enterprise. The presence of third parties can assist this.

4.2 Certification's emerging role in improving policy processes

There are recent – and often quite exciting – signs that certification has been helping to change forest policy towards SFM (Mayers and Bass 1999, Elliott 2000 and 1996, and Taylor *et al* 1999). This has been happening through:

- raising awareness of the possibilities for sustainable forest management (through the many conferences, meetings and media articles)

- decentralising and democratising the policy processes (through national working group debates on certification standards and procedures; through raising the profile of some previously marginalized stakeholders; and through forging new relationships between stakeholders in the certification and audit processes)

Box 4.1 Certification as a means for demonstrating forest manager credentials

The Szczecinek Regional Forestry Department in Poland was unmoved by market pressures, but agreed to certify because it felt that certification would improve international perceptions of Poland in the post-communist era. Polish businesses believe certification has helped to promote them as reputable, quality-oriented and customer-focused, and has helped them to compete on more than price alone. This is important for Poland, which faces low-cost competitors from the Baltic States, Russia, South Africa and China in many of its key markets.

Precious Woods Amazon in Brazil did not face any immediate market pressure for certification. But the company had been established by a group of Swiss investors with the specific aim of demonstrating that SFM was possible in practice. Certification was considered the best way for the company to convince its investors that it was managing its forests sustainably.

Gethal in Brazil, as a large, wood-producing company, has been subject to increasing regulatory pressures and public scrutiny. Certification was seen as a way of 'staying ahead of bad news'. New investors in the company also required certification as a condition for their support.

In South Africa, the decision of the major timber companies to be certified was not down purely to customer pressure. They could afford to ignore the demands, because sawn timber – where the pressure was mounting – was only a small part of their business. For Mondi, forest certification was seen as a way of 'staying ahead of the game' in the face of more rigorous forthcoming legislation.

SAFCOL in South Africa had faced considerable criticism from local NGOs and saw certification as a way of demonstrating its social and environmental credentials. It also considered that certification would help increase the attractiveness of the company to private investors.

The Lomerio community forest group in Bolivia hoped that certification would help them in their struggle to regain their indigenous tenure rights. By demonstrating their capacity to manage the forest, they hoped they would strengthen their case in relation to possible commercial 'competitors' using their land.

- policy definition (largely through defining certification standards, and through relating specific local experiences of forest management and certification to policy aims)

- improving scientific input, interdisciplinary sharing of ideas and loosening of professional cliques (through all of the above)

These contributions derive less from the cumulative effects of individual forest certificates than from the *participatory approach to certification standards and procedures development*, especially where national certification working groups have been organised. The presence of in-country certifiers has strengthened the policy impacts of national working groups, e.g. Imaflora in Brazil and CCMSS

in Mexico (Dawn Robinson, FSC, *pers comm.,* 2001). The standards process has put a premium on raising awareness and sharing insights and information on what good forestry is, how to recognise it, how to measure it, and who should be responsible. FSC, in particular, has given civil society a greater leverage on policy processes and, as such, may set precedents for ways to make decisions on forest issues that are *not* connected to certification. They may well influence the new generation of national forest programmes (nfps) which are seeking multi-stakeholder input – but for which there is little precedent. Where no overall multi-stakeholder forest forum exists, as in Ghana, the national certification working groups offer this precedent. Where a forum does exist, but is dominated by government, the certification working group offers an alternative.

Where government has been very centrally involved – as in the Malaysian, Ghanaian and Indonesian schemes – it is possible that certification is viewed merely as a means to implement existing policy, rather than to challenge and improve it.[7] In contrast, where there has been no government involvement at all, the policy impact may not be as good, as the Zambian case illustrates (Box 4.2). Even where national schemes are not associated with FSC, FSC's P&C have invariably been used as a benchmark for both forest standards and procedures.

Box 4.2 If government is out of the loop, certification may have less policy influence: the case of Zambia

Despite Muzama Crafts Limited holding the world's largest community forest certification since 1998, the Zambian Forestry Department was largely ignorant of this until the end of 1999 – after it had re-written the Forest Act. This Act contains no mention of certification, and new felling licence regulations now make certifiable forestry practically impossible for Muzama – a grave concern for the sustainability of the nation's forest resource, especially as private sector forestry is being promoted.

Muzama's high profile certification meant that the FD felt it should have been involved more closely with certification, if not in control of the certificate itself. The certification drew attention to the defined management area, making it obvious that the licences were in excess of new FD regulations, which caused the FD to refuse to re-issue the cutting licences which supply Muzama, effectively closing it down. (In contrast, other licence holders have not been investigated, as none have declared their working areas.)

At the same time, one advantage of an FSC certificate has come to light: the high international profile of the largest tropical FSC certificate gave Muzama a spotlight under which the Forestry Department will have to be seen to act responsibly. One might speculate that such a light may not have been shed by a home-grown national scheme.

[7] The Chinese Government's interest in certification will be an interesting case to follow.
[8] In contrast, 'traditional' models of policy formulation have tended to favour central government institutions, their immediate advisors, and powerful political and business forces, which often operate through non-transparent means. Other stakeholders – especially politically- and economically weak but forest-dependent groups – are often marginalised from the forest process. (Mayers and Bass, 1999)

Certification has also offered *other means for increasing the frequency of contacts, and building trust amongst stakeholders*. In addition to standards development, the processes of audit and marketing certified products have forged new relationships. The key issue here is that certification has highlighted the benefits of better integration, and of changing roles and responsibilities in forest management, between government, communities and the private sector. It is beginning to offer greater equality in the power base of forest stakeholders, trust-building between them, and ultimately institutional change. It is significant that a *voluntary* initiative, with what first appeared to forest managers to be a frighteningly comprehensive agenda, can effectively lead to sharing that agenda with other stakeholders – including the government – and potentially result in mutual role changes.

This experience compares well with recent ideas of what makes for good forest policy processes. Reviewing a broad range of developments in many countries, IIED has demonstrated how many recent advances in sustainable forestry derived from multi-stakeholder processes that bring together the functions of debate, decision-making, experiment and review in favour of a continuous improvement approach (e.g. Mayers and Bass 1999).[8]

This approach is illustrated in Figure 4.1. Certification's emerging contributions to effective policy processes are noted in Table 4.1, and discussed further in section 4.3.

Figure 4.1 A participatory, continuous improvement approach to forest policy

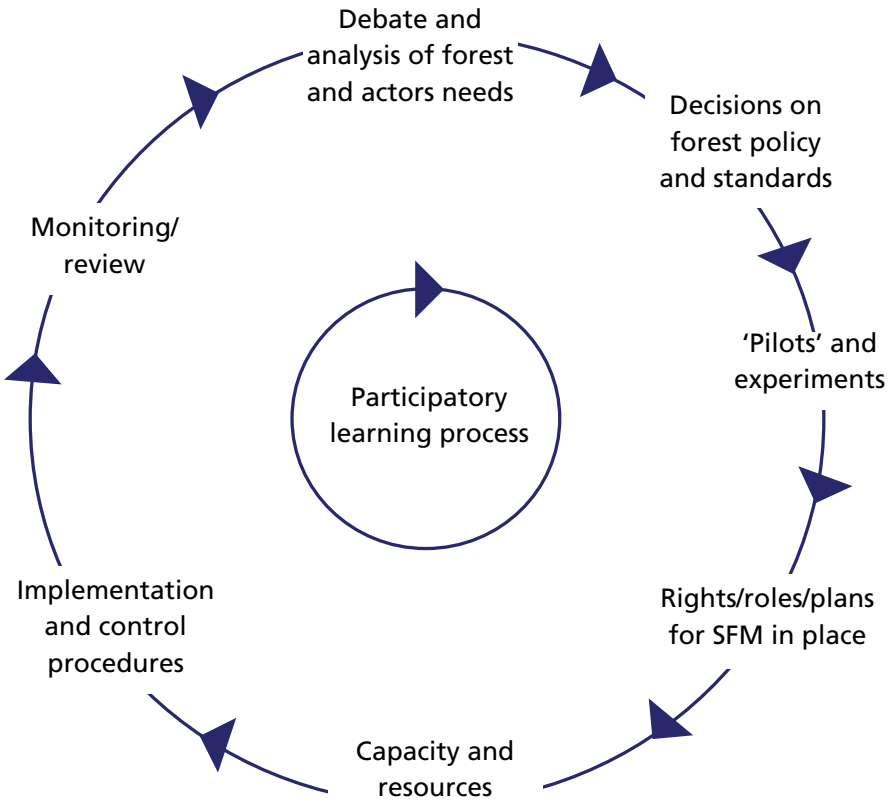

Table 4.1 Possible contributions of FSC certification to SFM policy	
Component of the SFM policy cycle	**Certification's contribution/entry point**
a. Debate and analysis of forest and stakeholders' needs	National standards group/process offers a forest forum and raises awareness. Reviews of certification progress/impacts reveal common problems.
b. Decisions on forest policy and standards	National standards group/ participatory process offers transparent decisions. Review of audit CARs in a country can update ideas on good land use.
c. Pilot approaches and experiments in SFM	First-mover forest enterprises being certified. Range of producer/forest types certified gives broad picture of what SFM can be in country. Reviews of certification progress/impacts give feed-back on experiments.
d. Ensuring appropriate allocation of rights and powers	Certification can demonstrate claims and rights and their links to SFM in practice. More interactions (audit, marketing, debate) improve equality between forest stakeholders.
e. Developing capacity and resources for SFM	Pre-audit and audit process builds experience in country. Privatisation of some regulatory functions.
f. Implementation and control procedures	Certification can 'privatise' some regulatory/admin functions. Certification offers precise procedures to apply and assess forestry standards in practice.
g. Monitoring and review	Audit, CARs and public summary offer detailed picture of standards at field level. Analysis of all certificates (certifier database) can contribute to national baseline.
h. A continuous improvement process driven by participation and learning	The whole certification process and philosophy promotes continuous improvement. National working groups have potential to 'watch-dog' country-level SFM capacity/context (see 'pyramid' Figure 4.3).

4.3 How forest certification has impacted on actual policies

If certification appears to be conducive to good policy *processes*, evidence of the influence of certification in changing actual forest *policies* has only begun to emerge, and it tends to be anecdotal. Rametsteiner (2000) concludes that certification's biggest role in policy change has been indirect – heightening general awareness of SFM and of the roles of other stakeholders. Its multiple dimensions make it attractive to those seeking to improve policy coherence:

- *Improved definitions of SFM*. Certification (and FSC in particular, since it was first) has helped to clarify, systematise and – importantly – apply precise forest management standards in real production and trade contexts. This has provided a 'wake-up call' to all who had been working on SFM definitions with little sense of urgency (as in the various intergovernmental C&I initiatives or national codes of practice). National certification processes have been able to use the existing agreed national sets of criteria and indicators for SFM (such as PEFC did with the Helsinki C&I, CSA did with the Canadian Council of Ministers' interpretation of the Montreal C&I, and the Malaysian National Timber Certification Council has done with ITTO's C&I). This has also aided policy coherence between the governmental, academic and voluntary approaches. The process now under way to develop South African national principles, criteria, indicators and standards of sustainable forest management was in large part triggered by the early experience and potential of certification, as well as by the national forest action plan.

  FSC has actively developed international multi-stakeholder working groups to develop and review P&C, dealing with contentious issues as they arise. FSC has also catalysed the development of a number of national and regional certification groups, which have transformed the global P&C into nationally applicable standards. Similar working groups are attached to the non-FSC country-driven schemes (as in Malaysia, which has brought in labour interests). These global, regional and local groups, by virtue of debating SFM in local contexts, have highlighted specific policy trade-offs. Their debates are often carried forward into other fora (as in Ghana). Thus certification groups have inspired changes in national-level C&I as well as forest-level C&I (as in South Africa).

- *Pilot approaches to certifying government forests*. Nearly 20% of FSC certificates are held by government agencies. Certification has, for many agencies, provided an opportunity to prove that they have operationalised policy – practising what they preach, adding impetus and credibility to their task of improving regulations for private forests. Where the audit helped government foresters through a learning process, this can have a broader influence on policy reform. The first certifications of State forests in Poland, for example, were carried out when a new forest policy was being drafted. Although certification did not bring about policy reforms – these were a result of political change – they did help the Forestry Department to develop a framework on which to hang the new policy.

- *Improving legislation.* A number of examples of the regulatory use of certification have emerged, as discussed in 4.1. These tend to impact on the *means* for implementing existing law (certification as supplementary or substitute means), rather than on the *content* of law itself.

- *International policy impacts*. It is too soon to be definitive about what certification's impacts have been on international policy. International organisations such as FAO and ITTO have moved from an early position of

suspicion about certification (as a potential non-tariff barrier to trade, and as diverting attention from government-led forestry improvements), to one of actively tracking progress in certification (the annual ITTO updates being particularly useful), and now to one of acceptance that certification can be one amongst many instruments for SFM. Many policy discussions in international fora appear to have been concerned as much about the appearance of FSC as a new form of international democratic governance – with many questions raised about its authority, mandate, centralisation, and representation. Now, however, FSC appears to have become accepted as an international player. It has not gone unnoticed that FSC's P&C offer a kind of 'soft' global forest convention, paid for through a multitude of trade relationships – one which is paving the way for new, multi-stakeholder forms of policy and regulation.[9] Indeed, FSC's mode of operating is a model that may influence the form and conduct of the new UN Forum on Forests. FSC has also had a policy influence in the development of certification of non-forest sectors, notably fisheries and tourism and, currently, mining.

Whilst some policy impacts can be observed, we are not yet convinced of certification's pre-eminence as a policy instrument. This is for several reasons:

- Many of the contributions of certification remain tentative and unproven outside narrow market contexts

- Effective policy processes build on many elements that work in a country's cultural and institutional context. It cannot be assumed, on the basis of our early observations in *some* countries (largely those with institutions and policy environments conducive to certification), that certification can play the same role in *any* country

- Some policy contributions of certification to date have been one-off, rather than offering a continuing policy process

- Although certification may be able to *encourage* a continuous-improvement approach to policy, it takes government commitment and broader institutional change to *adopt* such an approach

- Finally, certification can be costly compared to many alternative instruments. This should be recognized in order to avoid 'putting the cart before the horse' by employing certification for too many functions, policy-related or otherwise (Bass and Simula 1999).

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[9] A formal forest convention has, of course, been elusive in intergovernmental processes; it would have depended on government-to-government compensation for restricting forest use, for which there is no willingness to pay (Mayers and Bass 1999).

4.4 Certification in practice: assessing its effectiveness, efficiency, equitability and credibility

The scope of expectations from certification appears to have expanded considerably. But the fact that we can observe many impacts does not mean that certification is necessarily the *best-suited* instrument for achieving such impacts. Clearly, for the many tasks of SFM, policy-related or otherwise, there are many alternatives – regulatory, fiscal, informational, voluntary and other market-based approaches. There is no *a priori* reason to employ certification unless it meets criteria of being more *effective, efficient, equitable and credible* than these alternatives, and unless it can be *integrated with other instruments for SFM* in ways that work well in local contexts.

Whilst some of these criteria will often apply to certification in general (notably effectiveness) others can be heavily influenced by the individual certification scheme, or by the circumstances to which it is being applied. There is only limited evidence of how certification has met these various criteria. Thus our review, and associated recommendations, must be considered tentative and further assessments are encouraged.

Effectiveness: How far has certification improved forest management, production and consumption?

The *effectiveness* of certification derives from four main impacts (building on Bass and Simula 1999):

a. The extra demands (or 'stretch') demanded by certification compared to commonly-enforced forest management regulations
b. The extent of forest area under different forest types, or producer types, which is covered by certification
c. Demonstration and other spillover effects that certified forests may have on other forests
d. Changes in consumption patterns towards sustainability

The early evidence for each is considered in turn:

a. *'Stretch' above legal requirements:*
Because all certification schemes require adherence to the law, the commonest 'stretch' effect has been where certifiers require producers to meet all current legal requirements. This has added value in countries with weak legal enforcement, where producers would normally bother to meet only a few such requirements.

Because the best-managed forests tend to be certified first, there has been little 'stretch' effect so far. However, more challenging standards are being developed in several countries, and their adoption by forest owners and managers could help to improve practice beyond legal requirements in the medium term. Here, the main prerequisite will be the presence of incentives: without tangible benefits – from the market, tax concessions, the investment community, etc – producers are unlikely

to submit to stricter requirements than those of the government, which are often difficult to meet in any case (Baharuddin & Simula 1996). In the long run, national certification standards are likely to have a positive influence on raising the level of *all* forestry legislation in many countries.

b. *Area certified under different forest and producer types:*
There are two connected issues:
- The relevance of certification standards to different forest types and producers
- The successful take-up of standards, measured in terms of certified area

Table 1.2 made it very clear that Northern countries dominate FSC certificates (84 per cent of the certified area is in Europe and North America). So also do industrial operations under corporate or state ownership (85 per cent of the area). And the certified area in different forest regions shows a dominance of temperate and boreal forests (83 per cent of the area). In addition, the certification schemes in Canada and Europe are rapidly catching up with FSC's certified area, and indeed are overtaking it. (Thornber 1999)

These areas can be rapidly certified because most were already being well managed on the ground, and the climate for regulatory compliance was strong. Many large companies interviewed, including Klabin and AssiDoman, stated that a major factor in their decision to undertake certification was because their current practice already matched most of FSC's P&C.[10] Analysis of FSC-accredited certifiers' conditions and corrective action requests confirms this. With the exception of some environmental safeguards, the most common conditions tend to refer to documentation and monitoring rather than actual changes on the ground (Table 4.2).

Given these observations, we can identify a progression in the application of certification:

- from an original *NGO concern* about improving management of forests that were being degraded and deforested, notably in natural tropical forests, and highlighting good (community) practice through certification

- to a current *buyer-driven* preoccupation with delivering large quantities of certified wood products, which has naturally led to a focus on those big producers who already have well managed forests and can readily supply the produce.

This progression is illustrated in Figure 4.2. Much of the discussion and many of the developments now concern the competition between those producers who are just above, and those who are just below, the threshold of acceptable forest management, as defined by FSC in particular. Consequently, much of the

[10] Every company has had to make *some* changes to be certified, however.

Table 4.2 The five most common conditions placed on FSC certificates

P&CNo.	% of all certificates	Details of unfulfilled requirements
7.1	48%	**Management plan and supporting documents:** including management objectives, forest resource description, silvicultural/management system, harvest rate, species selection, monitoring forest growth, environmental safeguards, protection, maps, harvesting techniques.
8.2	44%	**Monitoring and assessment:** Forest management should include research and data collection to monitor yield, growth, regeneration, flora and fauna, environmental and social impacts of harvesting, costs, productivity and efficiency.
6.5	42%	**Written environmental impact guidelines:** should be prepared and implemented to: control erosion; minimize forest damage during harvesting, road construction, etc; protect water resources.
6.4	38%	**Representative samples of existing ecosystems** within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of affected resources.
6.2	37%	**Environmental safeguards shall exist** which protect rare, threatened and endangered species and their habitats. Conservation zones and protection areas shall be established, appropriate to the scale and intensity of operations and the uniqueness of affected resources

Source: Thornber 1999

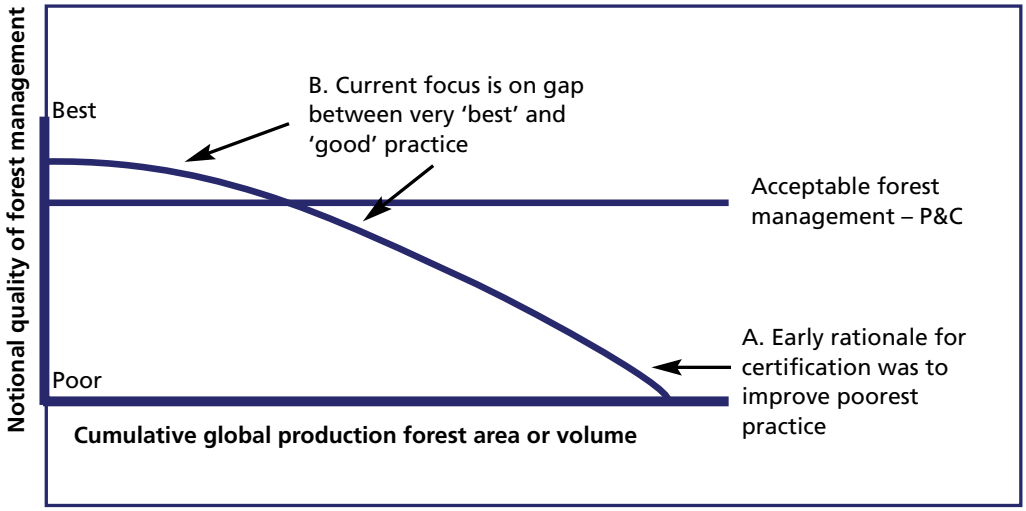
expense associated with certification is being incurred in bringing those operations just below certification's thresholds up to the higher standards required for certification (Kanowski *et al* 2000).[11] And the thresholds, structure and incentives of certification have been based around 'best-practice' norms set by bigger and more privileged forest producers.

However, there are many producers operating well below this threshold who have neither the means nor the incentives to consider improvement. This obviously includes those 'asset-strippers' whose business models face different incentives. But it also includes a majority of producers in many developing countries with poor access to skills, equipment, resources or information as well as many smaller producers elsewhere. Hence the concept of producers' groups to assist the necessary development, which WWF is now working on. None the less, if certification is to cover a significant proportion of the global area that

[11] The marginal costs of certification might be expected to rise as attention turns, necessarily, from the 'good' operators, to the 'fair' operators, and ultimately to the 'poor' operators. At some stage, this marginal cost may exceed both public and private benefits.

will be producing industrial wood for needs over the next 20-30 years, reckoned to be about 600 M ha (WWF 2001), a single threshold, defined by a very demanding global standard, may not help many developing countries or small producers.

Figure 4.2 Illustration of how certification has developed



NB The curve is illustrative only, as there is little empirical basis on which to construct a precise one.
Adapted from Kanowski, Sinclair, Freeman and Bass 2000

If certification is to improve forest management all-round (as opposed to supporting an elite), some system is required for 'reaching down' to those producers who practice poorer forest management – even, perhaps, including the asset-stripping loggers.[12] This could involve both defining *stepwise standards* at different levels, and creating *incentives* to progressively 'ratchet up' producers from lower levels to higher levels. This has been discussed in Indonesia under the Lembaga Ekolabel Indonesia certification scheme: tax concessions and exemptions from administrative requirements can be offered for forest concessionaires meeting progressively higher levels of standards. This is consistent with the principle of continual improvement, which is embedded in certification schemes. (The issue of the relevance of standards to different producers is discussed below).

Certification's effectiveness is also limited by its focus on the forest management unit (FMU). Many of the environmental and social services demanded of SFM arise, not at FMU level, but at the landscape, regional or indeed global levels. For example, much biodiversity conservation requires landscape-level links to be assured, such as wildlife corridors. Thus the conservation of regionally important biodiversity cannot be secured by FMU certification unless the FMUs

[12] The notion of restricting the total number of FSC certificates by 'raising the bar', to encourage ever-higher standards, has been proposed by some FSC members. This may be contrasted with a rationale for raising the bar only when new technology is widely available, or when new values become widely shared.

are very large, or unless many contiguous FMUs are certified. Certification's effectiveness here can be improved by promoting group certification (as FSC provides for, although the groups do not necessarily come from a contiguous area); or by certification at a regional level (as the Finnish Forest Certification Scheme provides for, although controls on individual operators may need improving).[13] These provisions could be improved by requiring links between certified FMUs and relevant regional organisations and processes. To some extent, this may be achieved if demonstration/spillover impacts are effective – as we describe below.

c. *Demonstration and other spillover effects:*
Section 4.3 concluded that the policy impacts of certification are more strongly linked with the participatory processes of standards development than with the cumulative certification of multiple FMUs. However, certification itself may be an effective means of improving forestry in countries whose governments have only a limited capacity to raise awareness or control forest practice, or where the forest industry has 'captured' regulation through lobbying or by direct intervention (Markopoulos 2000). [14]

In terms of influencing the management of non-certified forest land, the demonstration effect of certified forests appears to have been limited to date. Chapter 3 noted examples of the demonstration effects of certified enterprises in South Africa, but these effects may be put more firmly down to sharing market information between certified and non-certified enterprises than to the influence of certified forest management directly. In other places, high levels of external support skewed the demonstration effect. In Chapter 2, we noted examples in Bolivia, Zambia and Papua New Guinea, where NGOs and donors have supported certification as a way of promoting the viability of small-scale forestry: but any demonstration effect was minimal, as the other forest enterprises realised that they do not have access to the same resources and markets as the supported enterprises. In Zambia, other enterprises are watchful of the example of Muzama's certification, but cannot take certification seriously knowing that Muzama has had years of donor investment before being able to get certified (and even now requires more support in order to use the certificate in the market). Established companies, with limited external support, have greater demonstration potential, as they are more likely to be seen as normal companies: this was observed with Gethal in Brazil.

Finally, there is an intention in some of the developing country certification schemes, e.g. Ghana and Indonesia, to make demonstration an overt aim. In addition, FSC's next phase of development will also stress information, demonstration and capacity building.[15]

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[13] Some forms of organic agriculture certification require landscape-level provisions and links, and acknowledge that certain provisions need not take place within the certified farm if they are secure at the landscape level through e.g management agreements and partnerships.
[14] Although, as Markopoulos (2000) points out, this argument may be considered a little unjust, as it contrasts certification in its ideal form with the practice of regulation in its highly imperfect form.
[15] Comment by Tim Synnott of FSC at the 2000 WWF Forests for Life Conference.

d. *Contribution to sustainable consumption:* [16]
In order to have a significant impact on consumer behaviour, and on the purchasing decisions of forest products buyers, certified and labelled products need a sufficiently high market share (Bass and Simula 1999). Currently, this is just a few percent at best in Western Europe and perhaps one per cent in the USA, but there is potential to go much further – especially in construction timber and paper products. Organized buyers' groups have proved to be effective in promoting trade's commitment to DIY and household products, at present favouring FSC. To unite others concerned about improving market share, buyers' groups have evolved to cover more of the supply chain than buyers alone, (and are now known as Forest and Trade Networks). They have excellent potentials to be one of the more effective means of promoting sustainable consumption in any sector.

It will be important for these Networks to monitor the impact of certification on forests, building on the findings in this paper. For example, at present, the much higher availability of certified material from 'safe' Northern coniferous or plantation sources may lead to a shift in the preferences of discerning consumers, and the design and procurement policies of specifiers, towards these sources, neglecting the products of natural tropical forests even where the latter have been certified. Such a bias could also prejudice against certain producer types in a single country. For example, 'mahogany style' wood is now being produced in eucalyptus plantations outside the Amazon in Brazil. This is a threat to the marketing of certified real hardwoods from the Amazon, and could potentially reduce the incentive for SFM there.

Given that local or national markets are dominant for forest production in many countries, and are more readily accessible to local forest producers, particularly in the tropics, the effectiveness of certification would be improved if it addressed those markets. For example, domestic markets in Brazil are far more important than exports – only 14% of timber from the Amazon is exported. Without domestic demands for certified timber, incentives to certify will remain limited to those companies exporting to label-sensitive markets, which also demand high quality products and well-timed deliveries. This issue is also important in other countries with high consumer dependence on locally traded wood products, such as India and China, where there is scope for developing simple forms of certifying e.g. fuelwood brought into towns.

Certifying lesser-known species may help to reduce consumption pressure on commonly-used species. A major challenge in many tropical forest areas is to make forest exploitation more efficient by utilising lesser-known species (LKSs). Thus, for example, companies in the Brazilian Amazon need to develop and access markets for LKSs to ensure the commercial viability of SFM. The density of commercially known species in Brazil is relatively low, compared to South

[16] In the absence of reliable consumer information, we can offer only observations on trends and needs.

East Asia for example, but routine prescriptions for cutting cycles do not allow for revisiting a cutting site to take out the LKSs that had been left due to previous low demand. The experience in Mexico and Central America is that certified producers harvest large proportions of LKSs, because this is part of the forest stewardship requirements, but they lack the marketing expertise to sell these LKSs. Stakeholders in certification need to address this marketing issue.

Forest and Trade Networks have a responsibility to support certification schemes that are accessible to tropical producers. It will mean serious attention to the above recommendation for stepwise approaches and to the legitimacy of non-FSC certification schemes. This will also require the identification of critical elements to enable buyers to recognise comparability and equivalence amongst the various certification schemes (4.5). It might also mean ensuring a certain minimum percentage of products from tropical regions in procurement.

All such efforts would help to reduce the ultimate effectiveness risk of certification, which is that – if certification is not properly implemented, or if individual schemes or certain issues remain contentious among stakeholders – we may see an increased substitution of forest products by other materials for which the sustainability of production processes has not been questioned, such as metals and plastics. Thus the Networks, and individual members, should consider two roles: influencing other sectors to adopt equivalent means of scrutiny; and ensuring that forest certification schemes do not set unduly high thresholds in one step.

Efficiency: how do certification's benefits compare with its costs?

For certification to be *efficient*, it must result in benefits that are higher than the costs, and it must produce more benefits than alternative approaches. The difficulty here is that the costs are both private (incurred by the producer being certified) and public (e.g. state forest certification, and some of the start-up costs of FSC). The benefits are, similarly, an extensive mix of public and private gains. Furthermore, there is still little quantitative evidence of both costs and benefits; and any evidence is highly specific to the forest or producer type and the certification scheme.

It is clear from chapters 2 and 3 that private benefits will usually comprise: market access, diversification and security; access to finance and resources and possibly reduced insurance costs; and political recognition and/or protection from environmental criticism. So far, a price premium has been comparatively elusive, temporary or confined to certain niches.

Many enterprises have claimed that certification is relatively costly. But there are some useful developments that are bringing costs down:

- Group certification schemes and forest manager schemes – sharing costs amongst small producers or clients of a single forest manager

- Use of local inspectors – reducing fees (e.g. by minimising the need to learn about local conditions) and travel costs

- Price competition amongst certification schemes and inspectors – also reducing fees and encouraging local assessors [17]

- Learning about how to improve audit procedures – developing 'inspection' approaches (using carefully selected indicators and use of records), to replace the earlier, costly, field 'research project' approaches

- Focus on outputs or environmental/social outcomes, rather than inputs or specific technologies – permitting flexibility for producers in achieving objectives in the most efficient manner [18]

- Developing local standards by national working groups – reducing the costs of certification by singling out meaningful and measurable local indicators [19]

Although certification may be becoming increasingly efficient in these ways, there is little evidence to suggest that it is more efficient than other approaches. For example, whilst certification allows producers to choose their own least-cost solution to meeting standards, so also can a standards-based regulatory regime (Markopoulos 2000). As we have pointed out in Chapter 2, market-based certification is probably not the most efficient way of monitoring or evaluating community forest management. Fair-trade schemes, which put the producer – not the resource base – first, may be more suitable for community enterprises seeking new market opportunities. And a number of corporate interviewees have judged forest certification to be a less efficient means than ISO certification in improving corporate learning and management.

Equity: who finds it easiest to benefit from certification – and who is being left behind?

Equity matters for functional reasons (maintaining or creating the social underpinnings of SFM) as well as for moral reasons (the aspiration of fair distribution of opportunity, costs and benefits). Certification has brought about many *equity benefits*, notably through bringing a wider range of stakeholder interests together in debate, standard setting, policy definition, and forest planning. It has also attempted to ensure equitable outcomes of forest management, by assessing the impacts on social groups through the certification process. It has offered labour inspection, something for which government has often been weak. And it has promoted corporate social responsibility by stressing that good forest management must incorporate social concerns to be viable.

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[17] However, effective control of certifier operations by accreditation bodies will be necessary to avoid underpricing and thus unreliable or biased assessment work (Bass and Simula 1999)

[18] Prescriptive impact-oriented criteria tend to lead to rigid conditions that are difficult, costly and sometimes illogical to implement on the ground (Bass and Simula 1999)

[19] Otherwise the certifiers' costs in preparing interim local standards have to be borne by the enterprise that is being certified. Muzama was a clear example of this – its first certification inspection did not benefit from a Zambian FSC standard and so involved three people for three weeks at a cost of around £13,000, a large sum for a community-based enterprise.

However, there are also some concerns with respect to equity. These are of two main types:[20]

1. *The negative social impacts on the stakeholders of a specific FMU.* These include: the occasional exclusion of certain social groups from forest benefits, by emphasising a business model dependent on certain (export) products, by controlling 'unplanned' forest use by marginal groups, and by imposing high-cost forest management approaches; 'social engineering' by assessors who apply their own ideas (or support donors' ideas) of community development in ways which are socially and culturally unsustainable; a lack of recognition of local land use systems and multiple livelihood approaches by certification standards; and corrective action requests that necessitate action by outsiders rather than using local capacity and techniques. These problems, and others highlighted in Chapter 2, are so extensive and varied that they call for further (participatory) reviews of the range of social impacts of certification, and the continuous improvement of social standards. FSC is increasing its attention to these important issues.

2. *The differential access by enterprises to certification and its benefits* that is caused by certification standards or procedures. Partly this is an inevitable consequence of the market itself and the nature of competition. Key factors here are the type or size of enterprise, its location, and land use and ownership. Key concerns are addressed below, building on Thornber *et al.* (1999):

- *Participation in developing certification schemes and standards.* Despite a fairly designed system, Southern and small enterprises are under-represented in the membership of FSC (although not for want of FSC trying). Hence a concern that the standards and procedures reflect the values and management models of northern industrial enterprises and NGOs, whilst issues of importance to more marginal stakeholders, such as complex rural livelihood and land use systems, will be neglected.

- *Resources available and ability to bear the costs and risks.* The capacity to meet standards depends on available finances and managerial capacity. Enterprises accustomed to formal reporting and operating under tighter regulation are better able to undertake the certification process and the financial risks it entails – these are mostly in the North.

- *The availability of information.* Information is critical to an enterprise's ability to understand and participate in certification. Information on SFM, certification and markets is not equally distributed. Enterprises in regions outside of the main market demand, particularly small enterprises, have the most problems accessing up-to-date information (but also, obviously, face less urgent pressures to be certified).

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[20] A third concern, equity between nations, presents similar issues to those discussed under point 2.

- *Access to markets and marketing capacity.* Embryonic and inconsistent global markets for certified products are difficult for enterprises in some regions to enter. They need reasonably well-developed marketing skills to exploit these markets. Small enterprises in developing countries have particular disadvantages, notably poor economies of scale, and inexperience, even in local markets.

- *Sharing the costs and benefits throughout the supply chain.* Financial benefits of certification are more evident further down the supply chain, notably at the retail end. Small forest producers have much less market power, but occasionally benefit from specialising in products in temporary short supply, e.g. certain tropical hardwoods. Buyers are unwilling to pay a premium for certified timber, and small producers rarely receive higher prices for their upfront investment in certification.

Experience to date shows that there are some actors who find it easier to access, apply and benefit from certification. As Box 4.3 demonstrates, these tend to be the larger, industrial players.

In spite of its inclusion of social standards, certification has no obvious advantage in promoting equity over alternative instruments. Indeed, it is a 'regressive' instrument – in relation to income, the costs of certification are proportionately higher for small producers than they are for large producers (Markopoulos 2000). So what has been done about the apparent strong bias towards larger, well-resourced and well-connected companies?

Firstly, where *national working groups* have produced national standards, this has helped to promote equity through three approaches, all of which should be strengthened further:

- increasing the level of information about certification to all stakeholders, and preventing the development of misconceptions
- producing standards that are more acceptable and appropriate to local enterprises
- reducing the potential costs of certification – in the absence of national FSC standards, the certifiers' task of preparing interim local standards has to be paid for by the enterprise being certified

In addition, *FSC* has demonstrated its commitment to improving equity by: changing its structure to allow a better balance of influence and interests; writing non-discrimination and flexibility of standards for local conditions into its statutes; developing new guidelines for regional standards; developing group certification and resource manager certification schemes; offering support from the board to social chamber meetings and working with the social working group on fund-raising; and addressing considerations for small enterprises and involving governments.

Box 4.3 Large-scale operations can find it easier to utilise certification

Requirements for certification	Typical industrial operation	Typical small operation
Forest suitability:	Large areas tend to be under secure long-term tenure, and management that closely matches P&C	Small areas may more often have insecure rights. Complex, multiple use systems are orientated to livelihoods
Information:	Generally good external networking and awareness, up to date with new developments and market information	Often working in smaller networks, with limited access to new information
General capacities:	Available within the company. Company usually managed through formalised management and administration systems.	Often unavailable internally, especially in terms of administration and management. Informality of management and administration is typical.
Marketing capacity:	Have the in-company experience to tap into new and emerging markets and adapt to them; good market information available; well developed and effective distribution channels.	Inadequate or non-existent marketing skills; rarely any dedicated staff members; poor market information; little or no experience beyond local markets.
Production capacity:	Have the flexibility (technical and financial) to adapt to new demands and create new products to serve the new markets; and maintain high quality standards.	Poor production capacities, with limited equipment or skills to improve or change products; low and inconsistent volume of production adds to poor marketing position.
Economies of scale:	Large economies of scale – added marketing costs are easy to absorb; volumes are large and consequently cheaper and easier to sell.	Weak economies of scale, making investments to improve the above difficult and investment risks higher.
Direct costs:	Easily absorbed within overall running costs	Large capital outlay in relation to normal running costs.
Indirect costs:	Easily absorbed within overall running costs; only small changes usually needed	Large changes often required. Large capital outlay in relation to normal running costs, difficult to invest in all at once.

NB The above is for illustrative purposes only. It is not meant to imply that corporations necessarily find certification easy, or that community groups cannot benefit.

The emergence of *national certification schemes* in Europe, specifically catering for small-scale private forest ownership, and the development of national schemes in the tropical countries, are further examples of responses to equity concerns. [21]

Finally, *certifiers* are making increasing efforts to make information available, to use local auditors and to reduce costs for smaller enterprises where possible. (Thornber *et al* 1999).

What more can be done? To maintain their own credibility, certification schemes, certifiers and buyers groups should continue to identify and prioritize equity concerns as they arise, and avoid the temptation to focus only on the large producers and easy markets (which, in the long run, would call the credibility of certification into question). This should include:

- Assessment of the potential of step-wise certification with more than one threshold, to allow poor producers to work towards becoming good producers rather than sidestepping certification altogether.

- Deliberate attention to North-South – and big-small producer – imbalances and inequities. Better understanding, and sometimes affirmative action in cost-benefit sharing, by buyers would also help.

Where there are equity concerns, especially in developing countries, the intervention of government and development assistance may be justified. Government agencies and donors can help by supporting the equity-producing components of certification, notably:

- boosting stakeholder participation, both in national working groups and in the governance of international schemes
- improving representation of poor groups. [22]
- improving information provision and sharing, on both certification and markets
- building capacities for SFM and for making informed decisions about certification
- further developing group certification
- small business and marketing capacity development
- promoting the development of local certifier organisations and assessors
- assessing the distributional impacts of certification

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[21] Whether these national schemes deliberately aim to improve equity – or alternatively whether they aim to set up schemes suitable to certain local actors because they do not like FSC's approach to equity – remains open for discussion.

[22] Representation may be usefully considered as a function of forest knowledge, clear identity with the group concerned, and effective accountability to that group.

Credibility: do stakeholders view certification as viable and legitimate?

Certification schemes are essentially instruments for communication. They stand or fall on their credibility in communicating – largely to market actors, but increasingly to policy actors – the truth about the sources of forest products and the quality of associated forest management. Building on Bass and Simula (1999), we can propose that credibility derives from:

i *The reliability of assessment work*. There is an ever-present challenge of obtaining consistent interpretation of standards in the individual forest. This is largely a matter of accreditation which, whilst not having posed any major problems to date, could be compromised by the recent rush of certification groups to be accredited. It is partly also a matter of gaining and sharing experience between certifiers and assessors – and more could be done of this, perhaps through regular workshops of assessors from different schemes.

ii *Freedom from conflicts of interest*. This can be secured by the adoption of ISO procedures for strict separation of standard setting, auditing, consulting, certification, and accreditation functions, and for ensuring that these are independent from auditees. Some schemes, e.g. the Canadian Standards Association approach, have stuck rigorously to this by separating these functions in different *organisations*. FSC separates some functions through different *processes* – which results in the unusual position of FSC both approving standards and accrediting certifiers, thereby opening it to some criticism.

iii *Acceptability to key stakeholder groups, including buyers and consumers*. This is achieved by comprehensive and continued participation of relevant stakeholders in developing and applying certification standards and procedures, and by governance procedures to achieve consensus or manage conflicts for both general issues and those specific to a given case. FSC has made special provisions for this in its governance, understanding in particular that the participation of social and environmental interests is important for consumer credibility, as is producer participation for credibility amongst the industry. Nonetheless, perhaps the most common reason for a certification scheme not being considered credible is its perceived bias towards one or other stakeholder group. This can be minimised largely by designing a governance process that is increasingly inclusive, and by ensuring transparency (below).

iv *Transparency and non-deceptiveness*. All stages of the certification process should be transparent. Governance and operational procedures are key, and most schemes have gone to great pains to ensure that these are well explained and watertight. Certifiers differ, however, in the extent and detail of the information they make public about individual certificates, partly because of the 'grey area' of commercial confidentiality, and partly because public information costs money to produce. In the earlier, developmental phase of

certification, mistakes were not unnaturally made and attempts to minimise knowledge of them may have (temporarily) harmed the reputation of certification schemes. There is now a greater understanding of the value of transparency and learning. In reviewing the database set up under the IIED project, FSC decided that future certificate summaries will include:

- Name of forest, country, contact details
- Certificate number, certifier, date and date of expiry
- Area certified and location
- Biome and forest type
- Tenure type
- Annual allowable cut

Furthermore, we would suggest the addition of:

- Certificate conditions and corrective action requests with dates of their application and closure (by FSC P&C category and ideally also a list of required actions as in Box A1 of Annex A). In this way, a time series can be built up, to demonstrate improvements in forest management.

v *Equivalence and mutual recognition of different approaches*. In the history of forestry, the 1990s will surely be known as the period when forest stakeholders worked hard to define, or to prescribe, SFM (Bass 1997a). On the one hand, we now have widely accepted forest management standards, such as FSC's, and widely accepted procedures for assessing those standards, such as those of ISO. These advances are integral to many of the certification schemes today. On the other hand, 'widely-accepted' is not the same as 'universally accepted'. Even if schemes are very close in standards and procedures, for some stakeholders, the differences will be more significant than the similarities. The proliferation of certification schemes has become perhaps the biggest contemporary issue affecting forest certification. It is considered in some more detail below. [23]

4.5 Proliferation and mutual recognition of certification schemes

With the emergence of the Pan-European Forest Certification (PEFC) scheme and over two dozen national forest certification schemes, any notion of the *de facto* predominance of FSC is no longer tenable – especially with the rapid rise in area certified under PEFC. In terms of certification's dual forest and market goals, this proliferation is both an opportunity and a threat:

- *An opportunity:* A proliferation of certification schemes increases the chance that one of them will fit local conditions or producer types more precisely.

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[23] Differences in the approach by certification schemes to points (i) to (iv) are also relevant to proliferation

Policy targets or commercial targets for certification might be more easily met by a greater number of schemes. A degree of competition between schemes can encourage improvements in efficiency and effectiveness, and thus bring down costs. A larger body of experience can be built up under different approaches – if mechanisms for sharing information and learning were in place (which they are not at present).

- *A threat:* Proliferation may lead to consumer confusion and hence a loss of credibility of certification, affecting all schemes. Proliferation can also lead to a reluctance of firms to be certified at all, if this means they will require multiple certificates for different markets (with the costly different data sets, monitoring frameworks and audits that would be required), or if they perceive that any one scheme has an insecure future. This could also result in a 'race to the bottom' – certification schemes reducing standards to attract producers. Finally, national schemes of smaller countries would face huge costs to promote their schemes unilaterally in an increasingly crowded field.

Buyers and consumer groups have expressed the need to know which labels are most credible, and ideally would prefer only one. Many in the wood products industry are aware of both the opportunities and threats of proliferation and talk in terms of allowing proliferation (if it suits their needs) but mitigating the problems (to reduce their risks) through 'mutual recognition' between schemes. Governments, too, have been investigating mutual recognition to secure a level playing field for trade: Australia and Canada have been particularly active.

At present, a number of approaches are being taken:

- *Competition between the schemes*: This is what is happening now. It permits some unorganised adjustment among the schemes, but it also has efficiency and equity problems. Many schemes use FSC as a benchmark, overtly or otherwise.

- *Unilateral recognition* of specific certification schemes by buyers to guide their own procurement. Most buyers' groups have promoted FSC alone, but some have been showing some latitude recently. Again, this encourages adjustment by other schemes to match the preferred scheme (FSC). This approach would be improved by the application of criteria or benchmarks for acceptable schemes, based on learning about what works best on the ground, e.g. from this study (see Boxes 4.4 and 4.5).

- *Bilateral or multilateral certifier agreement:* This has been emerging between FSC and national schemes in Malaysia and Indonesia, and could allow some gradual convergence through successive bilateral agreements or, less likely, a multilateral agreement on a harmonised approach. [24]

- *An international forum or umbrella scheme or authority* which confirms equivalence and permits some kind of 'super-label' for universal recognition.

[24] PT Diamond Raya Timber in Indonesia was recently awarded the first joint FSC-LEI certificate for its forest concession, covering 90,957 hectares

At present there are no universally accepted candidates for this, although PEFC was set up to do this at the European level. International candidates might include the Global Ecolabelling Network, or the International Accreditation Forum. Alternatively, an independent expert group might be appointed by a majority of certification schemes.

- *Improved information about the various schemes:* Accessible information is supportive of all the options above, and is a good first step. The Confederation of European Paper Industries has made a very useful effort in this direction (www.cepi.org).

Many organisations have now established their own set of critical elements for comparability and equivalence. These include governments and inter-governmental organisations, forest industry councils, forest product buyers and sellers, environmental non-government organisations, and some organisations that comprise representatives from some or all these groups. Analysing ten such sets, and assessing them against the internationally accepted needs of SFM, market requirements and the mechanics of effective certification processes, Kanowski *et al* (2000) have proposed nine critical elements by which to assess certification schemes (Box 4.4). [25]

In a trial application against three existing certification schemes – FSC, CSA and the Finnish Forest Certification System – reasonable convergence was noted (Kanowski *et al,* 2000). All certification schemes emphasised equitable access, transparency, independence, and accordance with international to local norms. However, three themes – participation, accreditation and consistency of standards and procedures – show a lack of convergence and will need attention. There is now a small industry in exposing the weaknesses of individual schemes, much of it supported by those environmental NGOs who oppose mutual recognition but instead back FSC as their candidate for the only credible approach (see e.g. Vallejo and Hauselmann, 2001 for a detailed, WWF-sponsored, critique of PEFC).

4.6 Integrating certification into the set of instruments for SFM

There are many reasons to work at integrating forest certification into the evolving set of SFM policies and institutions in a given country:

- *Being introduced in many countries:* IIED's 23-country survey of instruments to improve private sector forestry showed that certification was one of the three commonest innovations (Landell-Mills and Ford 1999). Certification is

[25] Another useful paper is Vallejo and Hauselmann (2000). The authors present a guide to the institutional requirements of certification, building from the international legal framework. This covers the principles behind sustainable development, WTO and ISO legal requirements, and the expectations of public interest groups. This may help to inform the further development of sets of 'critical elements for scheme comparability and equivalence'.

Box 4.4 Proposed critical elements for assessing forest certification schemes

Themes	Critical elements and performance measures
Accordance	Certification should: • be consistent with internationally accepted principles of sustainable forest management; • comply with any national and international policies, regulations and obligations which directly relate to sustainable forest management; and • contain measurable performance standards that give effect to these requirements.
Access	Certification standards, principles and criteria must accommodate all forest types, and forest ownership and operational structures.
Participation	In general, participation in certification should be fostered. However, the level of participation should be appropriate to the particular stage of the certification process, with broader stakeholder involvement during establishment and dispute resolution stages, and narrower representation during accreditation and certification stages.
Accreditation	The accreditation of certification bodies should be consistent with internationally accepted methods of assessment and selection, for example, ISO/IEC Guide 61:1996.
Transparency	All stages of the certification process should be transparent. This includes the development of certification standards, criteria and principles, the operations of accreditation and certification bodies, and the non-commercial results of certification, in forms that are accessible and meaningful.
Independence	A clear separation of processes (but not necessarily institutions) shall exist between: establishing criteria and indicators; accreditation of certification bodies; and dispute settlement
Consistency	Both qualitative and quantitative standards, and certification procedures, should be clear and easily understood, assessed and recorded. Standards and procedures should provide reliable and consistent information, so that the certification process should lead to the same result from different auditors.
Continuous improvement	To foster continuous improvement in sustainable forest management and certification processes, standards and procedures should be adaptive and regularly revised so that they may respond to new knowledge and changing demands.
Chain of custody and product labelling	Chain of custody procedures must be transparent, robust and verifiable by independent parties. The claims made by product labels should be clear and transparent. In the absence of mutual recognition and an agreed common label, labels should clearly distinguish alternative certification schemes.

Source: Kanowski, Sinclair, Freeman and Bass 2000 (www.affa.gov.au/affa/subjects/publications.html)

being introduced at the same time as other innovations, but has not yet been rationalised with them in most countries (Canada and Great Britain being exceptions).

- *Policy and institutional constraints to certification:* The same study showed that the most frequent difficulties with introducing and operating any new instrument were policy and institutional constraints. The lack of secure stakeholder rights to manage and use forests, unclear or anachronistic institutional arrangements, conflicting policy signals, missing policies, lack of information or misinformation, government resistance, weak implementation capacity, and other factors all constrained the usefulness of these instruments. Attention to these policy/institutional *lacunae* must be a priority for certification to work well.

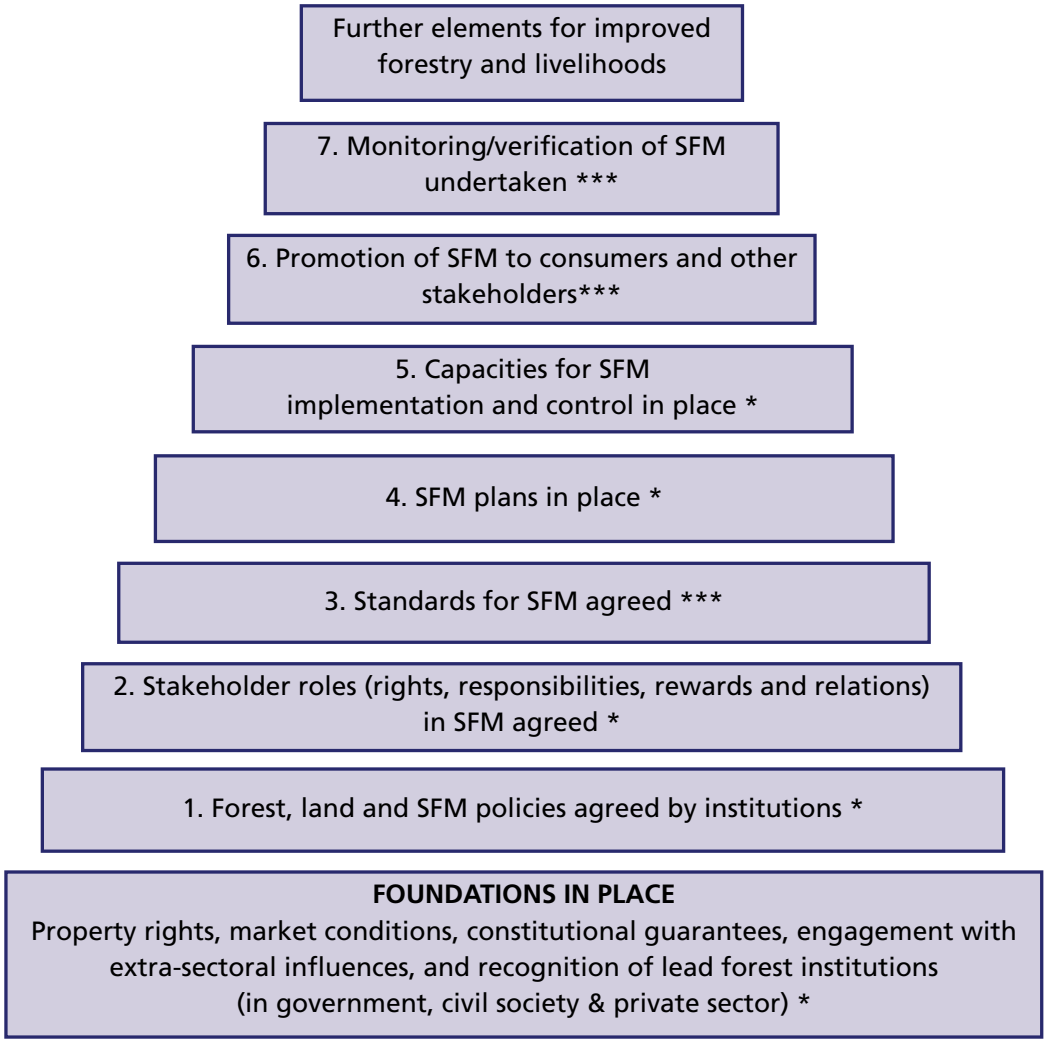
- *Policy intervention role:* Because certification is (potentially) a participatory and action-learning instrument, it has often been able to highlight critical needs in policy and institutional processes (4.2), and has already gone some way towards addressing them (4.3). As a voluntary instrument, certification is very much a product of the 1990s, which emphasized voluntary approaches. The general experience of such approaches is that they have both been insufficient without good regulation and they have pointed to the kinds of new regulation which are most needed.

- *Close link to regulation:* Forest certification has hybrid characteristics that require it to be considered alongside regulatory approaches. Its use of standards is more typical of administrative regulation. Its environmental objectives are determined not by a central authority, as they would be for 'pure' market-based instruments such as environmental taxes and marketable permits, but by public consultation (Markopoulos 2000) – an increasingly common feature of administrative decision-making (Beierle 1998). Certification may be seen as paving a way towards new forms of environmental law and governance.

- *Viewing certification in the dynamic national context:* Because of the intimate linkage of certification with policy, law and capacities, it is necessary both to assess and to sharpen the role of certification in this broader context. Figure 4.3 sets out an illustrative 'pyramid' of elements that are needed at the national level for SFM (Mayers and Bass 2000). This is a cartoon, and not a master plan. It serves to show that there are some foundations (tiers 1 to 6 in the Figure) that help certification function well. However, certification may be possible to some extent without them. It may also help to strengthen them, 'fast-tracking' their development.

Those who are working to establish the 'basic' tiers of the pyramid – of adequate policies and institutions – such as government agencies and the World Bank, have tried to create the conditions ('push') for SFM. Those working on the more 'sophisticated' steps like certification, such as WWF, other NGOs and buyers, have generated a demand 'pull' for SFM. It can be useful for all parties to see their efforts in the context of one framework.

Figure 4.3 An illustrative 'pyramid' of elements of SFM at national level



* to *** indicates the degree to which certification could potentially contribute to each 'tier'
Source: Mayers and Bass 2000

4.7 A mature role for certification through learning – analytical and monitoring requirements for the future

The hypothesis of this study has been that certification does have a place amongst the array of instruments for sustainable forest management (Chapter 1). But certification continues to be applied where conditions for it are not supportive. Those who have been advocating further, non-market uses of certification (regulatory and project-based uses) have been doing so without any conclusive analysis as to certification's relative effectiveness, efficiency, equity, credibility, and fit with the national policy and institutional framework. They are adding yet more assumptions to those described in Chapter 1.

This study is a beginning to the analysis required to understand a mature role for certification. But it has necessarily focused on market-based purposes, as

these have been predominant to date. It has also examined experience primarily in developing countries, as this is IIED's mandate and the concern of IIED's sponsors (DFID and the European Commission's Directorate-General for development assistance). The experience assessed was principally that of FSC, due to its longer operational history. And there were few time series of data available: thus we were able only to create 'snapshots', whereas in time we might be able to benefit from continuous monitoring of certification's development, application and impacts.

Thus we recommend further work, building on the findings and frameworks suggested in this paper:

- *National working groups,* which have proven so valuable not only in certification, but also in policy development, should be encouraged to broaden their horizons – by keeping an oversight of the development of the 'pyramid' of elements of SFM at national level, especially the interaction of voluntary and regulatory instruments, and by promoting improvements. [26]

- Further *countries* need to be examined. It is time to assess how well certification is integrated in specific national contexts, including in the North, and to reveal the precise roles and priority complements needed for certification to both add value and become better integrated with other instruments

- Further *certification schemes* need to be examined, especially the regional and national schemes (PEFC and LEI would be good cases)

- There is a need for compatible *frameworks for monitoring the development, application and impacts of all certification schemes* – though self-assessment, stakeholder-led assessment, and/or independent means (see Box 4.5)

All of this work will help to develop mature and integrated roles for certification. It is clear that certification will persist only if it is generally accepted to be helpful in promoting SFM. Individual schemes will persist only if they are efficient in the more narrow sense (4.4) (Kanowski *et al* 2000). The principal solution for effectiveness may be finding ways to permit all forest producers (and not just those with world-class standards) to improve the quality of their forest management to the most local relevant standards, through regulatory and capacity-building efforts and complementary step-wise certification approaches. This further research, with the active involvement of many certification schemes (in the same spirit that FSC opened itself to this study), should help to improve the critical areas of equity, of incentives, of capacity and of 'fit' with other instruments for sustainable forest management.

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[26] Mayers and Bass (2000) present detailed guidelines on conducting such assessments

Box 4.5 Frameworks for monitoring certification's development and impacts

1. MONITORING CERTIFICATION SCHEMES
1.1 Provisions to meet the critical requirements of certification schemes:

- Accordance
- Access
- Participation
- Accreditation
- Transparency
- Independence
- Consistency
- Continuous improvement

Source: *Kanowski et al 2000*

Assessment to be informed by questions covering effectiveness, efficiency, equity and credibility. Baseline assessment required, then reporting changes (innovations) to the above.

1.2 Changing uses of certification:

- Market-oriented certification
- Regulation-oriented verification
- Project- or institutional-oriented certification

Covers basic classification of uses to which scheme has been put, and provisions for it. Draws on information from 2 – 4 below.

Who could do it?

- Certification bodies' self-assessment
- Regular use of accreditation procedures to obtain same information
- Possible use of a mutual recognition facility
- Facility for stakeholders to feed observations in.

2. MONITORING CERTIFICATION AT THE FOREST (FMU) LEVEL
2.1 Where certification is being applied

Build a database, with the following for each certificate:

- Name of forest, country, contact details
- Certificate number, certifier, date and date of expiry
- Area certified and location
- Biome and forest type
- Tenure type
- Annual allowable cut
- Chain-of-custody information – what's happening to the produce?
- Conditions/CARs with date, by FSC P&C category – listing the P&C numbers (ideally also a list of required actions as in Box A1 of Annex A)

Who could do it?
Assessors provide summary information for individual certificates. Certification bodies then enter all such summaries onto certifier database. Database to be structured so that cumulative information from certificates can be subject to database inquiry on meaningful factors (FSC database constructed under the IIED project provides an early model)

2.2 Forest/stakeholder impacts of certification

- Stratified sample of certificates assessed for changes over time (see Table A1 questions to assess effectiveness, efficiency and equity)
- Correlation with analysis of above database over time

Who could do it?

- Stakeholder self-reporting – what has it done for them?
- Independent field researchers

3. MONITORING AT THE CONSUMPTION/RETAIL LEVEL

- Types and volumes of certified products
- Sources of certified products
- Trends in relation to non-certified sources

Perhaps including some stratified samples that assess the supply chains of 2.2

Who could do it?

- Forest and Trade Networks/buyers groups and consumer groups
- Independent researchers for stratified samples.

4. MONITORING AT THE NATIONAL/REGIONAL POLICY LEVEL

The role of certification in the notional SFM 'policy cycle' could be summarized:

- Debate and analysis of forest and stakeholders' needs
- Decisions on forest policy and standards
- Pilot approaches and experiments in SFM
- Ensuring appropriate allocation of rights and powers
- Developing capacity and resources for SFM
- SFM regulation and control procedures
- Monitoring, review and learning

Recent innovations, clashes, constraints and problems would be highlighted. Ideally it would look at all contributions to these 'policy cycle' needs, and not certification on its own. A focus on stakeholder groups' motivations and actions would help.

Who could do it?

Assessment on a regular basis by multi-stakeholder groups (national forest certification working groups, forest fora, or national forest programme steering committees), and forest authorities.

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Annexes

ANNEX A Methodological overview

1. Classification of FSC certificates

IIED's study started with the development, with FSC staff and interns, of a database of all 156 FSC certificates as of early 1999. This covered:[1]

a. *producer* type
b. *forest type*
c. *product types* and volumes
d. *tally of conditions* associated with certification (from preconditions, conditions and Corrective Action Requests, according to FSC P&C numbers)
e. *more detail on required changes* building on the above (an expanded list of required actions – see Box A1)
f. *assessment information* on certifier, assessors, standard used, dates, numbers of assessors (local and non-local), areas of expertise covered
g. *other background where available* that might explain some correlations and filter out some operations for further analysis, e.g. who paid for certification, whether the enterprise is subsidised as a development project, and whether certification was government/regulation-induced as opposed to market-induced;
h. *market changes* deriving from certification – country, buyers, products, price premium

This database was then analysed to reveal significant trends in the global 'set' of certified operations North-South, between producer types, and by type of condition (Thornber 1999, FSC 1999). Much of this material appears in this report. The analysis helped to suggest areas of impact that FSC may wish to make a special effort to monitor in future (FSC 1999). It also helped in identifying case studies (below).

The database is useful for spotting broad trends. But, so far, there are limits to the validity of using the database to identify actual changes over time, and then to correlate them with certification. Firstly, the FSC staff and interns who entered the data noted the difficulty of interpreting certifiers' reports: there were problems of individual certifiers changing their reporting systems, especially in the early stages of certification; and of rationalising different certifiers' reporting categories. Secondly, it has not been possible to include those changes in forest management that were required as part of early pre-audit and audit processes, since certifiers have not made any such records available (hence there may be an underestimate of the total impact of certification on a forest manager). Finally, it cannot be guaranteed that any preconditions, conditions and corrective action requests attached to a certificate will lead to actual changes in forest managers' procedures and practices on the ground (leading to overestimates). Hence the justification for IIED's field studies to understand the full story in given conditions.

[1] This has subsequently been developed for FSC's continuing use.

Box A1 Required actions noted for 156 certificates in the IIED/FSC database

1. Prepare written plan
2. Upgrade written plan
3. Update plan
4. Employee awareness
5. Public awareness
6. Timber inventory
7. Non-timber information
8. Permanent sample plots
9. Establish monitoring program
10. Invest in research
11. Prepare EIA
12. Prepare SIA
13. Monitoring publicly available
14. Decrease harvest rate
15. Determine harvest rate
16. Stop high-grading
17. Improve forest structure
18. Improve stand structure
19. Special habitat retentions
20. Species conservation strategy
21. Inventory rare/threatened species
22. Identify protected areas
23. Designate set-aside areas
24. Maintain forest connectivity
25. Plan road layout
26. Road stream crossing
27. Road mapping/inventory
28. Reduce road density
29. Deactivate roads
30. Identify riparian zones
31. Develop riparian policy
32. Improve riparian buffers
33. Reduce soil erosion/siltation
34. Maintain riparian canopy
35. Develop fire management plan
36. Develop emergency response procedures
37. Reduce fire risk
38. Prescribe controlled burn
39. Reduce chemical use
40. Policy for chemical storage/use
41. Demonstrate/establish tenure
42. Consider traditional knowledge/values
43. Protect special cultural features
44. Increase employment/ training opportunities
45. Develop grievance process
46. Increase public participation
47. Retain public access/userights
48. Foster local processing
49. Support local hiring
50. Protect from encroachment
51. Protect from illegal harvest
52. Protect from pest/pathogens
53. Follow prescriptions
54. Improve tree marking rules
55. Improve machinery/logging systems
56. Reduce stand damage
57. Improve health and safety
58. Improve employee awareness of standards and certification

2. Field case studies of community-based forest enterprises

The case studies in this report were selected to represent the full range of community-based enterprise types, locations, markets and certifiers. The selection was unavoidably skewed towards Latin America because this region has the greatest concentration of certified community forest enterprises. Where possible, enterprises that had been certified for some time were selected (although it was recognised that such enterprises may have been certified before the certifier concerned was accredited by FSC, and before formal assessment or reporting procedures were adopted).

Information was collected through two main routes:

- Desk review of relevant documentation. Documentation reviewed prior to fieldwork included company/project reports and financial records where possible; certification inspection reports; country- or locale-specific forest management and community development literature.

- Field reviews of between 2 and 3 weeks' duration and discussion with certifiers. Key informant and focus group interviews were conducted using semi-structured interview techniques. The main themes of questioning are listed in Table A1 below. The range of informants interviewed is illustrated by Table A2. Each field review was carried out by one or two researchers with the active collaboration and approval of the case study enterprise. Interpreters were used if necessary; where possible these were forestry or community development professionals without close links to the subject enterprise.

Table A1. Criteria and indicators used by the IIED project for assessing the effects of forest certification

CRITERIA	INDICATORS
I. Forest Management Practices	
A. How has certification affected forest management and planning?	1. Changes in area of forest under productive and protective management. 2. Changes in silvicultural systems employed and area over which they are implemented. 3. Changes in number and diversity of timber or non-timber species under management. 4. Changes in scope and detail of management plans, annual operating plans and forest maps. 5. Effect on scale and intensity of general and pre-harvest inventories. 6. Changes in harvesting and extraction methods, including road-building. 7. Changes in actual and projected production volumes (overall and per species).
B. How has certification affected forest monitoring/research?	1. Effect on scale and intensity of forest growth and post-harvest regeneration monitoring. 2. Effect on scale and intensity of fire, pests and disease monitoring. 3. Effect on scale and intensity of forest biodiversity monitoring.
C. How has certification affected the management of environmental values?	1. Changes in procedures for environmental impact analysis. 2. Changes in management regimes for soil and water resources. 3. Changes in management regimes for forest biodiversity. 4. Changes in public access/forest use regime.
II. Enterprise Administration, Finances and Marketing	
A. How has certification affected enterprise management and administration?	1. Changes in enterprise objectives to reflect certification needs. 2. Changes in internal management structure. 3. Changes in internal systems of communication and coordination.

	4. Changes in internal systems of documentation and quality control. 5. Changes in personnel management policies, including training, health and safety, welfare, etc. 6. Changes in attitudes towards sustainable forest management and certification.
B. How has certification affected costs and revenues?	1. Changes in cost of forest management and production, including cost of technical services. 2. Changes in cost of processing and distribution. 3. Changes in cost (and source) of capital and labour. 4. Effect on sales revenues.
C. How has certification impacted on market position?	1. Changes in marketing strategy, including target markets, product range and positioning, pricing policy, packaging and advertising. 2. Effect on relationships with main buyers and suppliers. 3. Effect on market share.
III. Community Relations	
A. How has certification affected local institutions?	1. Changes in communication and/or cooperation on management planning between enterprise and local institutions. 2. Changes in procedures for resolving local disputes and providing compensation. 3. Changes in accountability and effectiveness of local institutions. 4. Effect on security of customary and/or formal tenure rights of local communities. 5. Changes in community rules regulating forest access and use. 6. Effect on local attitudes towards forest enterprise and certification. 7. Effect on local skills and knowledge regarding forest enterprise and certification.
B. How has certification changed the socio-economic structure at the local level?	1. Changes in flow of benefits from forest enterprise (timber and non-timber forest products, employment, wages, etc.). 2. Changes in income distribution and disposal. 3. Changes in the number and distribution of beneficiaries. 4. Evidence that certain people or groups have lost out from the certification process.

C. How has certification affected gender relationships?	1. Changes in number of women participating in management planning activities. 2. Evidence of formation of women's groups. 3. Evidence that rights, responsibilities and returns of women have been changed by certification.
IV. Institutional and Policy Framework	
A. How has certification changed the institutional and policy 'macro-environment'?	1. Effectiveness of current formal policy and legislative framework in supporting certification. 2. Changes in formal policy and legislation attributable to effect of certification. 3. Changes in local governance reflecting higher level changes.
B. How has certification changed the institutional 'micro-environment'?	1. Changes in relationship between enterprise and forest authority. 2. Evidence that roles and responsibilities have been reassigned between forest authority and enterprise. 3. Changes in communication and/or cooperation on forest issues between enterprise and government agencies. 4. Changes in roles and responsibilities of local non-governmental organisations.
C. Has certification created an extension effect?	1. Evidence that actions of neighbouring enterprises and/or local producers' associations have been influenced by certification process.

3. Assessment of the interactions of supply chains and certification

The key methodology was key informant interviews with manufacturers and buyers along the supply chain. The questions were tailored to the different circumstances of the companies or buyers involved, whether they were manufacturers, agents, timber merchants, buyers in retailing companies or in government agencies. In some cases, further questions emerged in the course of the discussions. The list given below therefore is not exhaustive but gives a flavour of the types of questions asked.

General certification issues

- What is your company's business? What products do you buy and sell, from and to whom? Any processing?
- What were your company's motivations for getting into producing or trading certified products? Were original motivations the same as current reasons?
- How much of your trade is in certified products? (%, volume). Do you enter new relationships with non-certified suppliers?

- What are the constraints on buying certified products (availability, regularity, price?)
- What were your original sources of certified products? (countries, enterprise/company types). Have they changed? What are the current sources? If they have changed, why?
- How was the process of switching to certified products organised? What were the biggest hurdles to be overcome? Did the company have to change? Did suppliers in some countries prove more difficult than others?
- Has the switch to trading in certified products led to a change in relationships between you and your suppliers? And your buyers?
  - ♦ Have you given any assistance to suppliers to get certified products?
  - ♦ Do you have any more direct involvement with forest producers as a result of certification?
  - ♦ Have supply chains been altered?
  - ♦ Are relationships with non-certified suppliers different?
- What have been the costs and benefits for the company of specifying and trading certified products? (prices paid/gained, costs of change, relationships, opportunity costs)
- How do you see the future prospects for certification in your business? What are attitudes towards it? FSC vs other schemes?

Country specific questions

- Who do you buy from in Country X. What products do you buy? Do you buy directly from them or through an agent?
- How long have you had relationships with these suppliers? Did you buy from them pre-certification? Did you drop any suppliers who did not get certified?
- What were the motivations to certify in Country X (forest and processors)?
  - ♦ Did your company influence decisions in Country X to certify?
- Have there been any specific challenges to obtaining certified timber from Country? Was Country X more difficult or easier than other countries, and why?
- Future for certification in Country X

Table A2. Types of stakeholders interviewed.

LOCAL LEVEL	SUPPLY CHAIN/MARKET	NATIONAL LEVEL
♦ Villagers: enterprise workers; community leaders	♦ Companies holding chain of custody certificates	♦ National forestry authority
♦ Supporting NGO staff	♦ Other timber buyers and exporters	♦ Related ministries
♦ Local forest department staff	♦ Timber agents	♦ Trade associations
♦ Timber buyers/traders	♦ British-based processors and traders	♦ Relevant NGOs and institutions
♦ Other NGOs (environment and social development)		

Other stakeholders include: Relevant donors; previous project staff if the enterprise is donor-supported; forest contract workers. Some interviews were carried out prior to fieldwork.

Source: Adapted from Thornber 1999b.

4. Limitations

Some overall limitations of the research approach should be noted:

- In some case studies, particularly those certified before 1996, documentation of the early certification process was patchy or non-existent, as noted above in the discussion of the database methodology. In other cases, permission was not obtained to see assessment reports or financial records.
- Where possible, data were verified using triangulation techniques, but the usual caveats of a qualitative, time-limited approach should be noted.
- The study made no attempt at a rigorous, quantitative assessment of the incremental impacts of certification, owing to the difficulties of constructing an accurate, non-certified baseline for comparison. This study provides only a preliminary, indicative analysis of impacts – further research is needed to provide a more definitive picture.

ANNEX B Community-based forest enterprise – case study summaries

The following will be made available on IIED's website www.iied.org:

1. Lomerío Community Forest Management Project, Bolivia

Markopoulos, M.D. (1998) *The impacts of certification on community forest enterprises: a case study of the Lomerío community forest management project, Bolivia.* Forestry and Land Use Series No. 13, IIED, London.

Situated in eastern Bolivia, in the Department of Santa Cruz, the canton of Lomerío is home to 25 Chiquitano communities with an estimated population of 5,300. Since 1986, these communities, under the direction of their communal organisation CICOL (Inter-Communal Peasant Central of Eastern Lomerío), have participated in the development of a vertically integrated forest enterprise designed to generate material benefits and secure legal recognition for their territorial claims. Financial and technical support for this endeavour has been provided by the non-governmental organisation APCOB (Support for the Peasants-Indigenous People of Eastern Bolivia) and, latterly, by the Bolivia Sustainable Forest Management Project (BOLFOR).

Certificate profile
Type of certificate: FSC, forest management and chain of custody.
Area certified: 52,000ha.
Certifier: SmartWood (Rainforest Alliance).
Date certified: Inspection in October 1995. Certificate awarded in February 1996.
Funding: Certification financed mainly by donors.
Motivation: Greater market security, status and prestige, facilitation of land and resource tenure claims.
Current status: Original three-year certificate extended for two years in 1999.

2. Campesino Forestry Groups, Honduras

Markopoulos, M.D. (1999) *The Impacts of Certification on Campesino Forestry Groups in Northern Honduras.* Unpublished report, Oxford Forestry Institute, Oxford.

These groups are situated in the Atlántida Forest Region of northern Honduras. Each group has between 5 and 50 active members, and manages an area of public forest under a usufruct agreement with the Honduran Forestry Development Corporation. As part of this agreement, the groups are expected to prepare and follow a five-year management plan for the sustainable production of timber. Although the use of chainsaws is becoming more common, some groups still use manual harvesting methods such as axe felling and pitsawing. Despite the high species diversity of the remaining tropical forests in the Atlántida Region, harvesting has concentrated on a small group of commercially valuable timber species, including mahogany (*Swietenia macrophylla*), redondo (*Magnolia yoroconte*) and Spanish cedar (*Cedrela odorata*). Attempts to promote the use of lesser-known species have been frustrated by a lack of product development and marketing capacity, competition from illegal logging and the traditional dependence of domestic markets on pine (*Pinus* spp.).

Certificate profile
Type of certificate: FSC, forest management and chain of custody.
Area certified: 13,978 ha
Certifier: SmartWood (Rainforest Alliance)
Date certified: Inspection in February 1996. Certificates awarded in July 1997.
Funding: Certification financed by donors and North American timber buyers.
Motivation: Open markets for lesser-known species, project evaluation and monitoring, status and prestige.
Current status: Certificate valid until 2002.

3. Union of Zapotec and Chinantec Forestry Communities, Mexico

Markopoulos, M.D. (1999) *Community Forest Enterprise and Certification in Mexico: A Review of Experience with Special Reference to the Union of Zapotec and Chinantec Forestry Communities (UZACHI), Oaxaca*. Unpublished report, Oxford Forestry Institute, Oxford.

The four Zapotec and Chinantec communities that constitute UZACHI manage almost 22,000 hectares of temperate pine and mixed pine-oak forests in the mountains of northern Oaxaca State. Between 1956 and 1981, these forests were concessioned to a pulp and paper company and selectively exploited for pine. The communities regained control of their forests in the early 1980s, but were left with extensively degraded pine stocks. UZACHI was formed in 1989 to deal with a number of common forestry-related issues, one of which was forest restoration.

Certificate profile
Type of certificate: FSC, forest management and chain of custody.
Area certified: 24,996ha.
Certifier: SmartWood (Rainforest Alliance).
Date certified: Inspection in December 1995.
Certificate awarded in September 1996.
Funding: Certification financed by donors and foreign timber buyers.
Motivation: Markets for non-traditional species, monitoring and feedback on management practices, status and prestige.
Current status: Certificate valid until 2001.

4. Bainings Ecoforestry Project, Papua New Guinea

Thornber, K. (1999b) *Impacts of Certification on Forests, Stakeholders and Markets – Case Study: Bainings Ecoforestry Project.* IIED Instruments for Sustainable Private Sector Forestry project series, IIED, London.

The Bainings Ecoforestry Project was a community-based forest management enterprise, which emerged from community interest in felling in their own forests and external trade interests. It was supported by an NGO set up specifically for that reason – Pacific Heritage Foundation (PHF). Whilst the PHF now operates various different projects, the Bainings Ecoforestry Project is largely defunct. During the project's operation, it was mainly funded by a UK retailer interested in gaining access to certified timber and improving their image. The project declined when the external drivers withdrew support and supervision.

Certificate profile
Type of certificate: Pre-FSC, forest management and chain-of-custody.
Area certified: 12,500ha (approximate area of production forest).
Certifier: SGS (pre-Qualifor/FSC accreditation), United Kingdom.
Date certified: First inspection in January 1994. Certificate (non-FSC) awarded in July 1994, for 5 years. Surveillance visits in February 1995, February 1996.
Funding: Certification financed by donor/sponsor (British retailer).
Motivation: Condition of funding, access to export market.
Current status: Certificate withdrawn in 1997 following failure to organise re-evaluation according to FSC rules and standards.

5. Muzama Craft Limited, Zambia

Thornber, K. (2000) *Forest Certification in Zambia: Demonstrating SFM and Improving Rural Incomes? A Case Study of Muzama Crafts Limited*. IIED Instruments for Sustainable Private Sector Forestry project series, IIED, London.

Muzama is a crafts company, which works closely with its rural suppliers and processors with the aims of promoting rural income generation. Its shareholders include organisations that represent these partners. It focuses largely on timber products, but also works with leather goods. It works with around 400 pitsawyers and 150 carpenters. It emerged from a donor funded rural development project in 1989, and has remained heavily donor supported since then. Muzama supports the sound use of the forest resource base by its suppliers, through participatory forest inventory and management planning to determine appropriate felling rates and locations. The business is making efforts to move towards more exports in order to increase profit margins for the shareholders.

Certificate profile
Type of certificate: FSC, forest management and chain of custody.
Area certified: Initially 1.27 million ha, subsequently reduced to 800,000ha.
Certifier: Woodmark (Soil Association, United Kingdom).
Date certified: Inspection in April 1997. Certificate awarded in May 1998.
Funding: Certification financed by Netherlands Development Organisation (SNV).
Motivation: To gain access to export markets.
Current status: Certificate suspended in January 2000 pending monitoring inspection and resolution of Forest Department licence issues.

ANNEX C Key contacts for certification

FSC Certifiers

These organizations are accredited by the Forest Stewardship Council (www.fscoax.org) to certify forest management enterprises that comply with the FSC Principles and Criteria for Forest Stewardship. Accreditation covers plantation and natural forest certification. They are also accredited to verify the chain of custody of certified forest products. Accredited certification bodies may issue sub-licenses allowing the use of the FSC name and Trademark on certified forest products. (footnote)

CANADA
Silva Forest Foundation, Ms. Susan Hammond; P.O. Box 9, Slocan Park BC V0G 2EO Canada
Tel:+ 1 250 226 7222 Fax:+ 1 250 226 7446 E-mail:silvafor@netidea.com
Website:http://www.silvafor.org
Scope of accreditation: Within Canada for Forest Management and Chain of Custody

GERMANY
LUSO CONSULT mbH, Mr. Axel Brückmann; Stahltwiete 10, Hamburg 22761 Germany
Tel:+ 49 40 850 2078/ 853 7740 Fax:+ 49 40 850 2326
E-mail:agrar@luso-consult.de Website:http://www.luso-consult.de
Scope of accreditation: Worldwide for Forest Management and Chain of Custody

ITALY
ICILA (Istituto per la Certificazione ed I Servizi per Imprese dell'arrendemento e del legno),
Mr. Ricardo Giordanno; Via Braille 5, Lissone (Milano) I-20035 Italy
Tel:+ 39 039 465239 Fax:+ 39 039 465168
Email:enucert@icila.org Website http://www.icila.org
Scope of accreditation: Chain of Custody

SWITZERLAND
Institut für Marktökologie IMO, Dr. Karl Büchel; Poststrasse 8, Sulgen CH-8583 Switzerland Tel:+ 41 71 644 9880 Fax:+ 41 71 644 9883
E-mail:forest@imo.choffice@imo.ch Website:http://www.IMO.ch
Scope of accreditation: Worldwide for Forest Management and Chain of Custody

THE NETHERLANDS
SKAL, Mr. Raoul Vernede; P.O. Box 384, Zwolle AJ 8000 The Netherlands
Tel:+ 31 38 426 8181 Fax:+ 31 38 421 3063 E-mail:info@skal.com
Website:http://www.Skal.com
Scope of accreditation: Worldwide for Forest Management and Chain of Custody

Footnote: Inclusion on this list does not imply endorsement of these organizations, nor of any forests certified by them.

SOUTH AFRICA
South African Bureau for Standards, Mr. C.F. du Toit; Private Bag X191, Pretoria 0001 South Africa Tel:+ 27 12 428 7911 Fax:+ 27 12 344 1568 Email:debruic@sabs.co.za
Scope of accreditation: Chain of custody in Southern Africa

UNITED KINGDOM
BM TRADA Certification, Mr. Alasdir McGregor; Stirling Business Centre, Wellgreen Place, Stirling FK8 2DZ United Kingdom
Tel:+ 44 1786 450 891 Fax:+ 44 1786 451 087
E-mail:AMCGregor@stirling-trada.co.uk Website:http://www.bmtrada.com
Scope of accreditation: Chain of Custody certification Worldwide

SGS Forestry QUALIFOR Programme, Mr. Neil Judd; 58 St. Aldates, Oxford OX1 1ST United Kingdom
Tel:+ 44 1865 201 212 Fax:+ 44 1865 790 441 E-mail:forestry@sgsgroup.com
Website:http://www.qualifor.com
Scope of accreditation: Worldwide for Forest Management and Chain of Custody

Soil Association Woodmark scheme, Mr. Matthew Wenban-Smith; Bristol House, 40-56 Victoria Street, Bristol BSI 6BY United Kingdom
Tel:+ 44 117 914 2435/929 0661 Fax:+ 44 117 925 2504
E-mail:mwenbansmith@soilassociation.org
Website:http://www.soilassociation.org
Scope of accreditation: Worldwide for Forest Management and Chain of Custody

UNITED STATES
Rainforest Alliance Smart Wood Program, Ms. Wendy Hall; # 1 Millet Street, Goodwin Baker Building, Richmond Vermont 05477 United States
Tel:+ 1 802 434 5491 Fax:+ 1 802 434 3116 E-mail:wjhall@smartwood.org
Website:http://www.smartwood.org
Scope of accreditation: Worldwide for Forest Management and Chain of Custody

Scientific Certification Systems, Dr. Robert Hrubes; Park Plaza Building, 1939 Harrison Street, Suite 400, Oakland California 94612-3532 United States
Tel:+ 1 510 832 1415 Fax:+ 1 510 832 0359 E-mail: rhrubes@scs1.com
Website:http://www.scs1.com
Scope of accreditation: Worldwide for Forest Management and Chain of Custody

The following certification bodies have applied for FSC accreditation:
Forests certified by these organizations may not carry the FSC trademark until and unless FSC accreditation is achieved.

Canada
KPMG FCSI (Forest Certification Services Inc), Mr. Chris Ridley-Thomas; Box 10426 777 Dunsmuir Street, Vancouver BC V7Y 1K3 Canada Tel:+ 1 604 691 3000/3376 Fax:+ 1 604 691 3031
Email:cridley-thomas@kpmg.ca Website http://www.kpmg.ca

Italy
Certiquality, Prof. Pietro de Pietri-Tonelli; Certiagro División, Via G. Giardino, 4, Milano 20123 Italy
Tel:+ 39 02 8069 1742 Fax:+ 39 02 864 65295 Email:p.depietri@certiquality.it

CSQA srl, Dr. Stefania Busatta; Via San Gaetano, 74, Thiene (VI) 36016 Italy
Tel:+ 39 0445 366094 Fax:+ 36 0445 382672 Email:s.busatta@csqa.it

United Kingdom
UK Food Quality Certification Ltd., Mr. Peter Brown; Craigs House, 82 Craigs Road, Edinburgh E412 8NJ United Kingdom Tel:+ 44 131 317 2500 Fax:+ 44 131 317 1872 Email:pbrown@sfqc.co.uk

FSC Working Groups

Poland – www.fsc.pl

UK – www.fsc-uk.demon.co.uk

Sweden – www.fsc-sweden.org

Brazil – www.wwf.org.br/fsc

Germany – www.fsc-deutschland.de

Other national initiatives

Canada – Canadian Sustainable Forestry Coalition – www.sfms.com

Finland – Finnish Forest Certification System – www.smy.fi/certification/eng/

Indonesian Ecolabelling Institute – www.lei.or.id

Malaysia – National Timber Certification Council – www.ntcc.com.my

Norway – The Living Forests project – www.levendeskog.no

Other international initiatives

GTZ – www.gtz.de/capacity-building. German multi-donor-funded project to support capacity building towards certification.

ISO – www.iso.ch. The International Organisation for Standardisation produces certifiable standards for companies' Environmental Management Systems, but not their actual forest management. It does not confer a marketable label, but is a well recognised industry award for good management.

Pan European Forest Certification Scheme (PEFC) – www.pefc.org This scheme was launched in June 1999. It is a voluntary, private sector initiative instigated by Finnish, German, French, Norwegian, Austrian and Swedish forest owners to 'provide a framework for the mutual recognition of national forest certification schemes'. These countries have a large number of small-forest owners, who have claimed that FSC could not work for them. A further nine countries now have national PEFC governing bodies (Belgium, Czech Republic, Denmark, Ireland, Latvia, Portugal, Spain, Slovenia and Switzerland), with more on the way (UK, Luxembourg). Finland, Sweden and Norway's national schemes have now been accredited by PEFC.

Tropical Forest Trust – www.tropicalforesttrust.com An initiative that promotes trade in wood products from well-managed tropical forests, founded by European suppliers and retailers of tropical wood products in March 1999. TFT members set aside a proportion of the production price of their tropical wood products. This money is used by the Trust to sponsor projects that improve forest management in accordance with FSC principles and criteria. TFT members also encourage their suppliers to use tropical woods from well-managed forests only, using FSC's P&C to define 'well-managed'.

WWF's Global Forest and Trade Networks – This consists of organisations and companies committed to producing and purchasing forest products from well-managed forests and to supporting independent certification. The first 'Buyers Group' was the UK's 1995+ Group, made up principally of large retailers working with WWF and committed to buying and promoting FSC certified products. Internal company targets of some group members have been particularly influential in driving demand for certified products and in getting forests certified to supply that demand. Similar groups have been established in 14 countries to date, and include a wide diversity of forest owners, processors, retailers, paper companies, local authorities, architects and construction companies. Producer groups are also being established. Companies join in order to strengthen competitive advantage and capture an early edge in the market for certified products. Internationally, the groups are coordinated under WWF's Global Forest and Trade Network – for information contact ncozannet@wwfnet.org.

ANNEX D Glossary

Accreditation	The process of recognition against published criteria of capability, competence and impartiality of a body involved in verification or conformity assessment. With a few exceptions, such as FSC, accreditation is granted by national accreditation bodies, which can be governmental or private.
Certification	Certification of forest management is an established and recognized verification procedure that results in a certificate on the quality of forest management in relation to a set of predetermined criteria based on an independent (third-party) assessment.
Certifer	An organisation that carried out the process of certification of assessment of conformity of another company to given standards
Chain-of-custody	The chain of responsibility through which a product passes, e.g from the forest, through timber processor to manufacturer, to importer, to distributor, to retailer. When the chain of custody is verified, the origin of forest products is established.
Civil society	'Civil society' is used as an all-embracing term for voluntary associations that can be identified *between* the levels of the state, the market, and individual citizens and their families. As such, civil society includes non-government organizations, non-profit associations, informal organizations addressing public interest issues and self-help groups and associations.
Continual improvement	Year-on-year enhancement of overall performance, resulting from continuous efforts to improve in line with the enterprise's policy and/or external standards.
Corrective Action Request	The CAR is a formal document raised by an assessor during assessment which details non-compliances identified and remedial measures required within a specified time.
DIY	'Do-it-yourself' stores supplying home improvement materials and products.
Environmental management system	The organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining a company's environmental policy. It typically follows the respective international standards (ISO 14001/14004). EMS certification does not lead to product labelling.
Forest management system	The forest area to which a management regime and given certificate applies.
Labelling	Labelling of forest products is a process which results in a claim which may be used on-product referring to the quality

	of forest or forest management in the origin of the raw material of which the product is made. In this case labelling is based on (a) certification of forest management, and (b) verification of the chain of custody. Information on certification can also be communicated off-product, i.e. in various promotional materials and communication media not attached to the product on sale.
NGO	Non-governmental organisation. Usually refers to a not-for-profit organisation representing some civil society interest, rather than a private company.
Performance approach	One which includes a baseline expressed as criteria and indicators or a standard, which may include specified threshold level(s) of performance
Principles and criteria	Principles are the generally agreed concepts or aspirations behind standards; criteria are the more specific elements that define and clarify the principles
Private sector	All private enterprise, from individual or community level through to multi-national corporation, which aims to make profit.
Process approach	One which encourages commitment to a process of continual improvement.
Smallholder	An individual or family who owns and relies on a small area of farm or forest land for subsistence and/or income.
Supply chain	The chain of ownership through which a product passes, e.g from the forest, through timber processor to manufacturer, to importer, to distributor, to retailer.
Timber boycotts	Campaigns and actions to avoid buying timber, resulting from environmental and humanitarian concerns about the sources of timber.
Verification	Verification takes place through an audit, which can be external or internal. External audit is carried out by an independent third party. It may be preceded by an internal audit by the organization itself (first party) in order to ensure that compliance with the requirements set can be successfully verified during the external audit.

Annex E FSC's Principles and Criteria

PRINCIPLE 1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES
Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.
1.1 Forest management shall respect all national and local laws and administrative requirements.
1.2 All applicable and legally prescribed fees, royalties, taxes and other charges shall be paid.
1.3 In signatory countries, the provisions of all binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity, shall be respected.
1.4 Conflicts between laws, regulations and the FSC Principles and Criteria shall be evaluated for the purposes of certification, on a case by case basis, by the certifiers and the involved or affected parties.
1.5 Forest management areas should be protected from illegal harvesting, settlement and other unauthorised activities.
1.6 Forest managers shall demonstrate a long–term commitment to adhere to the FSC Principles and Criteria.

PRINCIPLE 2: TENURE AND USE RIGHTS AND RESPONSIBILITIES
Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.
2.1 Clear evidence of long–term forest use rights to the land (e.g. land title, customary rights, or lease agreements) shall be demonstrated.
2.2 Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies.
2.3 Appropriate mechanisms shall be employed to resolve disputes over tenure claims and use rights. The circumstances and status of any outstanding disputes will be explicitly considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.

PRINCIPLE 3: INDIGENOUS PEOPLES' RIGHTS
The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.
3.1 Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.
3.2 Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.
3.3 Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognised and protected by forest managers.

3.4 Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.

PRINCIPLE 4: COMMUNITY RELATIONS AND WORKER'S RIGHTS

Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.

4.1 The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services.
4.2 Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families.
4.3 The rights of workers to organise and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labour Organisation (ILO).
4.4 Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups directly affected by management operations.
4.5 Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.

PRINCIPLE 5: BENEFITS FROM THE FOREST

Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.

5.1 Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.
5.2 Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products.
5.3 Forest management should minimise waste associated with harvesting and on–site processing operations and avoid damage to other forest resources.
5.4 Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.
5.5 Forest management operations shall recognise, maintain, and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries.
5.6 The rate of harvest of forest products shall not exceed levels which can be permanently sustained.

PRINCIPLE 6: ENVIRONMENTAL IMPACT

Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.

6.1 Assessment of environmental impacts shall be completed – appropriate to the scale, intensity of forest management and the uniqueness of the affected resources – and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on–site processing facilities. Environmental impacts shall be assessed prior to commencement of site–disturbing operations.

6.2 Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping and collecting shall be controlled.

6.3 Ecological functions and values shall be maintained intact, enhanced, or restored, including:

a) Forest regeneration and succession.

b) Genetic, species, and ecosystem diversity.

c) Natural cycles that affect the productivity of the forest ecosystem.

6.4 Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.

6.5 Written guidelines shall be prepared and implemented to: control erosion; minimise forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources.

6.6 Management systems shall promote the development and adoption of environmentally friendly non–chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organisation Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimise health and environmental risks.

6.7 Chemicals, containers, liquid and solid non–organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off–site locations.

6.8 Use of biological control agents shall be documented, minimised, monitored and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.

6.9 The use of exotic species shall be carefully controlled and actively monitored to avoid adverse ecological impacts.

6.10 Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion:

a) entails a very limited portion of the forest management unit; and

b) does not occur on high conservation value forest areas; and

c) will enable clear, substantial, additional, secure, long term conservation benefits across the forest management unit.

PRINCIPLE 7: MANAGEMENT PLAN

A management plan – appropriate to the scale and intensity of the operations – shall be written, implemented, and kept up to date. The long term objectives of management, and the means of achieving them, shall be clearly stated.

7.1 The management plan and supporting documents shall provide:
a) Management objectives.
b) Description of the forest resources to be managed, environmental limitations, land use and ownership status, socio–economic conditions, and a profile of adjacent lands.
c) Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories.
d) Rationale for rate of annual harvest and species selection.
e) Provisions for monitoring of forest growth and dynamics.
f) Environmental safeguards based on environmental assessments.
g) Plans for the identification and protection of rare, threatened and endangered species.
h) Maps describing the forest resource base including protected areas, planned management activities and land ownership.
i) Description and justification of harvesting techniques and equipment to be used.
7.2 The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.
7.3 Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plan.
7.4 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including those listed in Criterion 7.1.

PRINCIPLE 8: MONITORING AND ASSESSMENT

Monitoring shall be conducted – appropriate to the scale and intensity of forest management – to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.

8.1 The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.
8.2 Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:
a) Yield of all forest products harvested.
b) Growth rates, regeneration and condition of the forest.
c) Composition and observed changes in the flora and fauna.
d) Environmental and social impacts of harvesting and other operations.
e) Costs, productivity, and efficiency of forest management.
8.3 Documentation shall be provided by the forest manager to enable monitoring and certifying organisations to trace each forest product from its origin, a process known as the "chain of custody."

8.4 The results of monitoring shall be incorporated into the implementation and revision of the management plan.
8.5 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.

PRINCIPLE 9: MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS

Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.

9.1 Assessment to determine the presence of the attributes consistent with High Conservation Value Forests will be completed, appropriate to scale and intensity of forest management.
9.2 The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof.
9.3 The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.
9.4 Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain or enhance the applicable conservation attributes.

PRINCIPLE 10: PLANTATIONS

Plantations shall be planned and managed in accordance with Principles and Criteria 1 – 9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits, and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.

10.1 The management objectives of the plantation, including natural forest conservation and restoration objectives, shall be explicitly stated in the management plan, and clearly demonstrated in the implementation of the plan.
10.2 The design and layout of plantations should promote the protection, restoration and conservation of natural forests, and not increase pressures on natural forests. Wildlife corridors, streamside zones and a mosaic of stands of different ages and rotation periods, shall be used in the layout of the plantation, consistent with the scale of the operation. The scale and layout of plantation blocks shall be consistent with the patterns of forest stands found within the natural landscape.
10.3 Diversity in the composition of plantations is preferred, so as to enhance economic, ecological and social stability. Such diversity may include the size and spatial distribution of management units within the landscape, number and genetic composition of species, age classes and structures.
10.4 The selection of species for planting shall be based on their overall suitability for the site and their appropriateness to the management objectives. In order to enhance the conservation of biological diversity, native species are preferred over exotic species in the establishment of plantations and the restoration of degraded ecosystems. Exotic species, which shall be used only when their performance is

greater than that of native species, shall be carefully monitored to detect unusual mortality, disease, or insect outbreaks and adverse ecological impacts.

10.5 A proportion of the overall forest management area, appropriate to the scale of the plantation and to be determined in regional standards, shall be managed so as to restore the site to a natural forest cover.

10.6 Measures shall be taken to maintain or improve soil structure, fertility, and biological activity. The techniques and rate of harvesting, road and trail construction and maintenance, and the choice of species shall not result in long term soil degradation or adverse impacts on water quality, quantity or substantial deviation from stream course drainage patterns.

10.7 Measures shall be taken to prevent and minimize outbreaks of pests, diseases, fire and invasive plant introductions. Integrated pest management shall form an essential part of the management plan, with primary reliance on prevention and biological control methods rather than chemical pesticides and fertilizers. Plantation management should make every effort to move away from chemical pesticides and fertilizers, including their use in nurseries. The use of chemicals is also covered in Criteria 6.6 and 6.7.

10.8 Appropriate to the scale and diversity of the operation, monitoring of plantations shall include regular assessment of potential on-site and off-site ecological and social impacts, (e.g. natural regeneration, effects on water resources and soil fertility, and impacts on local welfare and social well-being), in addition to those elements addressed in principles 8, 6 and 4. No species should be planted on a large scale until local trials and/or experience have shown that they are ecologically well-adapted to the site, are not invasive, and do not have significant negative ecological impacts on other ecosystems. Special attention will be paid to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use or access.

10.9 Plantations established in areas converted from natural forests after November 1994 normally shall not qualify for certification. Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly of such conversion.

Principles 1-9 were ratified by the FSC Founding Members and Board of Directors in September 1994. Principle 10 was ratified by the FSC Members and Board of Directors in February 1996. The revision of Principle 9 and the addition of Criteria 6.10 and 10.9 were ratified by the FSC Members and Board of Directors in January 1999.