

FOREST CERTIFICATION

IN DEVELOPING AND TRANSITIONING COUNTRIES



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..... Part of a Sustainable Future?



In the last quarter century, a growing body of scientific research has revealed that the world's forests are under stress. Data collected on biodiversity, species decline, and deforestation reveal widespread deterioration of forest ecosystem structure and function. Research on social and community conditions has documented increasing uncertainty about the ability of forest-dependent communities to rely on forests for their livelihoods.

Analyses of economic globalization and technological innovations have detailed an acceleration of forest exploitation alongside increasing uncertainty for domestic forest sectors about where global trends are headed. Taken together, existing research has revealed a complex yet fragile relationship between forest use and the natural functioning of forest ecosystems. In the face of this body of knowledge and the consensus that many problems are intensifying, domestic and international governmental responses have been strongly criticized as woefully inadequate and far too slow to address the myriad problems facing global forest management.

As a result of this frustration, some of the world's leading environmental groups and their allies decided to sidestep governments and in 1993 created the Forest Stewardship Council (FSC). FSC and its supporters turned to the marketplace to generate incentives for forest businesses to conform to environmentally and socially responsible forest practices. The solution put forward by FSC was relatively simple: develop a set of global sustainable forestry principles and criteria, have national and subnational multistakeholder committees develop regionally appropriate standards, have third parties audit forestry operations for compliance, and certify those who pass the test—providing a badge of honor that, the hope was, would



allow certified operations to gain some type of market advantage vis-à-vis their competitors (such as market access, price premiums, and the more abstract notion of a “social license to operate”).

No one could have predicted the enormous and complex impacts that forest certification would have on global forest policy deliberations. Two significant trends have been observed. First, an intense competition has been waged for almost a decade now between FSC and industry-initiated certification programs, which were established to offer what the forest industry saw as a more business-friendly, flexible, and less-stringent approach to forest management (Table 1 on this page delineates the main differences between the FSC-type approach and business-led approaches).¹ Indeed, in every country where FSC has gained some traction, competitor programs have emerged. Second, despite unsustainable tropical forest management being the major impetus behind the creation of FSC, the most significant support for and battles about forest certification have occurred in North

America and Europe. The data presented in Figures 1a and b on page 9 demonstrate that by 2005, 28 percent of total forest lands in North America and 56 percent in Western Europe had been certified according to one or another system, while in Eastern European emerging economies, active efforts to support FSC were tied to attempts to gain a foothold in Western European markets. In contrast, forest certification has had limited uptake in most developing countries, both in absolute numbers of hectares (ha) certified and as a percent of the forest estate—despite assertions that it is in these very countries where, if supported, forest certification could have its biggest impact.

Although these contradictions raise a number of questions—why, for example, has the momentum behind forest certification been so weak in developing countries?—most research on forest certification has focused on what has happened in developed countries. An international team of researchers was formed in 2003 to investigate this issue in countries with developing and transitional economies.

The team observed practices in 16 nations from four regions of the world (four each from Africa, the Asia-Pacific region, Eastern Europe and Russia, and Latin America). The boxes on pages 11, 12, 15, and 19 provide an overview (by region) of what has occurred in these countries in terms of forest certification. The full results of the 16 case studies appear in the book excerpted here, *Confronting Sustainability: Forest Certification in Developing and Transitioning Countries*. Key findings and analysis drawn from the text are presented here to broaden the reach of this discussion on such a critical issue in forest management. Before moving to the analysis, however, it is useful to look broadly at developing and transitioning countries in context.²

Background

While sustainable forest management presents challenges to forest managers in the developed world—from the Boreal forests of Canada to the temperate rainforests of Tasmania—it does so in a context where the knowledge, infrastructure, and institutional capacity exist to implement the transition should firms and governments wish.

The situation in Africa, the Asia-Pacific region, Eastern Europe, and Latin America is very different. Put simply, the economic, political, and social context in these regions renders the task of sustainable forest management much more challenging. While some success stories exist, certification’s progress in these regions has been slow and uneven, reflecting, in various cases, a lack of resources, poor infrastructure, corrupt institutions, and environmentally insensitive domestic and foreign markets. An examination of the amount of certified forest in developed and developing countries (see Figures 1a and b) underscores the challenge that certification faces in the developing world. The top regions glob-

Table 1. Different conceptions of forest certification

	Conception one	Conception two
Who participates in rulemaking	Environmental and social interests participate with business interests	Business-led
Substantive rules	Non-discretionary	Discretionary-flexible
Procedural rules	To facilitate implementation of substantive rules	End in itself (belief that procedural rules will result in decreased environmental impact)
Policy scope	Broad (includes rules on labor and indigenous rights and wide-ranging environmental impacts)	Narrower (forestry management rules and continual improvement)

SOURCE: B. Cashore, “Legitimacy and the Privatization of Environmental Governance: How Non State Market-Driven (NSMD) Governance Systems Gain Rule Making Authority,” *Governance* 15, no. 4 (2002): 503–29.

ally in terms of area certified under all schemes—North America and Western Europe—encompass most of the developed nations, including the United States, Canada, Sweden, the United Kingdom, and Germany. Of the almost 60 million ha of FSC-certified forests in 2005, 52 percent were in developed countries, 32 percent in transitioning countries, and only 17 percent in developing countries (extra one percent due to rounding). One of FSC's chief competitors, the Europe-based Programme for the Endorsement of

Forest Certification schemes (PEFC), has an even starker ratio. As of 2005, PEFC had about 193 million ha of certified forests³ but only slightly more than 7 million ha (3.6 percent) in developing countries (Brazil, Chile, and Malaysia). Almost all the remainder was in high-income, developed countries, except for two in Eastern Europe (the Czech Republic and Latvia).

Because forest owners and forest companies operating in the developing world have been more reluctant to embrace forest certification, much of the schol-

arship to date on this topic has been focused on the uptake of certification in the developed world and usually has been conducted by researchers from the developed world.⁴ This research has examined the instrument of certification in various ways: as a forum for political struggle and negotiation between actors over national forest policy;⁵ as an emerging system of civil-society regulation;⁶ as systems of private self-regulation;⁷ as voluntary codes;⁸ and as a non-state, market-driven system of legitimation.⁹ (Although devel-

Figure 1a. Number of hectares under different certification standards

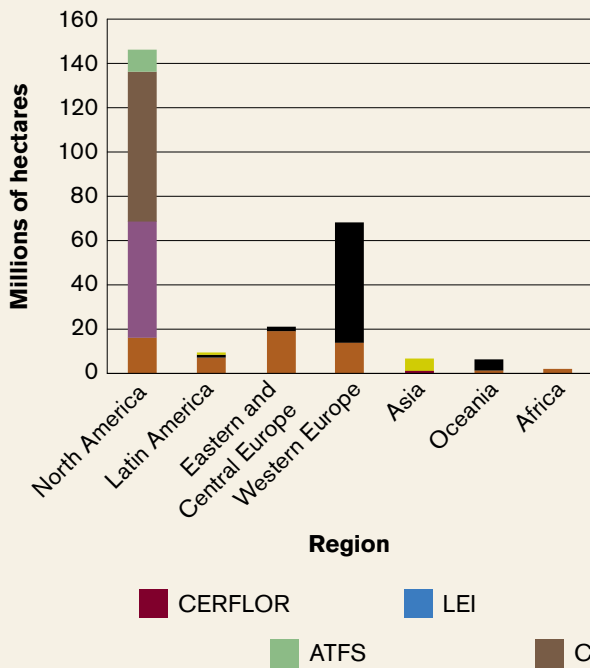
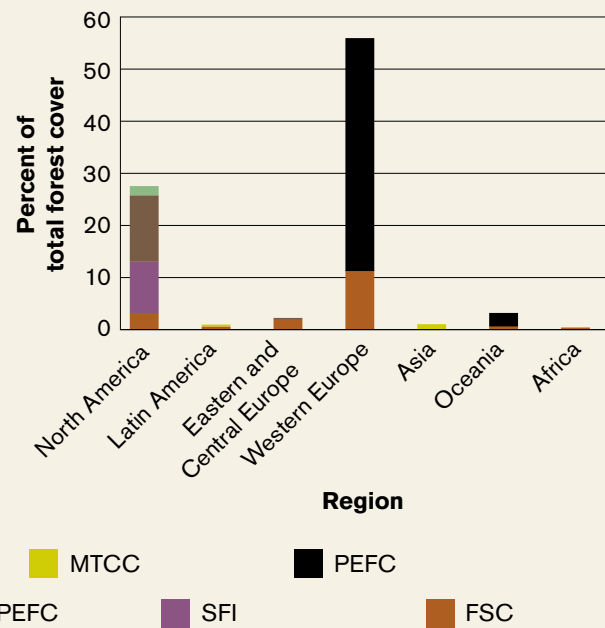


Figure 1b. Area certified under each system as a percent of total regional forest cover



NOTE: CERFLOR is Certificação Florestal (the Brazilian Program of Forest Certification); LEI is Lembaga Ekolabel Indonesia (the Indonesian Ecolabeling Institute); MTCC is the Malaysian Timber Certification Council; PEFC is the Programme for the Endorsement of Forest Certification schemes; ATFS is the American Tree Farm System; CSA is the Canadian Standards Association; SFI is the Sustainable Forestry Initiative; and FSC is the Forest Stewardship Council. CERFLOR was endorsed by PEFC in October 2005.

SOURCE: B. Cashore, F. Gale, E. Meidinger, and D. Newsom, eds., *Confronting Sustainability: Forest Certification in Developing and Transitioning Countries* (New Haven, CT: Yale School of Forestry & Environmental Studies, 2006), <http://www.yale.edu/environment/publications>, 9.

oping-country case studies have not been completely excluded from these efforts, researchers have tended to focus on countries with large areas of certified forests.)

To bridge this gap in knowledge and look toward the future of forest certification as well as its larger role in moving toward a sustainable future in developing and transitional economies, it is important to examine three questions. First, what kind of support is certification receiving across regions and from various actors? Second, what factors are hindering or facilitating efforts to institutionalize forest certification? Third, what impact is forest certification making—positive and negative—in these countries?

Support for Forest Certification

There is considerable variation in support for forest certification across regions (Africa, the Asia-Pacific region, Eastern Europe and Russia, and Latin America), subregions (such as the Baltic states in Eastern Europe), and such actors as government, industry, and civil society.

Regional and Subregional Support

The highest level of support for forest certification among the four regions is in Eastern Europe and Russia. This support is evident not only in the certification statistics (Figures 1a and b) but also in the commitments of state and non-state actors to the certification process.¹⁰ Forest certification is much less institutionalized in other regions, perhaps most especially in Africa. In Gabon, Uganda, and Zambia, forest certification has a tentative status. South Africa is the big exception in this region, with strong support for certification from large, privately owned plantation companies producing for EU and U.S. markets.

A correlation can be drawn between Eastern Europe and Africa over market



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Forest certification efforts in Guatemala have focused on concessions in the highly biodiverse Maya Biosphere Reserve in the northern part of the country.

access issues. During the 1990s and early 2000s, the Eastern European countries that adopted forest certification dramatically improved their access to European markets, while at the same time, heavily export-dependent Gabon saw its European market share decline while its Asian market share increased (particularly in exports to China). While more research needs to be done to assess whether a direct relationship exists between the shifting markets of export dependent countries in Africa and Eastern Europe, the case studies illustrate the need to assess the impacts of certification in a global and comparative context.

Certification has received some support in Latin America and Asia. It is more strongly institutionalized in Latin America, with the exception of Brazil (FSC certification has had difficulty becoming institutionalized there, and industry resistance has led to the development of a competitor scheme, Certificação Florestal

(literally, “Forest Certification”; CERFLOR), although this may indicate that the institutional practice of certification is taking root.) In the Asia-Pacific region, a tremendous amount of energy has been devoted to certification, but results on the ground are quite disappointing.

Governmental Support

Across the 16 countries, huge variation exists in the degree of government support for forest certification. In several countries, governments have driven the process by requesting FSC certification of state forested lands. While this is especially true of Eastern European countries like Poland, Latvia, and Estonia, governments in Latin America and Africa have also seen FSC as a solution to specific policy problems.

In Uganda, certification was used by Samenwerkende Elektriciteits-Productiebedrijven (SEP, the Dutch Electricity

Generating Board) to verify the appropriateness of the forest management practices of a carbon offset project run by its subsidiary, the Face Foundation. In Mexico, federal resources have been used in cooperation with NGOs to subsidize certification assessment costs, while in Guatemala's northern Petén region,

FSC solved the problem of balancing environmental conservation of the Maya Biosphere Reserve with commercial logging to provide economic opportunities to local communities.

While some governments have wholeheartedly supported FSC certification, others have vigorously objected to this

form of external civil society regulation by helping to develop alternative, competitor schemes such as CERFLOR in Brazil, the Malaysian Timber Certification Council (MTCC), and Lembaga Ekolabel Indonesia (LEI, the Indonesian Ecolabeling Institute). Such schemes are viewed by their respective governments

FOREST CERTIFICATION IN SUB-SAHARAN AFRICA

Located on Africa's west coast just south of the equator, Gabon has received much attention from forest certification advocates because of its exceptional biological diversity. Gabon's forests cover 20 million hectares (ha), more than four-fifths of its total land area. Although the forest sector represents only 4 percent of the country's gross domestic product—a figure significantly overshadowed by crude oil production—the timber industry employs more people than any other private sector and produces 4 million cubic meters of industrial round logs annually. European market interest in forest certification has caught the attention of Gabon's domestic sector; nevertheless, certification's emergence has been slow. The Forest Stewardship Council (FSC) has yet to certify any forests, while the Dutch-based Keurhout system has certified three companies (a total of 1.5 million ha). However, the ideas of sustainable forest management implicit in forest certification dialogues have influenced governmental policy deliberations over power sharing among stakeholders and forest ecological considerations.¹

Predominantly a plantation industry in regions (largely grasslands) that do not support natural forests, South Africa's forestry sector has long been criticized for its impacts on sensitive ecosystems. As a net exporter of forestry products, the country's procurement of new markets and securing of existing markets are critical. Thus, the industry saw forest certification as a marketing tool and accepted it fairly easily: More than 80 percent of the plantations were certified during the late 1990s and early 2000s—remarkably, without a national

FSC standard and very little government intervention. Some of the constraints to certification include the large number of small-scale growers (who find it difficult to cope with the costs of certification and to comply with the management standards set by certification), the absence of a national standard, and high HIV/AIDS infection rates that could influence the future sustainability of forestry operations. The positive impacts of certification are manifest in more environmentally sustainable forestry operations and a heightened social awareness amongst foresters.²

Wedged into East Africa on the northwest shore of Lake Victoria, Uganda has 4.9 million ha of forests and woodlands, nearly one-fourth of its total land area. A considerable portion of this has been designated under protected areas; however, clearing for agriculture, construction, illegal harvesting, limited funds and staff, and limited involvement of local communities still hinder forest management. Certification efforts are at an early stage and have been largely driven by external actors, many supporting reforestation as a means of carbon sequestration. Forest certification might first gain a strong foothold in Uganda as a way of verifying protected area status—that is, addressing the criticism that many reserves exist on paper only or that they fail to take into account local people's livelihoods. Also, certification may be useful in promoting the use of non-timber forest products (such as ecotourism and watershed management) and carbon sequestration efforts.³

Landlocked and surrounded by eight other countries in central southern Africa, Zambia has a developed copper

and mineral trade (mainly with South Africa), but its forests—which take up 55 percent of the land area, making it one of the most highly forested countries in the region—have been largely untapped as a market resource. Lax oversight and poverty have contributed to illegal harvesting, which in turn has resulted in deforestation and forest degradation. Domestically, two major factors have been responsible for protecting indigenous forest areas: the need to conserve biodiversity and the need to provide industrial wood raw material for the various industries in the country, especially the mines. Interest in forest certification as a means of promoting sustainable forest management arrived in Zambia in the early 1990s; the main driving force for it has been the need to gain access to foreign markets large, reliable. A major challenge has been that all forests are government owned, which makes private management to meet the certification principles very difficult except in forest plantations.⁴

1. The information on Gabon is from R. Eba'a Atyi, "Forest Certification in Gabon," in B. Cashore, F. Gale, E. Meidinger, and D. Newsom, eds., *Confronting Sustainability: Forest Certification in Developing and Transitioning Countries* (New Haven, CT: Yale School of Forestry & Environmental Studies, 2006), http://environment.yale.edu/doc/2538/confronting_sustainability_forest/, 443–76.

2. From C. Ham, "Forest Certification in South Africa," in Cashore, Gale, Meidinger, and Newsom, *ibid.*, pages 477–506.

3. From P. Musimami Mwima, G. Eilu, B. Biryahwaho, and W. Gombya Ssembajjwe, "Forest Certification in Uganda," in Cashore, Gale, Meidinger, and Newsom, note 1 above, pages 507–34.

4. From F. Njovu, "Forest Certification in Zambia," in Cashore, Gale, Meidinger, and Newsom, note 1 above, pages 535–60.

as preserving national autonomy and sovereignty and as being more compatible with domestic circumstances. Invariably, however, such schemes have difficulty obtaining international recognition through the timber chain and have come under pressure from environmental and social actors for their deficiencies. The practical consequences are that those

being certified under them also often seek certification under FSC or defend their programs by claiming that they have the same, or similar, environmental and social benefits as FSC would provide.

For a number of governments, certification has been a non-issue. Many remain mostly unaware of the approach or, if aware, simply indifferent, neither

endorsing nor condemning FSC. In the Solomon Islands and Papua New Guinea, for example (and despite some familiarity with certification via externally funded projects in the case of Papua New Guinea), little interest has been shown to date in this new approach to forest management. Instead, government officials have focused much of their attention

FOREST CERTIFICATION IN THE ASIA-PACIFIC REGION

Despite Indonesia's distinction as the first developing country to host forest certification under the Rainforest Alliance's SmartWood program in 1990, tropical deforestation and forest degradation is a serious concern for many stakeholders. About 16 million hectares of forestland in concessions are degraded. In addition, the lack of clarity of land tenure rights and ownership has given rise to significant conflict, which also contributes to unsustainable forest management. In response, domestic and international organizations have put considerable pressure on Indonesia to improve forest management policies and practices. Indonesia in turn developed its own certification system (Lembaga Ekolabel Indonesia, LEI) in 1993. In 2000, LEI and the Forest Stewardship Council (FSC) developed a Joint Certification Protocol obliging accredited certifiers from both schemes to use both LEI and FSC criteria and indicators in natural forest management operation assessments.¹

Malaysian certification has been market driven, with industry (including workers) at the forefront of efforts to establish the Malaysian Timber Certification Council (MTCC). National and state governments have been extensively involved in developing MTCC, with domestic and international nongovernmental organizations (NGOs) playing an important role in lobbying MTCC toward adopting a more consensus building program. These NGOs, together with certifiers, have also promoted FSC. In addition, MTCC is working toward gaining the trust of the indigenous com-

munity but is constrained by native customary rights—an issue state governments have yet to resolve and one beyond MTCC's purview.²

In Papua New Guinea, 97 percent of the land and forest resources are customary owned and constitute some of the most important assets that sustain livelihoods. However, with the introduction of commercial logging, landowners have been marginalized in decisionmaking concerning such resources. While individuals are interested in forest certification as a solution to ongoing problems related to large-scale logging, they do not have the economic, technical, or resource capacity to undertake it. Papua New Guinea's government is aware of certification, but most large-scale logging companies show no interest. Price premiums, market demand, and affordable certification costs could attract these companies to certify. Certification will require continued assistance to promote a shift from unscrupulous forest management. Medium- and small-scale producers are very interested in FSC forest certification and are working on it, but only community-managed forests have been certified.³

The Solomon Islands, of which about 300 (about one-third) are inhabited, lie approximately 1,200 kilometers north-east of Australia. Roughly 86 percent of the population of 410,000 is under traditional tribal governance, and 90 percent of the forestland is under customary tenure of landowners and village communities. Thus, forest certification efforts must target these smallholders. Only a few, externally funded NGOs

are promoting certification at a time when unsustainable commercial logging, primarily by foreign companies, is the major economic activity. At the current rate, merchantable natural forest will likely be depleted by 2018.⁴ Exports consist mostly of raw logs going to Asian markets that, except for Japanese markets, are relatively insensitive to sustainable forest management and certification. Adoption of and compliance with certification standards by landowners has been slow, and limited knowledge of forest certification among responsible authorities and decisionmakers has constrained policy change in favor of certification. Currently there is only one FSC-certified commercial forest plantation in the Solomon Islands.⁵

1. The information on Indonesia is from D. R. Muhtaman and F. A. Prasetyo, "Forest Certification in Indonesia," in B. Cashore, F. Gale, E. Meidinger, and D. Newsom, eds., *Confronting Sustainability: Forest Certification in Developing and Transitioning Countries* (New Haven, CT: Yale School of Forestry & Environmental Studies, 2006), http://environment.yale.edu/doc/2538/confronting_sustainability_forest/, 33–68.

2. From M. Shahwahid, "Forest Certification in Malaysia," in Cashore, Gale, Meidinger, and Newsom, note 1 above, pages 69–98.

3. From Y. Bun and I. Bewang, "Forest Certification in Papua New Guinea," in Cashore, Gale, Meidinger, and Newsom, note 1 above, pages 99–136.

4. Solomon Islands Government, *National Forest Resources Assessment, Solomon Islands Forestry Management (SIFM) Project Report* (Honiara, Solomon Islands: URS Sustainable Development, 2003).

5. From M. Wairiu, "Forest Certification in Solomon Islands," in Cashore, Gale, Meidinger, and Newsom, note 1 above, pages 137–62.

on traditional regulatory arrangements through the development of forestry codes of practice. The situation is similar in Africa, where governments likewise have not paid a great deal of attention to certification.

Industry Support

Large industry, like government, varies considerably in its support of forest certification. In South Africa, 80 percent of the plantation sector supports FSC, which it has found to be a solution to market access difficulties. In Brazil, too, managers of plantations have been more responsive to certification than have many of the companies operating in the Amazon. In Russia, some large companies exporting timber to European Union markets have also endorsed FSC certification, having come under pressure or influence from Scandinavian companies. Despite such endorsement, however, large industry in a number of other jurisdictions has vigorously opposed FSC and worked tirelessly through its industry associations (and at times with governments) to develop alternative schemes such as those mentioned above (LEI, MTCC, and CERFLOR).

While large industry support for FSC certification has been variable across and within regions, community-based operations have been generally more receptive, with many seeking to become certified, often assisted by external aid agencies. Community support for certification, however, has tended to wane after receiving FSC certification—with communities facing a range of problems in maintaining their certificates that result from high costs, low economic benefits, inadequate integration into global production chains, and problematic management arrangements.

Civil Society Support

FSC certification has been most heavily endorsed by environmental organizations, which have played a crucial role in its

initiation in several countries. WorldWide Fund for Nature (WWF) has emerged as a key environmental nongovernmental organization (NGO) with national offices around the world that were pivotal in introducing the idea of certification within the local forest policy community and in funding practical projects to prove its worth. Likewise, the Rainforest Alliance has played an active role, with its SmartWood program certifying the first-ever developing country forest operation, Perum Perhutani, in Indonesia in 1990 and its Training, Research, Extension, Education and Systems (TREES) program assisting certified community forestry operations in Mexico and elsewhere to find international buyers for their products.

However, not all environmental NGOs support certification in all jurisdictions. In Indonesia, the World Rainforest Movement, allied with local forestry NGOs such as Wahana Lingkungan Hidup Indonesia (WALHI, the Indonesia Forum for Environment), called for a moratorium on FSC and LEI certification pending resolution of indigenous peoples' conflicts. In Gabon, environmental NGOs objected to the certification of the French firm Leroy Gabon due to the absence of a management plan, poor stakeholder consultation processes, and the presence of a neighboring protected area—efforts that ultimately resulted in Leroy Gabon's decertification. More recently, a large number of NGOs, including the Native Forest Network, Robin Wood, World Rainforest Movement, and the Swedish Society for Nature Conservation, have called for a moratorium on the certification of forest plantations pending the outcome of an FSC review of their environmental, social and economic consequences.¹¹ Perhaps most underrepresented in observations are social actors—especially those that can claim to genuinely represent forest workers. This appears to reflect the relatively poor organization of social interests in the forestry sector. With respect to workers, some gov-

ernments still do not permit independent unions to form, while in countries that do, forest workers still find it difficult to become organized, most often due to the seasonal and casual nature of the work. Even when forest workers are organized and represented, however, union leaders often view environmental and conservation issues through a rather narrow lens, focusing on the potential negative impacts of supporting forest certification on jobs, wages, and entitlements. Interestingly, in many jurisdictions, significant improvements in labor conditions have been reported—including established wage rates, timely payment of wages, improved safety equipment and practices, better health and benefits packages, and better training—but these appear to have occurred without the active involvement of the labor movement.

Factors Facilitating or Hindering Certification

Four key factors were identified that account for the observed diversity in regional, subregional, and actor support for certification: dominant forestry problems, public policy responses, land ownership patterns, and market orientation. As a first approximation, interactions among these four factors explain why forest certification was facilitated or hindered in a specific region or subregion.

The Asia-Pacific Region

In the Asia-Pacific region, the general structural conditions for effective certification have been absent. Countries in the region are responding to a large number of domestic problems in the forest sector, especially rampant deforestation and forest degradation due to corruption, illegal logging, lack of enforcement capacity, and a heavy emphasis on the forests' timber values to the exclusion of their environmental and social values. In addition,

in Papua New Guinea and the Solomon Islands, the industry is in the hands of foreigners who lack a long-term commitment to forest operations. In response, governments in the region have generally sought to introduce reduced impact logging via logging codes of conduct (in Papua New Guinea and the Solomon Islands) and through nationally based forest certification schemes (in Indonesia and Malaysia). However, reduced impact logging only addresses the technical aspects of how logging is done—reducing the degree of collateral damage from forest activity but failing to tackle a myriad of other forestry, environmental, and social issues.

While FSC certification is well placed to bring stakeholders together to address these additional forestry, environmental, social, and indigenous peoples issues, governments in the region, in collaboration with powerful industry groups, have constituted a formidable barrier to its introduction. These forest problems and policy responses interact with two other factors that play an especially important role in the region—tenure arrangements and market orientation.

The Asia-Pacific region is bifurcated with respect to official tenure arrangements, with land rights formally vested in the state in Malaysia and Indonesia and in traditional customary tenures in Papua New Guinea and the Solomon Islands. While many environmental NGOs presume that customary tenure constitutes a suitable arrangement for the introduction of FSC-style certification, the observers suggest a much more complex and problematic outcome. Communities operating on customary tenure lands encounter numerous difficulties implementing forest certification in practice, despite their strong desire to do so. These difficulties relate to lack of community managerial capacity in general as well as specific forest management capacity to produce sizeable volumes of good quality timber in a timely fashion for foreign markets. In addition, communities have found the

direct and indirect costs of certification high in relation to the benefits, resulting in an increasing number of them deciding not to renew their certificates. In contrast, large-scale operations in the region appear to be better positioned to engage with certification should the demand arise.

Here, however, the fourth factor mentioned earlier exercises a dominant influence—the overwhelming focus of all countries in the region on production for the non-environmentally sensitive timber markets of Asia, especially China, Japan, and Korea. Given this orientation, whether for raw logs from Papua New Guinea and the Solomon Islands or processed panels from Indonesia and Malaysia, most timber companies in the region do not see the need to adopt a high-level certification system like FSC. The general industry consensus is that FSC imposes high costs without resulting in tangible benefits in the form of increased market access, price premiums, or competitive advantages.

Interestingly, the four factors noted above can also be used to better understand the exceptions to the generally inhospitable climate for FSC certification in the Asia-Pacific region. Across the region, there have only been a total of 12 FSC forest management certificates issued—five community forest, three plantation, and four natural forest operations—with only five operational in 2004. Of the five operational certificates, none was a community forestry operation, signaling the extraordinary difficulties confronting such organizations. While three of the five operational certificates were for natural forest management (the predominant source of most timber across the region), notably two of the five were for operating plantations.

Eastern Europe and Russia

In comparison to the other regions, the adoption of forest certification in Eastern Europe and Russia has been relatively straightforward. Although some of the

region's forests, particularly in eastern Russia, have suffered serious damage, most appear to be in relatively good shape. Management capacity, while seriously challenged by the transition process, is also fairly good. For all but central and eastern Russia, the desire to maintain ready exports to Western Europe eased the adoption of certification. In the Balkans and Poland, moreover, FSC certification seems to have been seen as a way of validating the quality and capacity of state forest management organizations, although it was also used as an avenue for policy and management. In this way, certification was able to attract broader social support necessary to the continuation of forest management operations. Also, transnational environmental NGOs often provided key resources to demonstrate the nature and viability of the international management standards embodied in the FSC system. They were also relatively skillful in drawing upon existing experts to bring these ideas into the larger policy world.

However, while forest certification has been quickly accepted in much of the region and is continuing to expand in Russia, it does not yet appear to be deeply embedded in management practices. Domestic public support for certification also appears to be tepid at best. Therefore it is difficult to be confident of its ultimate level of institutionalization.

Latin America

In Latin America, structural conditions for successful certification are present in some countries and sectors but absent in others. In places where governments have seen certification as a means of reaching their own goals—such as gaining technical assistance among community forestry operations or responding to outside pressure for forest sector reform—certification has generally been facilitated by government incentives and actions. In Guatemala, for example, the government

used FSC certification to justify creating forestry concessions in the Maya Biosphere Reserve multiple use zone. In Bolivia, the government felt pressure for reform and created a forestry law that would facilitate certification, while in Mexico the government saw certification as a means of reaching its own goals of capacity building in community forestry operations and created incentives to make certification accessible to this group. However, the predominance of communi-

ty forestry operations, as seen in Mexico and Guatemala, seems to have facilitated certification in the short term only.

While governments and transnational NGOs in the mid- to late-1990s assisted community operations to achieve certification by subsidizing assessment costs and conducting training activities, in the long term, the dominance of community forestry in a region has tended to make certification more challenging. Community operations typically lack business

experience and have low efficiency and product quality, making it difficult to access environmentally sensitive markets, which are almost exclusively international. On the other hand, those countries and forestry subsectors with high product quality and the business savvy to access international markets have seen more momentum behind certification. The Brazilian plantation sector, which dominates the global short-fiber cellulose market; industrial forest companies in Bolivia;

FOREST CERTIFICATION IN EASTERN EUROPE AND RUSSIA

Estonia reemerged as an independent nation in 1991 after more than 50 years of Soviet occupation.¹ With about 2.2 million hectares (50 percent of its area) in forests, Estonia has long relied on forestry, but state regulation since independence has flagged.² Forest Stewardship Council (FSC) certification of state forests (approximately 40 percent of Estonia's forested area) has improved environmental protection and worker safety in the forests and has also increased discussions among stakeholders—giving rise to new ideas such as the “spring truce,” which bans forest work during animals' breeding season to allow them to pup or nest undisturbed. However, certification has not solved key forestry problems such as unsustainable overlogging and illegal forestry, which are particularly common in private forests. Finding and promoting more markets for certified timber will be vital to expand forest certification and its positive effects in Estonia.

Latvia, which also regained independence in 1991, has 2.85 million hectares of forested land, 44 percent of its total area. Approximately half is owned by the state and most of the remainder is distributed among 150,000 private owners. Latvia's economy is highly dependent on timber, perhaps more so than any other European nation. In 2003, Latvia's state forests completed FSC certification. Riga's municipal forests are also certified (most of them under FSC), and a growing (if still small)

number of hectares of private forested land are coming under group certification through the Programme for the Endorsement of Forest Certification schemes (PEFC). The actions of private forest owners and interactions between the two schemes will be key factors in the future. A significant effect of the certification process in Latvia has been to improve communication among all members of the forest sector.³

Poland in the mid-1990s was involved in intensive restructuring from a centralized to a market economy yet was one of the first European countries to decide to carry out forest certification. Nearly 80 percent of Poland's forests are state owned and managed. The General Director of State Forests introduced certification in 1995 as a sort of external, independent audit of state forest management. Currently, nearly 85 percent of forest areas managed by State Forests are FSC certified. The present market for certified timber is driven by customer demand, largely in western Europe. In some cases, associating the final effects of certification with pressure from different interest groups was perceived as a negative feature of the applied certification methods. In 2003 the industry-led PEFC also established a program in Poland that may be an important force in the future.⁴

Russia's huge forest reserves of nearly 1.2 billion hectares (69 percent of the country) are potentially vulnerable to the rapidly growing global timber economy,

but the market has also encouraged importation of new sustainable forestry practices. FSC certification has been the major force in this process. While international networks of environmental NGOs have been essential to the rise of certification, government policy remains critical because all forested land is federal property. Certification has been tentatively embraced as a way to increase forest profits, promote reforestation, and improve management and control functions, as well as develop trade policy and investment safeguards.⁵ To date certification has improved environmental and social practices where adopted, but its long-term effects depend on future market and policy developments.

1. The information on Estonia is from R. Ahas, H. Hain, and P. Mardiste, “Forest Certification in Estonia,” in B. Cashore, F. Gale, E. Meidinger, and D. Newsom, eds., *Confronting Sustainability: Forest Certification in Developing and Transitioning Countries* (New Haven, CT: Yale School of Forestry & Environmental Studies, 2006), http://environment.yale.edu/doc/2538/confronting_sustainability_forest/, 171–202.

2. Estonian Forest Code, RT I 1998, 113/114, 1872 (Tallinn, 1998), <http://www.legaltext.ee/text/en/X30025K5.htm>.

3. From A. Actiņš and M. Kore, “Forest Certification in Latvia,” in Cashore, Gale, Meidinger, and Newsom, note 1 above, 203–34.

4. From P. Paschalis-Jakubowicz, “Forest Certification in Poland,” in Cashore, Gale, Meidinger, and Newsom, note 1 above, pages 235–60.

5. From M. Tysiachniouk, “Forest Certification in Russia,” in Cashore, Gale, Meidinger, and Newsom, note 1 above, pages 261–96.

and producers in northern Mexico that sell to green buyers in the United States have all successfully accessed environmentally sensitive markets in the United States and Europe.

Perhaps the only hindrance to certification that was common to the four Latin American countries was illegal logging. In each of the countries studied, illegally logged forest products were blamed for flooding the markets with cheap alternatives to certified products and driving down prices, making the financial viability of certification even more tenuous. Current efforts to discourage illegal activity in Latin America must be supported and strengthened. Still, in some regions, such as Brazil, legal deforestation may be as destructive as illegal logging.

Sub-Saharan Africa

One facilitating factor for certification in the four nations studied in sub-Saharan Africa is that, with the exception of South Africa, the land is publicly owned—a feature that poses fewer transaction costs than is the case for smaller ownerships considering certification. However, government capacity to enforce existing laws and employ forestry experts is so weak that, until addressed, it is unlikely that public ownership can be used to Africa's competitive advantage.

FSC-style certification in South Africa was supported by its privately owned plantation industry, which covers little more than one percent of the country's land base, for highly unusual reasons—it wanted to get approval for operations that have been criticized for negatively impinging on natural, treeless ecosystems. South African plantation owners, who came under significant scrutiny from European export markets, saw FSC certification as a way to maintain existing foreign markets.

The role of export markets in the other countries varied considerably—Uganda's export market has been deemed “insig-

nificant” by the Food and Agricultural Organization of the United Nations.¹² Zambia has become a net exporter, owing to its 1964 policy to encourage plantations, but its three leading export markets are South Africa, the United States, and Zimbabwe, respectively, rendering insignificant the real and/or perceived higher demand from European markets for certified products. Arguably as a result, the limited interest in forest certification was sparked through aid projects promoting forest certification as a way of expanding markets for non-timber forest products such as honey and wild mushrooms. Curiously, while Gabon relies more heavily on export markets than any of the other three nations studied here, its market share of the European market declined after the mid-1990s as FSC-friendly Eastern European countries increased their access. Instead, Gabon shifted its emphasis to Asia, with 45 percent of its export market going to China, which currently places almost no emphasis on certified products (although recognition of this has led to increased NGO effort to create interest in and awareness of forest certification in China).

Certainly the forestry policy problems would seem to give support to encouraging certification, because issues of biodiversity (especially Gabon), deforestation (especially Uganda and Zambia), and subsistence use confront basic worldwide concerns about global forest degradation. Indeed, concerns exist that previous efforts, including 1970s efforts that emphasized top-down approaches, followed by 1990s bottom-up decentralization efforts championed by the World Bank and other international aid agencies,¹³ cannot, by themselves, be completely effective and appear to provide an opening for certification as part of a suite of policy options.

Finally, factors such as regime change, poverty, famine, disease, and civil war, which challenge the African continent on every level, have significant impacts on

what any kind of policy initiative—public or private—might accomplish in the current context. If these fundamentals are tended to, it is possible, though not inevitable, that forest certification could still emerge as an important tool for promoting responsible forest management.

Existing Effects

Despite its very uneven institutionalization across the globe and within regions, it is clear that where it is being implemented, forest certification is having a range of positive effects on power relations, workers and communities, business, and the environment.

Forest Policy Network Effects

FSC certification—and certification more generally—has exercised one of its most important effects on power relations within the forest policy network. These changes in power relations have taken two forms broadly—an increase in the inclusiveness of the forest policy network and a rebalancing of power relations away from industry-dominated clientelist networks to more pluralistic arrangements involving environmental, community, and indigenous peoples' interests.

Another observed effect of FSC certification as a consequence of the creation of a larger, more inclusive forest policy network is an increase in cross-interest deliberation, leading parties not merely to articulate their positions but also to alter them based on a greater appreciation of the complexity of the problems and consequences of proposed actions.

An increase was observed in the inclusiveness of forest policy networks in several countries. It is most clearly evident, perhaps, in Latin America and Eastern Europe and Russia, where shifts in authority from government and industry partnerships to a broader array of actors has been noted.

While FSC-style certification has been hindered in much of the Asia-Pacific region, competitor schemes have had to respond to criticisms concerning the narrowness and exclusivity of their consultative arrangements. These criticisms were especially evident in Indonesia, where the decision to pursue a national forest certification scheme through LEI included a

changes in the very thinking and attitudes of many people in the Estonian forestry sector” with “more attention given to environmental and social issues.”¹⁴ This is an observation that is recapitulated in Latvia and in other regions as well.¹⁵

This transformation in public attitudes to forestry is significant—in part vindicating the view of foresters who point

empowered perhaps to the overall disadvantage of others.¹⁶ The reasons relate to the economics of certification and, especially, to the high direct and indirect costs per hectare for small operations and the lack of price premiums to compensate.

Social Effects

Certification has had important social effects, especially in terms of community and workers’ rights. There is some consistency across regions and countries in these effects, which include improved pay and conditions for workers, the development of community infrastructure, and the provision of training. Improved social conditions were particularly noted in Gabon, Uganda, Bolivia, Guatemala, Estonia, Latvia, and Russia. Even in the Asia-Pacific region, where FSC certification is much less developed, some improvements in social outcomes have been noted.

Not all social effects have been positive, however. In the Solomon Islands, for example, it is noted that women have concerns about their husbands spending more time on timber production (in part as a consequence of certification) and less time in food production. Other observations indicate industry concern about the costs of improving social arrangements when, at most, marginal economic benefits can be derived from certification. This was an issue in Estonia, concerns from forest industry representatives and government officials were cited about the negative social effects of certification in reducing timber harvesting levels resulting in lower rates of employment than otherwise.

Economic Effects

Certification has also had important economic effects at the level of the firm and more widely. To examine these effects as they are reflected in the case studies, it is helpful to divide them into microeco-



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Latvia’s state forests, roughly one-half of the forest lands, are certified. The other approximate half of forests are privately owned, many by smallholders such as this farm near Launkalne. Private owners have been slower to certify than the state forests.

commitment to move beyond a narrow business-government policy circle and adopt a broader, multisectoral approach.

In addition to the simple increase in the size and diversity of the forest policy network, an even more interesting effect of FSC certification is the promotion of cross-stakeholder dialogue and deliberation on the meaning of “sustainable ecosystem-based forestry management” that has in some settings resulted in a reconfiguration of interests. Interviews in Estonia “indicate that certification has caused

out that practices in agriculture, mining, and infrastructure development can be far more environmentally and socially damaging. However, the image of forestry can only be improved once foresters themselves move beyond an exclusively technical focus on growing trees to a better understanding of the environmental and social consequences of their actions. Notwithstanding these generally positive effects of forest certification on the national forest policy networks, it was also noted that some constituencies can be

nomic and macroeconomic effects. As a broad generalization, certification is having quite a number of positive effects at both the level of the firm and the level of the economy as a whole. However, contradictory data has been reported across the regions at both levels, indicating the need for further research to clarify more precisely the nature of the effects.

Microeconomic Effects

At the level of the firm, a wide range of positive effects of certification were reported that include improved market access, better prices, more stable contracts, favorable credit arrangements, improved production efficiency, and enhanced public image. Perhaps the most consistent finding is reports of improved market access. For example, charcoal producers in northern Mexico gained access to EU and U.S. markets, Guatemala saw an increase in certified products from 1998 to 2003, firms in South Africa consolidated and secured existing markets and obtained new orders, certified timber picked up in Malaysia to the point where in some cases demand exceeded supply, Latvian producers accessed niche markets, and new markets, and competition opened up in Estonia.

Price premiums appear available to most producers in the Asia-Pacific region—ranging from a 15 percent price premium reported in Indonesia, to a 37 percent increase in Malaysia, to a reported increase from US\$100 to US\$297 per cubic meter in the Solomon Islands. However, price premiums in other regions appear much less evident.

The overall conclusion is unclear: Some producers in some places are receiving very high price premiums for certified timber, while others are not receiving any margin whatsoever. The apparently contradictory findings likely reflect the extremely small samples used, variations in methodology, and a focus on different products at different points in forest prod-

uct chains, with production targeted for different markets and at different times.

While improved market access and price premiums are the two most important theoretical effects of certification, a number of other important microeconomic benefits were reported. One is increased stability of contracts in the highly competitive and globalizing forest products industry, which enables companies to engage in forward planning and investment, leading to future increases in production and efficiency. Another, noted in several studies (Bolivia, Guatemala, and Mexico), is improved efficiency at the level of the firm as a consequence of the need to engage in more planning, inventorying and managing of the forest operation. Finally, several observers noted better access to credit markets as a consequence of obtaining certification.

Against these positive effects of certification, however, are several negative effects. The most obvious negative effect of certification is increased costs to the firm. These are identified in the majority of the countries.

In Africa, it is clear that the economic effects have thus far been minimal—because the potential of certification, except in South Africa, has yet to be realized.¹⁷

Macroeconomic Effects

The introduction of certification could potentially have a range of macroeconomic effects (although data limitations do not enable a definitive analysis to be made of these effects). On the positive side, improvements are noted in taxation collection, market transparency, employment and wages, and investment. Tax collection can be improved via certification because companies undertake to comply with all laws of the country, including those related to tax. This is the most important economic benefit of certification noted in Gabon and Poland, where it is reported that certified companies pay

taxes on time (in contrast to some non-certified companies). It is suggested for a number of countries that certification has the effect of increasing market transparency, generating positive, economy-wide effects. For example, improvements are noted in the operation of the timber chain in relation to South Africa (where defects in production can be traced to individual producers, improving overall quality) and in Gabon (where it is reported that certification has made companies more open to showing records of their contributions to local development projects, which ensures that commitments made are implemented, which, in turn, improves overall compliance with contracts). Transparency also aids in combating illegal logging—an endemic problem in many of the countries studied.

Two other economy-wide effects of certification are suggested: improvements in employment, wages, and working conditions and improvements in investment attractiveness. An increase in employment or an improvement in wages and working conditions was observed in several countries. Increased wages clearly improve purchasing power in local areas, potentially boosting demand for locally produced commodities. Improved working conditions can also have important positive economy wide effects, reducing working days lost to sickness and injury. In addition, the evidence suggests that certification may improve a company's investment attractiveness related to the greater security of its markets, improved management systems, and lower perceived risk. In Brazil, for example, private bankers in the country are offering investment credit to firms committed to certification. If such an observation proves to be more generally true, it would have economy-wide effects in channeling resources that might go to sectors other than forestry.

Not all macroeconomic effects of certification are positive, however. Perhaps the most widely reported potentially negative consequence is the effect certifica-

tion has on overall production of timber as a result of moving toward a more explicitly ecosystem-based approach to forest management in natural forests.

The consequences of this approach are declines in hectares available for timber production and in the per hectare volume produced.¹⁸ A substantial decline in the

volume of timber produced clearly has important system-wide consequences, resulting in fewer jobs, increased demand over supply, potentially higher prices in

FOREST CERTIFICATION IN LATIN AMERICA

In Bolivia, where nearly 28 million hectares (ha) of productive forestland is designated under forest management, unsustainable logging and shifting cultivation have resulted in a national deforestation rate of about 270,000 ha per year.¹ However, several factors have improved forest management and facilitated the development of forest certification. The Forestry Law of 1996 opened productive forests to indigenous people, local communities, and small landowners, democratizing access after a period of near monopoly by large timber companies. By alleviating social tensions, the law has helped certification efforts, as have national dependency on foreign exports and national and international support for forest certification among nongovernmental organizations as well as government and industry actors. Nearly 1.5 million ha have been certified by the Forest Stewardship Council (FSC). Of these, 96 percent belong to large timber firms. Only one of 13 certificates is associated with a community-based operation. Thus, an important next step for certification efforts in Bolivia is to promote community participation.²

Brazil holds the largest share of the Amazon forest and the majority of the rapidly dwindling Atlantic Forest. Principal challenges there have included illegal logging, forest degradation due to selective but destructive extraction, deforestation in the Amazon, and socio-environmental conflicts over aggressive expansion in plantation forests in the coastal zone. Discriminating world markets, corporate social responsibility, and image concerns stimulated certification by the plantation segment in the 1990s. By May 2004, more than 1.2 million ha in plantations and associated natural reserves had been certified under two schemes: FSC (about 80 percent) and the national scheme CERFLOR. However, although Brazil is the world's

largest producer and consumer of tropical timber, only about 500,000 ha of natural forests had been certified. Forest certification has made an impact in Brazil where it is perceived as key to market access, even where there is no substantial price premium. But in areas where certified firms must compete with rampant disorder and illegality, as in the Amazon region, its impact has remained limited and has not raised the bar on industry-wide practice.³

Despite its small land area (108,889 km²), Guatemala is home to a large variety of ecosystems and species. The Maya Biosphere Reserve was established in 1990 in the remote northern region of the Petén, where, despite poor access, forest fires, and illicit logging, overall conditions are more conducive to sustainable forest management than in the southern region. (Small-scale ownership, pressure to convert forests to agricultural lands, and low forest productivity have made management difficult in the south.) Thus, forest certification in Guatemala has largely (95 percent) been confined to the forest concessions in the reserve. For communities and industry to obtain and maintain forest concessions in the reserve, they must be certified under the FSC scheme, a feature that is unique to Guatemala. Also unusual is that government agencies have been key actors in moving certification forward. However, although two forest plantations outside the reserve have been certified, it has yet to gain momentum elsewhere in Guatemala.⁴

Little more than 15 percent of Mexico's 127.6 million ha of forest and other vegetative areas are officially designated for forestry or protection, a lack of oversight that has led to the loss of much ecologically important forest area through conversion to agriculture (600,000 ha per year) and illegal logging activities. However, forest certification

has become well established: As of July 2004, 32 FSC-certified forestry operations covered nearly 600,000 hectares in Mexico. Where implemented, FSC certification has increased the use of forest inventory and monitoring, recognized the silviculture developed by forest communities and *ejidos*,⁵ and facilitated these groups' access to national- and state level resources that promote sustainable forestry and adaptive management. Nevertheless, certification has not changed important problems such as illegal logging, and leading members of certified *ejidos* and communities have begun to question the importance and advantages of forest certification. While a number of initiatives are being undertaken to help strengthen markets for Mexican certified products, it appears that economic incentives will have to increase if forest certification is to have an enduring impact on conservation efforts.⁶

1. D. Rojas, I. Martínez, W. Cordero, and F. Conteras, *Tasa de Deforestación de Bolivia 1993–2000* (Deforestation Rate in Bolivia, 1993–2000) (Santa Cruz: El País, 2003).

2. The information on Bolivia is from L. Quevedo, "Forest Certification in Bolivia," in B. Cashore, F. Gale, E. Meidinger, and D. Newsom, eds., *Confronting Sustainability: Forest Certification in Developing and Transitioning Countries* (New Haven, CT: Yale School of Forestry & Environmental Studies, 2006), http://environment.yale.edu/doc/2538/confronting_sustainability_forest/, 303–36.

3. From P. May, "Forest Certification in Brazil," in Cashore, Gale, Meidinger, and Newsom, *ibid.*, pages 337–62.

4. From F. Carrera Gambetta, D. Stoian, J. Campos, J. Morales Cancino, and G. Pinelo, "Forest Certification in Guatemala," in Cashore, Gale, Meidinger, and Newsom, note 2 above, pages 363–406.

5. *Ejido* refers to a form of land tenure in Mexico that emerged with revolutionary agrarian reform. It recognizes individual land ownership with the possibility of collective administration and management.

6. From S. Anta Fonseca, "Forest Certification in Mexico," in Cashore, Gale, Meidinger, and Newsom, note 2 above, pages 407–34.

the absence of imports, and potentially reduced processing efficiencies if mills designed for large volumes must make do with less.

Environmental Effects

Numerous positive environmental effects of forest certification have been identified under the headings of forest planning and inventorying, silviculture, biodiversity protection, and monitoring and compliance. While there is broad agreement across the regions that these effects are real, a degree of skepticism among a minority of industry and environmental groups has been noted, the former arguing that the effects are real but unnecessary and the latter that the effects are illusory and examples of corporate or governmental public relations.

Planning and Inventorying

It has been noted in several countries that an important effect of certification is improved forest planning and inventorying. The point is made forcefully in the account of certification in Guatemala, where improved management planning in previously weak operations is cited as a major environmental benefit of certification. Better planning is reflected in more appropriate estimates of harvesting rates, adjusting the length of the rotation and the volume logged to better match local conditions. In addition, five-year plans were developed for each forest operation, preventing “high grading” of stands, and non-timber forest products were included for the first time in the Petén region. A similar point is made regarding certification’s environmental effects in Estonia, where the state forest management agency Riigimetsa Majandamise Keskus (RMK) is keeping records and engaging in systematic planning to protect endangered species and improve road construction. A similar focus on planning

of forest management operations is noted in Gabon, where forest operations have implemented a 30-to-40 year cutting cycle based on growth and mortality estimates, logging damage, and more attention to the impact of the forest road network. An improvement in forest management planning is noted in Malaysia based on reviews of certification audits and comments from state forestry departments. For Malaysia’s state of Terengganu, forest plans had to be redrafted to take account of certification audits and include environmental and social concerns. Indeed, the format for completing the forest management plan itself was changed by the Terengganu State Forestry Department to provide more information on environmental features and community and social participation.

Silviculture

Linked to improved forest management planning and inventorying are changed silviculture practices. In Indonesia, it is reported that mother trees and threatened or endangered trees were marked to protect them against felling, with at least four mother trees required to be retained for every hectare felled. In Estonia, prior to the introduction of certification, logging rules and methods were virtually absent there. Certification has ensured their introduction to minimize negative impacts on ecosystems and soils. In Zambia, a marked contrast is observed between a certified and an uncertified operation. The certified operation (Ndola Pine Plantation Ltd., NPP) is well managed with all silvicultural operations completed and a management plan that is being followed. The contrast is significant, because the two companies were originally one single company only three years earlier and management practices diverged significantly as one became certified and the other did not.

In several countries in the Asia-Pacific region, certification has improved silvi-

culture practices through the introduction of reduced impact logging. This is also one of the major environmental effects of certification noted in Brazil, where, in one example, low rates of timber extraction coupled with low impact extraction methods that use animals rather than machines mitigate excessive biodiversity loss.

Biodiversity Protection

Improvements to forest management practices from certification aimed at biodiversity protection have been noted in a number of countries. In Zambia, NPP has reserved areas for high conservation values and created conservation corridors to improve connectivity throughout the landscape. In Guatemala, certification has focused the attention of Guatemalans on the identification of threatened species, protection of seed trees, and habitat conservation. In Estonia, a methodology was developed for biodiversity protection involving reserving key biotopes and leaving snags and dead wood. Also, a unique “Spring Truce” has been arranged there where no logging takes place between April 15 and June 30 to minimize the disturbance to animals during the breeding season. In addition, in Russia, certified companies are required to identify and protect high conservation value forests, reducing threats of biodiversity loss on certified lands.

Monitoring and Compliance

Certification has also improved forest monitoring and compliance in a number of countries. For example, in South Africa, forest certification led to improvement in the system of checks and balances, including the formalization of previously ad hoc adherence to company policies and the systemization of processes to ensure consistent implementation. Practical mechanisms included the development of internal checklists and the addition of staff with environmental



These logs await shipment outside Libreville, Gabon. Interest in forest certification has risen in Gabon in response to European market demands.

expertise. Monitoring has improved in Malaysia as state forestry departments are now committed to incorporating information monitoring environmental impacts, including areas lost or destroyed after logging, the number and length of second roads and skid trails, and the area of log yards.

appreciation of environmental issues and greater awareness of the multifunctional nature of forests. (Similar effects were noted in particular in Estonia, South Africa, and Latvia.) Such effects were also observed in a recent study that explores the effects of certification by examining the changes that 129 SmartWood-certified

Training

There is also evidence that much more training is taking place to ensure that staff are aware of environmental issues, can recognize endangered species, and incorporate biodiversity protection into their job requirements. In Estonia, senior corporate managers in certified operations are more interested in environmental issues than they were previously, and extensive training exercises have been held and manuals produced. In community forest operations too, such as those in Papua New Guinea, the Solomon Islands, Indonesia, and Mexico, NGOs have established training schemes to encourage local people to employ better management practices.

Attitudinal Change

While difficult to measure formally, it has been reported that certification has generated significant attitudinal change, especially in forest managers. For example, in Poland, certification provoked extended debates in the forestry community about the technical soundness of the certification rules, resulting in increased

operations in 21 countries were required to make as a result of the certification process.¹⁹ Figure 2 on page 22 summarizes the portion of this data that pertains to certified operations in the Asia-Pacific region, Eastern Europe, and Latin America (there were no SmartWood-certified operations in Africa). In line with observations presented here, it illustrates that SmartWood has requested companies to make numerous changes to their operations to improve social (conflict resolution with stakeholders, training, and worker safety and wages), economic (management planning and operation efficiency and profitability), and environmental (protection of aquatic and riparian areas, high conservation forests, and threatened and endangered species) outcomes.

Future Potential

Forest certification appears to have considerable potential to improve forest management in developing countries and countries in transition. However, to realize that potential, some significant difficulties need to be overcome, requiring focused action by FSC, sympathetic industry, national governments, environmental NGOs, and certification supporters. The major issues that need to be addressed are market demand, illegal logging, foresters' attitudes, community capacity, certification standards, certification costs, and closed forest policy networks.

Market Demand

Market demand has been a driver of certification in a number of countries. Future efforts will have to focus on spurring additional demand for certified products, especially in regions whose export markets have not shown an interest in green products, such as Asia. The approach of creating more "pull" for certified products appears to have more potential than approaches that create more "push" by subsidizing

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certification costs for operations with questionable market access. Also, studies of marketing strategies will be very beneficial to those certified operations that are struggling to sell their product.

Illegal Logging

Illegal logging is a problem that not only destroys forest ecosystems in its own right but also threatens the viability

of forest certification by depressing the price of timber and creating extremely low-priced competitor products. New EU efforts under the Forest Law Enforcement, Governance and Trade (FLEGT) Action

Plan appear to have significant potential for curbing this problem. To truly address the problem, however, such efforts need to be supported and also expanded to encompass more countries, especially major consumers such as Japan, China, Korea, and the United States.

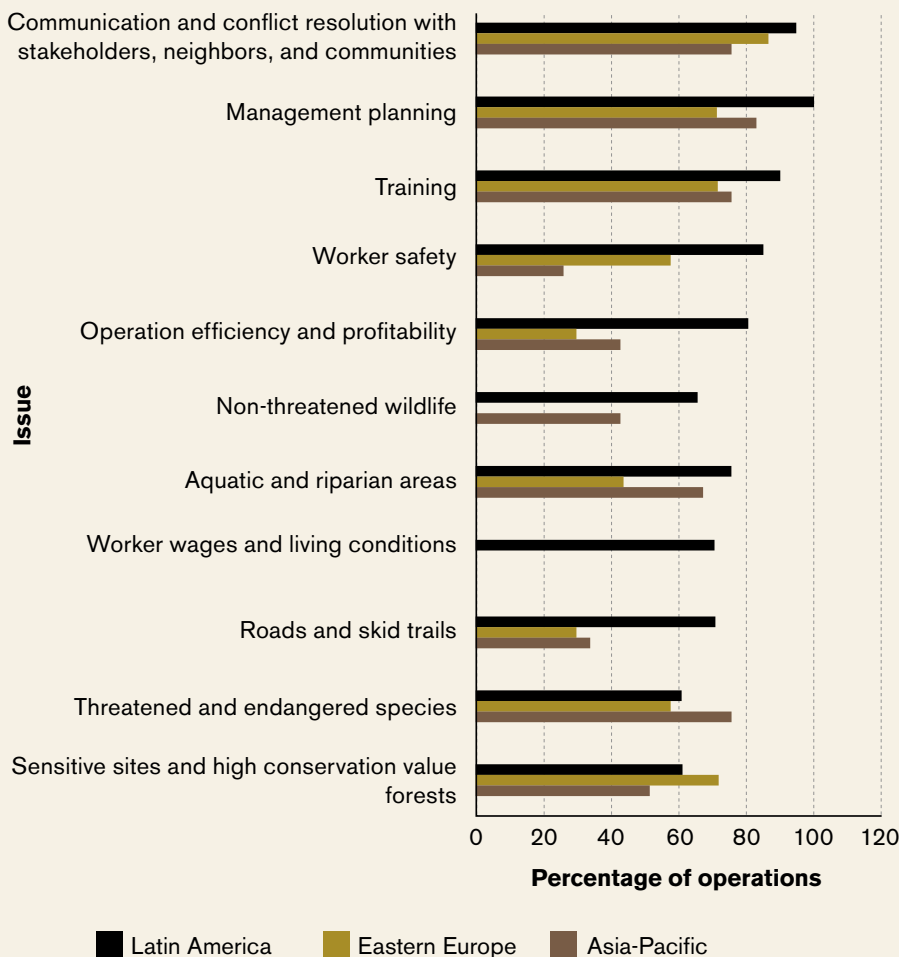
Foresters' Attitudes

Forest certification is often resisted by foresters, in part because they perceive it as an incursion on their traditional authority. Yet many of the cases demonstrate that forest certification has served ultimately to bolster the authority of foresters, provided they are prepared to practice to emerging global standards. Given the critical importance of foresters to the adoption and implementation of certification, more effort should be devoted to explaining the process and its benefits to them. Model forests such as those that have been developed in Russia are an effective method of doing so.²⁰ These have served to reorient the thinking of many foresters and to persuade them of the feasibility and benefits of more ecologically and socially responsible forestry.

Community Capacity

The experience of many countries—in particular Mexico, Guatemala, the Solomon Islands, and Papua New Guinea—emphasizes the difficulties faced by certified community forestry operations,

Figure 2. Percent of SmartWood-certified operations required to address issues during certification assessment, by region



NOTE: The Asia-Pacific region had 12 SmartWood-certified operations; Eastern Europe had 7; and Latin America had 20 at the time this data was collected. There were none in Africa.

SOURCE: D. Newsom and D. Hewitt, *The Global Impacts of SmartWood Certification* (Richmond, VT: Rainforest Alliance, 2005), http://www.rainforest-alliance.org/forestry/documents/sw_impacts.pdf.

which often lack the resources and capacity to fully engage with this new mode of regulation. There is a large group of community operations whose FSC certificates have expired (or are soon to expire) but who choose not to recertify given the low level of economic benefits to have materialized. While there are some new efforts by NGOs to address this problem and connect community groups with international markets, greater effort is required to avoid losing this important group.

Certification Standards

FSC has a one-size-fits-all set of generic principles and criteria that can be modified to fit local circumstances. It has also introduced a variety of mechanisms (such as group certification and small-and-low-intensity managed forests (SLIMFs)) to address the requirements of small and community operators. A number of phased or stepwise approaches to certification have also emerged that generally outline a series of phases or steps a candidate operation must achieve, usually beginning with legality and culminating in FSC certification. This approach provides recognition and market incentives to operations that have committed to sustainable forestry but require extra time and effort to come into full compliance with the standards. Originally developed by U.K.-based consultancy ProForest under the auspices of the WWF-IKEA Partnership on Forest Products, the phased approach is also offered by groups such as the Rainforest Alliance, whose SmartStep program currently has clients in Bolivia, Brazil, China, and Ghana. The ecoforestry standard supported by the International Tropical Timber Group (ITTG) is likewise enabling community operators in Papua New Guinea and the Solomon Islands to export certified timber to New Zealand. To ensure that these initiatives constitute genuine steps toward full FSC certification rather than competing programs in their own right, it will be important to more clearly integrate these

initiatives into the FSC approach, establishing criteria and timelines for moving from a lower to a higher step.

Certification Costs

In a number of countries, the costs of certification appear to outweigh the benefits, especially for smaller operations. This is due to a variety of factors, including those listed above (such as lack of demand and illegal logging). How can the costs of certification be reduced and the benefits increased so that more companies, communities, and individuals will have an incentive to embrace it? One approach being tested by FSC and its accredited certifiers is a lower-cost, more streamlined assessment procedure for low risk operations under its SLIMF program. Other groups—such as the Global Forest & Trade Network, a WWF initiative—are focused on developing markets for certified products. This is being done by increasing consumer demand, but also by assisting certified operations to access those markets through, for example, group marketing strategies for small landowners. The Asian market—especially China, Japan, and Korea—is key here, and the efforts to convince Chinese, Japanese, and Korean consumers to consider the ecological shadow of their actions must be redoubled.

Another initiative already in the works, the EU FLEGT legislation, would work with governments to reduce the flow of illegal timber around the world that unfairly competes with legally produced timber by ensuring that existing forest laws are obeyed. However, as noted above, this initiative is currently limited to Europe and needs to be expanded. Forest certification could make a major contribution here if governments were to review different schemes and rank them as to their ability to differentiate legal from illegal timber and make this information publicly available. While such a step is ultimately quite modest because

mere legality does not ensure that the timber is sustainably produced, it constitutes a significant step forward within the global timber market.

The evidence suggests that larger producers can offset some of the costs of certification from improved efficiencies in production that emerge from a systematic analysis and restructuring of their corporate operations. These efficiencies are not, however, being achieved by smaller and community-based operations where numerous hurdles confront managers related to lack of capital, management ability, and market access. More systematic study of the barriers confronting small operators is required, and the results linked to loan and technical support schemes to secure the production of reasonable volumes of high-quality timber for global markets.

Forest Policy Networks

In many parts of the world, forest policy networks remain either closed or semi-open, with environmental ideas vilified and ridiculed in an attempt to preserve the status quo. For these reasons, the more inclusionary processes associated with forest certification appear to provide a new model with which to promote innovative and constructive dialogues. Future research efforts need to explore the role of forest certification in the discourse of forest science, the relationship between a forest policy network and the practice of democracy and good governance within which it is embedded, and the concept of tolerance (where governments and civil society organizations accept the rights of others to dissent).

Certification as Part of a Sustainable Future

A close look at certification reveals complex interrelationships among a range of macropolitical, microinstitutional, and

economic factors. Perhaps the broadest lesson to be drawn is that, given that certification represents such an exceedingly dynamic field, it would be a mistake to make decisions solely based on existing support and immediate effects. Instead, environmental groups, forest companies, forest owners, workers, and governments ought to make decisions thinking not only of the present but also about the future and potential of forest certification. Moreover, forest certification is best understood as part of a larger ensemble of forest management institutions, which, if aligned correctly, could significantly help to improve sustainable forest management and conserve biodiversity. There are considerable challenges, but there are also untapped possibilities that anyone who cares about the world's biosphere and the role of forests within it can feel justifiably motivated to unlock.

Many types of keys might open this door. One key, with arguably the most transformative potential, concerns the potential role that consumers of forest products can play. Indeed, there is a narrow window of opportunity for consumers of forest products to drive improvements in global forest management. While there is widespread support from forest owners for some type of forest certification in Europe and North America, the ambivalent economic signals from consumers in these same countries has placed the future role of forest certification on an uncertain path. Yet given limited government capacity and persistent poverty in many developing and transitioning countries, market-based efforts could arguably have the greatest influence. As the market's supply chain becomes increasingly transnational—with some developing countries acting as suppliers of raw material to other developing countries, who in turn manufacture products destined to wealthy developed-world consumers—certification's emphasis on tracking along the market's supply chain could offer a more efficient, more effective, and fairer

solution for curbing global forest deterioration. These trends are illustrated by developments in China, where research has found that while China's increasing demand for forest products is often seen as encouraging forest deterioration by indiscriminately importing forest products from Indonesia, Myanmar, Papua New Guinea, the Russian far east, and African countries such as Gabon, its exports of manufactured forest products have been climbing just as quickly.²¹ Indeed, the same research found that the United States is China's largest importer of forest products—the volume of which increased 1,000 percent between 1997 and 2005 and now accounts for 35 percent of China's total forest products exports.²² Similarly, exports to Europe, China's second largest market, increased 800 percent during this same time. These trade relationships and the evidence presented here and in *Confronting Sustainability* highlight the need for all customers of forest products—especially those in North America and Europe, from big box shoppers to institutional customers such as home builders, universities, and governments—to undertake an immediate transformation in their purchasing behavior if forest certification is to move to the next stage of institutionalization. For

years customers had no way of knowing whether the products they were purchasing were contributing to the destruction



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A worker unloads logs from a ship in Jakarta, Indonesia. An estimated 70 percent of forest products coming from Indonesian mills have been harvested illegally.

of the world's most critical forests. Now that this ability exists, consumers are facing a narrow window of opportunity to be part of a solution to the problem about which they are understandably concerned. Depending on these choices, certification could become relegated to yet another failed policy instrument that serves to legitimate, rather than improve, existing practices. Alternatively, if consumers in

the wealthiest countries, whose purchasing habits currently feed forest degradation, can move themselves to demand environmentally and socially responsible behavior from the firms whose products they purchase, we could witness, in the next decade, one of the most important innovations in global forest management.

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NOTES

1. For a more detailed description of how the different schemes operate, see the book from which this article was excerpted, B. Cashore, F. Gale, E. Meidinger, and D. Newsom, eds., *Confronting Sustainability: Forest Certification in Developing and Transitioning Countries* (New Haven, CT: Yale School of Forestry & Environmental Studies, 2006), accessible via <http://www.yale.edu/environment/publications>, 11–17. See also L. H. Gulbrandsen, "Mark of Sustainability? Challenges for Fishery and Forestry Eco-labeling," *Environment* 47, no. 5 (June 2005): 8–23 at Table 1 on page 18.

2. Unless otherwise noted, specific references for each country come from the case studies in Cashore, Gale, Meidinger, and Newsom, eds., *ibid.*: D. R. Muhtaman and F. A. Prasetyo (Indonesia), pages 33–68; M. Shahwahid (Malaysia), pages 69–98; Y. Bun and I. Bewang (Papua New Guinea), pages 99–136; M. Wairiu (the Solomon Islands), pages 137–62; R. Ahas, H. Hain, and P. Mardiste (Estonia), pages 171–202; A. Actiņš and M. Kore (Latvia), 203–34; P. Paschalis-Jakubowicz (Poland), pages 235–60; M. Tysiachniouk (Russia), pages 261–96; L. Quevedo (Bolivia), pages 303–36; P. May (Brazil), pages 337–62; F. Carrera Gambetta, D. Stoian, J. Campos, J. Morales Cancino, and G. Pinelo (Guatemala), pages 363–406; S. Anta Fonseca (Mexico), pages 407–34; R. Eba'a Atyi (Gabon), 443–76; C. Ham (South Africa), pages 477–506; P. Musimami Mwima G. Eilu, B. Biryahwaho, and W. Gombya Ssembajjwe (Uganda), pages 507–34; and F. Njovu (Zambia), pages 535–60.

3. This figure includes schemes endorsed by the Programme for the Endorsement of Forest Certification schemes (PEFC) as well as applicant and harmonized schemes like the Sustainable Forestry Initiative (SFI), American Tree Farm System (ATFS), Certificação Florestal (CERFLOR, the Brazilian Program of Forest Certification) and the Malaysian Timber Certification Council (MTCC). Lembaga Ecolabel Indonesia (LEI, the Indonesian Ecolabeling Institute) is excluded because at the time of writing it had not applied for nor been recognized by PEFC.

4. For a case study of Indonesia, see Elliott, note 3 above.

5. C. Elliott, "Forest Certification: Analysis from a Policy Network Perspective" (PhD thesis, École Polytechnique Fédérale de Lausanne, Département de génie rural (Department of Agricultural Engineering), 1999.

6. E. Meidinger, "Forest Certification as a Global

Civil Society Regulatory Institution," in E. Meidinger, C. Elliott, and G. Oesten, eds., *Social and Political Dimensions of Forest Certification* (Remagen-Oberwinter, Germany: Verlag, 2003), <http://www.forstbuch.de>.

7. V. Haufler, *Public Role for the Private Sector: Industry Self-Regulation in a Global Economy* (Washington, DC: Carnegie Endowment for International Peace, 2001).

8. K. Webb, ed., *Voluntary Codes: Private Governance, the Public Interest and Innovation* (Ottawa: Carleton Research Unit for Innovation, Science and Environment, 2004).

9. B. G. Cashore, G. Auld, and D. Newsom, *Governing Through Markets: Forest Certification and the Emergence of Non-state Authority* (New Haven: Yale University Press, 2004).

10. As recorded by the case study authors in Cashore, Gale, Meidinger, and Newsom, eds., note 1 above.

11. Native Forest Network, et al., "Open Letter Asking for Moratorium on Certification to FSC," *Forest Stewardship Council Newsletter*, 3 October 2005.

12. Food and Agriculture Organization of the United Nations (FAO), FAOSTAT, *Forest Production and Export Statistics, 2002*, <http://apps.fao.org/page/collections?subset=forestry>; and FAO, *Trends and Current Status of the Contribution of the Forest Sector to National Economies*, Final Draft (Rome: FAO, 2003).

13. P. Glück, Peter, J. Rayner, and B. Cashore, "Change in the Governance of Forest Resources," in G. Mery, R. Alfaro, M. Kanninen, and M. Labovikov, eds., *Forests in the Global Balance—Changing Paradigms*, International Union of Forest Research Organizations (IUFRO) World Series, Volume 17 (Helsinki: IUFRO, 2005), 51–74.

14. R. Ahas, H. Hain, and P. Mardiste, "Forest Certification in Estonia," in Cashore, Gale, Meidinger, and Newsom, eds., note 1 above, page 192.

15. For example, see A. Actiņš and M. Kore, "Forest Certification in Latvia," in Cashore, Gale, Meidinger, and Newsom, eds., note 1 above, pages 226–27; L. Quevedo, "Forest Certification in Bolivia," pages 328–29; and F. Carrera Gambetta, D. Stoian, J. Campos, J. Morales Cancino, and G. Pinelo, "Forest Certification in Guatemala," pages 391–92.

16. For example, see P. May, "Forest Certification in Brazil," in Cashore, Gale, Meidinger, and Newsom, eds., note 1 above, pages 337–62; and C. Ham, "Forest Certification in South Africa," note 1 above, pages 477–506.

17. There is no question that certification has been a powerful tool in maintaining and enhancing market access for South Africa's controversial plantation industry and for giving it economic advantages following stringent government regulations enacted in the 1990s. See C. Ham, "Forest Certification in South Africa," in Cashore, Gale, Meidinger, and Newsom, eds., note 1 above, pages 477–506.

18. See, for example, R. Ahas, H. Hain, and P. Mardiste, "Forest Certification in Estonia," in Cashore, Gale, Meidinger, and Newsom, eds., note 1 above, page 194.

19. D. N. Newsom and D. Hewitt, *The Global Impacts of SmartWood Certification* (Richmond, VT: Rainforest Alliance, 2005), available at www.rainforest-alliance.org.

20. See M. Tysiachniouk, "Forest Certification in Russia," in Cashore, Gale, Meidinger, and Newsom, eds., note 1 above, pages 261–96.

21. A. White, et al., *China and the Global Market for Forest Products: Transforming Trade to Benefit Forests and Livelihoods* (Washington, DC: Forest Trends, 2006).

22. *Ibid.*