

Sustainable Forestry in Sweden: The Effect of Competition Among Private Certification Schemes

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Comparing the practice of two certification schemes in Swedish forestry, the Forest Stewardship Council (FSC) and a forest owner-dominated competitor, the author explores the capacity of forest certification to ameliorate environmental degradation in forestry while attending to different stakeholder interests. Although the inclusiveness and stringency of the FSC might impede its ability to attend to industry needs, it has a greater capacity than the forest owner-dominated scheme to enhance environmental protection in forestry. Second, although competition for support and rule-making authority has resulted in convergence of the two schemes, the forest owner-dominated program has not adopted decision-making rules and structures to reduce the influence of forest owners in standard development and operation. Third, effective implementation of non-state forest governance schemes requires national forest law enforcement and well-functioning government administrations. This helps explain why forest certification initiatives have been more successful in Sweden and other developed countries than in developing countries.

Keywords: *certification; environmental governance; forestry; policy; privatization*

Companies are increasingly adopting voluntary standards, typically in the shape of codes of conduct, management system rules, and certification and labeling schemes. In this context, standards are explicit and written rules that govern company behavior. They are developed by governments and supranational institutions such as the European Union, intergovernmental bodies such as the International Maritime Organization (IMO), industry-dominated standardization regimes such as the International Organization for Standardization (ISO), and nongovernmental bodies such as environmental organizations, human rights organizations, and industry associations. Sometimes referred to as “the privatization of governance,” non-state-driven rule setting has

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been a particularly vibrant source of standardization in recent years (Clapp, 1998; Cutler, Haufler, & Porter, 1999; Hall & Biersteker, 2002; Haufler, 2001). The development of rules for sustainable forest management and the voluntary certification of forest holdings that comply with those rules are perhaps the most advanced cases of non-state-driven standardization globally in the environmental realm (Cashore, 2002). In the absence of a multilateral agreement that could protect the world's forests, non-state actors have established forest certification programs and turned to the market and buyers along the supply chain for rule-making authority (Cashore, 2002). A forest certification scheme typically involves the development of sustainable forest management rules, independent verification of compliance with those rules, and tracking products flowing from approved forestry practices through the supply chain to allow product labeling. The frontrunner in certifying forestry is the Forest Stewardship Council (FSC), established in 1993 by the World Wide Fund for Nature (WWF) and other environmental groups, timber traders, indigenous peoples' groups, and forest workers' associations. Forest owners and industries in a number of countries responded by setting up certification programs in competition with the FSC, such as those endorsed by the Pan-European Forest Certification Scheme, since 2003, renamed the Programme for the Endorsement of Forest Certification (PEFC). Whereas environmental organizations distrust the PEFC because of forest owner dominance and what they claim are lenient ecological and social standards, little is known about the actual performance of the PEFC vis-à-vis the FSC.

This article compares the capacity of the FSC and PEFC in Sweden—a trailblazer in forest certification—to enhance environmental protection in forestry while attending to different stakeholder interests. Given the proportion of forest companies certified by the FSC, the Swedish forestry sector makes up more than one fifth of the forestland certified worldwide by FSC and is by far the most important industry player in the program.¹ But the competing PEFC scheme, preferred by nonindustrial Swedish forest owners, is catching up with the FSC in terms of certified forestland in Sweden.

I proceed by exploring how we can measure the effectiveness of forest certification as an institution of environmental governance. This is followed by a review of the emergence of the FSC and PEFC in Sweden. In the main part of the article, I explore the effectiveness of forest certification by assessing (a) whether certified forest companies and forest owners go beyond compliance with legal requirements on environmental protection in forestry, and by looking (b) into unintended consequences

1. These companies are the state-owned Sveaskog (formerly AssiDomän), Svenska Cellulosa Aktiebolaget (SCA), Stora Enso, Korsnäs, and Holmen. The latter two have jointly established the company Bergvik Skog AB as owner of their forests.

of certification, with a particular focus on shifting alliances and the prevalence of conflict in the forestry sector and (c) at capacity for change and attending to the needs of stakeholders. I conclude by discussing the lessons learned from the study of Sweden.

Toward an Analytical Framework

Recent studies on environmental certification and labeling have identified several standard-setting ideals believed to enhance the credibility and efficacy of voluntary, non-state governance programs (Boström, in press; Cashore et al., 2004; Coglianese & Nash, 2002; Gulbrandsen, 2004, 2005). These ideals include transparency; inclusiveness, understood as involvement of a broad range of stakeholders in standard development and operation; stringency of environmental and social requirements; and independent auditing of compliance. Although studying these ideals may indicate relative performance, it does not tell us much about the actual ability of forest certification to enhance environmental protection in forestry. How, then, can we measure the effectiveness of forest certification as an institution of environmental governance? As a point of departure, an institution of environmental governance can be considered effective if it solves or alleviates the problem that motivated its creation (cf. Underdal, 2002; Young & Levy, 1999). Forest certification was introduced to ameliorate environmental degradation in forestry, caused by practices such as logging of old-growth forests; clear-cutting of large areas; conversion of nonproductive land (such as wetlands) into productive forestland by drainage and ditching; removal of dead wood and stumps that host biodiversity; construction of forest roads; use of harmful pesticides and herbicides; and introduction of exotics (alien species) that supplant the natural forest. In this context, the problem-solving approach to assessing effectiveness could be operationalized as the degree to which forest certification modifies on-the-ground practices in ways that (are likely to) reverse or alleviate environmental deterioration in forests (Gulbrandsen, in press). This involves investigating not only changes in forest practices, but also the causal relationship between adopted forest management standards and those changes. Having identified certain environmental protection measures, we need to determine the relative improvement caused by forest certification as compared to what would have happened anyway. The "business-as-usual situation" is our baseline, that is, a hypothetical state of affairs without forest certification programs. To arrive at this situation, we ask the counterfactual question: Would forest companies and owners behave differently in the absence of forest certification programs? The pragmatic interpretation of

the business-as-usual situation used in this study is a state of affairs characterized by compliance with legal requirements. One indication of causality is consequently the degree to which certified companies and forest owners adopt and implement measures beyond compliance with public forest policy. Of course, this is a less than perfect analysis of causality because changes in forestry practices can also result from economic fluctuations, new technologies, environmental group activism, and so on. We therefore need to be sensitive to rival explanations for changes in management procedures and forestry practices (cf. Miles et al., 2002). For example, although less intensive harvesting could be a result of forest certification, it could also be a result of declining demand or prices for forest products and increasing availability of non-wood-based substitutes of competitors.

Causal analysis of effectiveness must also be alert to unintended effects of institutions and instruments of environmental governance (Young & Levy, 1999). Forest certification may have consequences not intended by those who introduced this tool, such as favoring of large-scale over small-scale forestry—the latter traditionally being less mechanized and more environmental friendly than the former (Eckerberg, 1990). Environmental pressure groups would also risk redundancy were certification processes to be accepted and conflict levels abated. Moreover, forest certification could affect the design or use of public policy instruments. It could, for example, be used strategically by the forest industry in an effort to prevent stricter public regulations and controls, with the possible result that private actors gain influence at the expense of public authorities.

Finally, capacity to modify rules and attend to the needs of stakeholders could enhance the performance of a certification scheme. Without capacity for adjustment of rules, there is a danger that certification schemes approve the status quo and fail to act should new knowledge or evidence of harmful forestry practices appear. Because rule making in forest certification schemes is an iterative process, charting the evolution of rules and the influence of stakeholders in the adaptation and interpretation of those rules is important for assessing the capacity of a scheme to influence forest management and attend to the interests of various groups.

The data for this study were obtained through interviews with key persons in the Swedish forest certification processes, including environmental organizations, forestry interest organizations, forest companies, and government agencies. In addition, I carried out a document study (i.e., certification standards, public policy documents, press releases, and newspaper articles) and reviewed other studies of forest certification and forest politics in Sweden and elsewhere.

The Emergence of Two Competing Certification Schemes

In 1996, the Swedish section of the WWF and the Swedish Society for Nature Conservation (SSNC) appointed a working group to propose a national FSC standard in Sweden. They were joined by various stakeholders, including Greenpeace and Friends of the Earth (environmental interests); Ikea and the office furniture manufacturer Kinnarps (economic interests); and the Swedish Sami Association and labor representatives (social interests). Following intense campaigning by WWF and resulting market pressures for FSC certification, the forest companies decided to participate in the working group through their association (see Cashore et al., 2004; Elliott, 1999; Gulbrandsen, in press). The large forest holdings are all vertically integrated companies, have their own mills in Sweden, and as such, interface directly with the international market. But although these companies own more than a third of the Swedish forestland, they depend on timber from small, nonindustrial forest owners. Under pressure from the forest companies, the nonindustrial forest owners eventually agreed to have their associations represent them in the working group.

Reportedly, however, the nonindustrial forest owners soon began to feel isolated from what they perceived as a close-knit formation of environmental, labor, and Sami (indigenous Nordic people) organizations (Elliott, 1999, pp. 385-389). In particular, Sami demands concerning reindeer grazing on forestland proved a sticking point, partly because they mainly bore on land owned by the nonindustrial forest owners in Northern Sweden and partly because the forest companies remained passive, leaving the small forest owners in the lurch (Swedish Federation of Forest Owners, personal communication with director, October 15, 2004; see also Cashore et al., 2004; Elliott, 1999). The stringency of the environmental standards promoted by the NGOs and the lack of a satisfactory group certification option, whereby one certificate covers several small forest owners, also frustrated the nonindustrial forest owners. As a consequence, they pulled out of the working group. Greenpeace also withdrew after unsuccessfully opposing certain intensive harvesting methods (Elliott, 1999). By the end of 1997, what was left of the working group agreed on a Swedish FSC standard that subsequently became the first nationally developed standard approved by the FSC's international board (Elliott & Schlaepfer, 2001, p. 645). The large forest companies and a few large forest owners certified their forestland to the FSC, a total of more than 10 million hectares, that is, almost half of the productive forestland in Sweden.

Immediately following these withdrawals, the nonindustrial forest owner cooperative Södra realized that an alternative to the FSC had to be

developed (Södra Skogsägarna, personal communication with senior official, October 12, 2004). Being the only forest owners' association with mills of its own in Sweden, it had to respond to market pressures for certified products, as had the Swedish forest companies (Elliott, 1999, p. 387). Led by Södra, the six regional Swedish forest owners' associations developed certification standards, defining the environmental, social, and economic performance levels of their members. Forest owners participate in the scheme on a voluntary basis by signing a contract with their association, requiring them to comply with the certification standards. To facilitate mutual recognition of forest certification schemes and provide an internationally credible framework for such schemes, the Swedish forest owners' associations, in partnership with sister organizations in other European countries, in 1998–1999 forged the PEFC (see www.pefc.org). With the PEFC's endorsement of the forest associations' schemes (symbolically labeled the "Swedish Family Forestry Schemes") in 2000, an international competitor to the FSC gained a foothold in Sweden. Currently, about one third of the forestland owned by private, nonindustrial forest owners in Sweden is certified by the PEFC, but as we shall see, several FSC-certified forest companies have also pursued PEFC certification more recently, and the scheme reports that it has certified more than 6.5 million hectares of forestland in Sweden (PEFC, 2005).

The FSC and PEFC perhaps differ most in their decision-making structures: Whereas ecological, social, and economic interests participate on an equal footing in the Swedish FSC Council, forestry interests are dominant in the PEFC and there is limited scope for other stakeholders to influence rule making in the scheme. Although both schemes have sought to develop relations with government agencies, the FSC is clearly more inclusive than the PEFC. In addition, whereas FSC certification rests on prescriptive performance criteria, the PEFC places greater weight on standards of procedure, organizational and management measures, and flexibility in applying sustainable forestry standards (Cashore et al., 2004; Gulbrandsen, 2004).

Exploring Standard-Setting Practices and Performance

BEYOND COMPLIANCE MEASURES

The "greening" of forestry practices in Sweden can be traced to the 1980s—long before any company was certified. Following environmental group targeting and long-running conflicts from the 1960s to the 1980s over such issues as clear-cutting, preservation of old-growth for-

ests, the introduction of exotic tree species, and the use of herbicides, the Swedish forestry sector was left with a poor public image (Eckerberg, 1995; Hellström, 2001). Experts and public authorities were also becoming increasingly concerned about biodiversity loss. The forest companies therefore hired ecologists to improve forestry planning and took steps to make industrial harvesting methods less environmentally harmful (Sveaskog, personal communication with environmental director, October 22, 2004).

Environmentalists, forest companies, and forest owners agree that certification processes nonetheless resulted in a more systematic approach to sustainable forest management and quite stringent environmental rules. For example, the Swedish FSC standards require forest owners to set aside at least 5% of the productive forestland; map and preserve key habitats and natural forests; and protect broadleaved trees, dead wood, and stumps (Swedish FSC Council, 1998). Although many of those rules go well beyond legal requirements, this is also related to the deregulation of the Swedish forestry sector. In 1994, the detailed and prescriptive 1979 Forestry Act, in which environmental requirements were secondary to economic concerns, made way for a new framework law that gave equal weight to environmental and economic targets. The government gave industry greater freedom to develop the means to attain the targets of the Forestry Act, while assuming that industry would take responsibility for implementing the necessary measures in forestry practices. This deregulation of the forestry sector encouraged forest owners to search for new solutions and assume greater responsibility for environmental protection in forestry (Boström, 2003; Eckerberg, 1995). Certification projects were part and parcel of a new and more liberal approach to environmental policy making and state agencies facilitated their implementation (Boström, 2003). Although certification standards exceed legal requirements, the government would surely have expected the forest sector to implement other measures to promote environmental protection in forestry, had they not pursued the certification track. Indeed, even with the spread of certification initiatives, the Swedish Parliament in 1999 adopted several specific objectives aimed at sustainable forest management and forest conservation (see below).

Public authorities in Sweden insist that forest certification acts as a supplement to public policy instruments (National Board of Forestry, personal communication with senior official and junior official monitoring forest certification programs, October 13, 2004; Swedish Environmental Protection Agency [SEPA], personal communication with two senior officials, October 11, 2004). Studies of the proliferation of new environmental policy instruments corroborate this view inasmuch as they show that voluntary standards tend to complement traditional government regulations, not replace or supplant them (Jordan, Wurzel, &

Zito, 2003; van Tatenhove, Arts, & Leroy, 2000). Nonetheless, with the emergence of elaborate non-state rule-making and governance systems, there is likely to be overlap and interplay between certification standards and public policy (Boström, 2003; Gulbrandsen, in press). In the FSC, a difficult issue is how to handle government protection of forests on land owned by the forest companies. Environmental organizations fear that increased government protection of forestland, as adopted by the Parliament in 1999, is likely to result in less voluntary conservation, owing to a practice they call "double bookkeeping."² It means that the forest companies can claim compensation from the government for loss of productive forestland, while calculating those areas as part of the forestland they conserve voluntarily to comply with the FSC 5% set-aside requirement. The SEPA and National Board of Forestry have sided with the environmentalists on this issue, but state agencies have no formal influence over rule making in the FSC because they are not allowed to participate in the scheme (National Board of Forestry, personal communication with senior official and junior official monitoring forest certification programs, October 13, 2004; SEPA, personal communication with two senior officials, October 11, 2004).

On the other hand, certification appears vital to achieve public policy goals in the forestry sector. The Parliament's objective to see a further half million hectares of high conservation value forestland preserved on a voluntary basis by the year 2010 has already been far exceeded as a result of the implementation of forest certification standards.³ In addition to the conservation target, the Parliament in 1999 adopted targets to expand total land resources containing dead wood, mature forests with deciduous-dominated stands, and old growth forest to enhance biological diversity.⁴ Success here largely depends on how forests are managed, that is, what stands are chosen for felling, and the degree to which dead trees are retained (SEPA, 2004, p. 66). According to the SEPA, the objectives are likely to be achieved by the target year 2010 (SEPA, 2004). Although the government has initiated educational campaigns, such as "Greener Forests," to improve forest management, the SEPA and

2. In 1999, the Parliament adopted the objective that a further 900,000 hectares of forestland of high conservation value will be excluded from forest production by the year 2010. The government is tasked with protecting 400,000 hectares of this area, while forest owners are expected to set aside a further 500,000 hectares on a voluntary basis, resulting in an area of at least 730,000 hectares with voluntary protection by 2010 (Swedish Environmental Protection Agency, 2004, p. 64).

3. As early as 2002, about 990,000 hectares of forestland had been set aside voluntarily (Swedish Environmental Protection Agency, 2004, p. 65).

4. These objectives are as follows: increasing the quantity of hard deadwood by at least 40% throughout the country and considerably more in areas where biological diversity is particularly at risk; increasing the area of mature forests with a large deciduous element by at least 10%; increasing the area of old forest by at least 5%; and increasing the area regenerated with deciduous forests (Swedish Environmental Protection Agency, 2004, pp. 65-66).

the National Board of Forestry agree that certification is clearly the most important initiative the forestry sector has taken in recent years to improve management practices (National Board of Forestry, personal communication with senior official and junior official monitoring forest certification programs, October 13, 2004; SEPA, personal communication with two senior officials, October 11, 2004).

Studies of Swedish forestry showing significant noncompliance with public environmental regulations (e.g., Eckerberg, 1990) suggest that not all forest owners actually comply with private certification requirements. If we examine Corrective Action Requests (CARs), that is, requirements to correct noncompliance, and other issues addressed by the certification bodies, we can get a sense of the effect of audits. CARs are issued by certifiers in the certification of a forest holding or in annual audits and can be either minor or major depending on the gravity of noncompliance. A study commissioned by the WWF and SSNC shows improvements in forestry practices following FSC certification in Sweden but also that some rules had only been partially implemented (Dahl, 2001). Two thirds of more than 400 CARs issued by certification bodies in 1996 through 2001 addressed ecological issues, a quarter concerned social issues, and less than 2% addressed economic concerns such as productivity and yield (Dahl, 2001). This clearly shows that implementing the environmental standards is the most serious challenge to forest companies but also that certifiers are ready to address breaches of those standards. Forest companies say that auditing is helpful and results in concrete improvements in forest management.⁵

Environmental organizations claim that third-party auditing in the PEFC and other forest owner-dominated schemes generally suffer from lax standards, lack of transparency, and arbitrary assessments of compliance (Dahl, 2002; Ozinga, 2004; Vallejo & Hauselmann, 2001). Although the FSC, too, has been criticized for deficient auditing procedures, the stringency of the FSC standards may facilitate credible verification of compliance (Gulbrandsen, 2004). Moreover, whereas FSC-accredited certifiers issue public summaries of certification and audit reports, there are no such publicly available reports from the PEFC, and there is no public registry of the scheme's forest owner members. This lack of transparency in the PEFC system makes it almost impossible to scrutinize and assess the effect of third-party auditing in Sweden (Dahl, 2002), and as there are no complaints procedures or dispute resolution mechanisms,

5. In one instance, Sveaskog in 2002 received a major CAR from their certifier, SGS Qualifor, for felling too many trees that could have become large, old trees. As a consequence, the company initiated a large-scale educational program for strengthening ecological skills among all of its harvesting crews in Sweden (Sveaskog, personal communication with forestry director, October 14, 2004; Sveaskog, personal communication with environmental director, October 22, 2004).

NGOs find it difficult to influence compliance and standard implementation.

To summarize, non-state certification projects seem to have enhanced environmental protection in forestry, but it is difficult to ascertain compliance with PEFC standards. The support of state agencies and the enabling Swedish regulatory and political framework facilitated successful implementation of both FSC and PEFC.

**UNINTENDED CONSEQUENCES:
SHIFTING ALLIANCES AND NEW CLEAVAGES?**

Forest certification could facilitate dialogue among antagonists and conflict resolution, but it could also result in shifting alliances and new cleavages. In applying the "advocacy coalition framework" (Sabatier, 1998) to the Swedish forest certification process, Elliott and Schlaepfer (2001) argue that the process allowed policy-oriented learning in the FSC working group and contributed to changes in the core beliefs of participants. Prior to the certification process, they argue, there were two opposing coalitions in Sweden: an environmental coalition and a forestry coalition. As a result of the certification process, the argument goes, the two groups merged into a "sustainable forestry coalition" made up of all the organizations that agreed on the 1998 FSC standard. The nonindustrial forest owners became marginalized as a result of their decision to leave the FSC working group. Based on the advocacy coalition framework, we should expect forest companies and NGOs to continue to work together and the nonindustrial forest owners to increasingly become the target of environmental group campaigns.

There is little doubt that forest certification contributed to better relations between the forest industry and NGOs in Sweden, particularly during the work in the FSC working group and the first years after the agreement on the Swedish standard (see also Hellström, 2001). In fact, the large-scale FSC implementation in Sweden became the much-needed success story of the environmental movement, which had invested a lot of resources and prestige in promoting the scheme in the marketplace. However, whether an advocacy coalition made up of the Swedish forest companies, environmental organizations, and the other participants in the FSC actually exists is less clear. Following a few peaceful years, antagonism seems on the rise again in the forestry sector, albeit still far below the extremes of the 1970s and 1980s. Forest companies have crossed swords with activists and local communities over logging, and the media have reported violations of the FSC standards. In the opinion of the forest industry, many of these conflicts basically concern differing expectations of what the certification processes would deliver: Whereas the forest companies believed that certification would ensure credibility and trust that forestry practices were sustainable, some envi-

ronmentalists expected a radical shift in forestry practices. Environmental organizations are in support of the view that individuals and groups were disappointed over the lack of “revolutionary” changes in forest management. In particular, a forestry network within the SSNC has reported many instances of alleged breaches of the FSC standards, and the network has published on the Internet almost 400 instances of what they call irresponsible logging.⁶

A conflict that made it to the headlines of the national media in 2004, and even resulted in a documentary on Swedish television, arose when the state-owned forest company Sveaskog—by far, the largest forest owner in Sweden—announced its intention of logging in a small forest in northern Sweden (Bodens kommun). Parts of the local community in the nearby Valvträsk town protested strongly and the SSNC sided with the locals. According to Sveaskog, by claiming that the forest was of high conservation value and that logging therefore would be in breach of the FSC’s principle of maintaining high conservation value forests, their opponents tried to frame the problem as a nature conservation issue. After an inspection by the FSC certifier SGS Qualifor concluded that the forest did not have the alleged conservation value, the opponents reframed their argument, claiming that Sami reindeer herding rights would be affected, and accused Sveaskog of violating the FSC principle on indigenous peoples’ rights. This was promptly denied by the Sami themselves, in response to which the activists reframed their argument a third time. It was now a local community issue, and the company was accused of ignoring the FSC principle of community relations. Local opposition, however, suggested it was all about the rights of small communities to use the forests for recreation (Hallmann & Hallmann, 2004). In the end, despite attempts by activists to prevent the forest workers from doing the job and a lot of negative press for Sveaskog, some of the forest was logged and some was preserved. Such disputes show that certification is not a panacea and that certification rules may be used strategically by stakeholders to promote certain interests in a conflict situation.

Traditional forestry conflicts, such as those concerning protection of primary forests, key habitats, and forests of recreational value, still tend to be arguments between forest companies and environmentalists and/or local communities. On the other hand, FSC collaboration necessarily disciplines the parties, obliging them to work together to find compromising solutions on contentious issues. In addition, repeated interaction over time in organized networks can build mutual trust, common expectations of what is right and proper conduct, and internalization of norms (Boström, *in press*; Cutler et al., 1999; Elliott & Schlaepfer, 2001). Although the participants in the FSC represent very different constitu-

6. Available in Swedish at <http://www.snf.se/pdf/dok-skog-exempelsamling.pdf>.

encies, all interviewees attest to greater understanding and appreciation of the different interests in forestry. Indeed, most participants say that it has enabled dialogue in a conflict-ridden sector and brought them closer together. Although postcertification conflicts shed doubt on claims that core beliefs have changed among participants, they have learned to respect each others' competencies and ideas and, by establishing a permanent Swedish FSC Council, they have created an institution for deliberation and conflict resolution (see also Boström, in press).

CAPACITY FOR CHANGE AND ATTENDING TO STAKEHOLDER NEEDS

From the industry's point of view, the main purpose of certification is to improve, or at least maintain, market penetration for certified organizations and eco-labeled products. Success depends on balancing inclusiveness with sensitivity to industry needs and ensuring credibility and producer participation in the scheme. The rivalry between the FSC and PEFC could be seen as a process of striking a balance between these ideals to gain rule-making legitimacy among NGOs, purchasers of forest products, and forest owners.

So-called chain-of-custody tracking tells consumers that products carrying the FSC eco-label come from a certified forest. The chain-of-custody certificate allows forest products to carry the FSC label if a certain percentage of the wood, chip, or fiber contained in those products can be traced to FSC-certified forests. Initially, the FSC required solid wood products bearing its label to contain 100% certified wood, and chip, fiber, and component products at least 70% FSC-certified content. Were supplies of FSC timber to pulp and paper mills and sawmills to fall below these thresholds, however, none of the output could carry the label. The Swedish forest companies had problems meeting these strict labeling requirements. In particular, deliveries of PEFC-certified and noncertified timber were particularly difficult for the mills least self-sufficient in FSC wood: Because they were unable to meet chain-of-custody requirements, they could not market their wood products with the FSC logo. The problem was exacerbated by the Swedish "wood swapping" system, whereby timber harvested is sent to the nearest mills—regardless of ownership—to reduce transportation costs (Cashore et al., 2004, p. 206).

The competing PEFC scheme offered the forest industry a better deal with its chain-of-custody certificate based on a "percentage-in, percentage-out" labeling approach, which operated with a given percentage of PEFC material for each production batch instead of imposing absolute thresholds (Cashore et al., 2004, p. 210). To ward off competition from the PEFC and attend to industry needs, the FSC in 2000 reduced labeling thresholds (FSC, 2000), but many mills still found it difficult to get

enough FSC timber to meet the lower targets. As a result, FSC-certified volumes became simply too small for buyers' networks, such as the WWF's Forest and Trade Network (formerly WWF 95+ group) in the United Kingdom. Moreover, the Swedish forest industry recognized that the proliferation of different eco-label schemes and the rivalry between them were likely to confuse customers and weaken the credibility of forest certification (Svenska Cellulosa Aktiebolaget [SCA], personal communication with director, November 26, 2004; Sveaskog, personal communication with forestry director, October 14, 2004).

Mutual recognition by the FSC and PEFC, that is, the reciprocal recognition of the schemes in terms of purpose, process, and outcome, would resolve the problem for the forest industry. Because mutual recognition at the international level was not a very likely prospect, the Swedish forest industry and environmental organizations took steps to work out a mutual recognition framework or "build a bridge" between the FSC and PEFC in Sweden ("the Stockdove process") (Swedish FSC Council; personal interview with program manager; Uppsala, 12 October, 2004; 2h.). A study they commissioned to identify similarities and differences between the standards of the two schemes found that whereas the PEFC would have to strengthen 17 of its standards to reach compatibility with the FSC, the latter would only have to strengthen 4 (Aulén & Bleckert, 2001). Although many of those standards have been harmonized and the Swedish PEFC, as a result, has changed "upward" (Cashore et al., 2004), a satisfactory solution still eludes the forest industry because environmental organizations do not approve the operation of the PEFC. They claim that it gives forestry interests unlimited control over rule making and interpretation, and as mentioned earlier, they refuse to participate in or support the scheme as long as environmental interests have no formal decision-making influence (SSNC, personal communication with nature conservation director, October 14, 2004; WWF, personal communication with forestry director, October 14, 2004). Note also that the high stakes that environmental organizations have in the FSC makes it very unlikely that they would ever support a competing scheme.

In an effort to circumvent the problems emanating from having two competing schemes, three out of the five major FSC-certified Swedish forest companies have recently pursued PEFC-style certification.⁷ By certifying their forestland to both the FSC and PEFC, they aim to increase their flexibility in labeling wood products and meeting manufacturer and consumer demands. The forest companies also lobbied the FSC to allow greater flexibility in chain-of-custody tracking (SCA, personal communication with director, November 26, 2004; Swedish Forest Industries Federation, personal communication with forestry director, October 13, 2004). In response, the FSC in 2004 drafted new and more

7. These companies are Holmen, Korsnäs, and Stora Enso.

flexible chain-of-custody standards for companies supplying and manufacturing FSC-certified products (Environmental Data Services, 2004, p. 29). Despite these changes, it is evident that some FSC-certified forest companies are reconsidering their certification choices for reasons of rigorous rules and inflexibility in attending to industry needs. The demands of environmental organizations and the problems with agreeing on difficult issues in the Swedish FSC Council have frustrated the forest industry. Similarly, in January 2004, the SSNC declared that it would be "taking time out" from the FSC standard revision process, ongoing since 2003, owing to the forest industry's alleged lack of will to agree on contentious issues, in particular that of double bookkeeping.⁸ There has also been some concern within the environmental movement, apparently more so in the SSNC than in the WWF, that by collaborating with the forest industry in the FSC, they are being co-opted by a neoliberal, market-based approach to environmental governance, stifling their ability to advocate for radical changes in forest management.

By pursuing parallel certification systems, that is, by certifying their forestland with both the FSC and PEFC, forest companies moved strategically to put pressure on the environmental organizations to compromise with the forest industry, and the parties finally agreed on the double bookkeeping issue in April 2005. Although this agreement and the adaptation of labeling requirements shows capacity for change and to find pragmatic solutions, the inclusiveness of the FSC might nevertheless constrain its efficiency in responding to industry needs.

Discussion and Conclusions

A credible and effective forest certification scheme must attend to ecological, social, and economic concerns in forestry. Clearly, there is an inherent dilemma in balancing the standard-setting ideals of inclusiveness and attending to the needs of industry in standardization processes. Consultation with a broad range of stakeholders in standard development and rule making appears vital to the credibility of a certification scheme, but—as seen in the FSC—differences of opinion and clashes of interests slow decision making and may ultimately cause standardization processes to stall. Conversely, industry domination in standard settings may facilitate flexibility and efficiency in rule making and implementation, but ignoring environmental organizations and other stakeholders may put the reputation of the scheme at risk—witnessed in the case of the PEFC.

Another dilemma concerns balancing stringent environmental and social rules with some degree of flexibility in applying those rules.

8. According to FSC rules, the standards are supposed to be revised every 5 years.

Through the prescription of quite stringent and wide-ranging rules, the FSC arguably has a greater capacity than the PEFC to attend to environmental and social concerns in forest management. On the other hand, a forest certification scheme will hardly prove effective if most forest owners refuse to participate. The formation of forest owner-dominated schemes may be seen as an attempt to create certification options that pay less attention to environmental and social criteria for sustainable forestry than the FSC, and more to economic criteria (Gulbrandsen, 2004). As a result of the widespread participation of forest industries and forest owners in these schemes, they have become larger than the FSC in terms of certified forestland worldwide. Indeed, despite the FSC's success in Sweden, the PEFC is catching up with the FSC: Support among nonindustrial forest owners is growing and, more recently, forest companies are pursuing parallel certification.

It is interesting that competition between non-state authorities may help resolve standardization dilemmas and balance different standard-setting ideals. Rather than a "race to the top" or a "race to the bottom," the FSC and PEFC rivalry in Sweden has resulted in some cross-fertilization and convergence of the two schemes. The FSC has responded by adjusting rules to better accommodate the needs of business; the PEFC has changed upward in an effort to boost credibility in the marketplace. These dynamics have been observed not only in Sweden but in a number of developed countries such as Germany, the United Kingdom, Canada, and the United States (Cashore et al., 2004). However, this study shows that the PEFC has not adopted decision-making rules and structures that could reduce the influence of forest owners in standard development and operation. Whereas ecological, social, and economic interests participate on a level playing field in the Swedish FSC Council, consultations in the PEFC still occur almost exclusively within the forest owners' associations and with the government. The effect is that the PEFC has considerable capacity to accommodate the needs of the forest industry, but it has almost no credibility among environmental organizations and other NGOs. Because rule making in certification schemes is an iterative process, the balancing of different interests appears crucial for credibility and rule-making legitimacy. The support of environmental organizations and professional buyers goes a long way to explain why the more demanding and inclusive FSC still is, after all, the largest forest certification scheme in Sweden.

The Swedish political and regulatory context facilitated forest certification initiatives (Boström, 2003) and national environmental targets encourage forest companies and forest owners to comply with the standards. Indeed, forest law enforcement and well-functioning government administrations appear to be a precondition for effective implementation of private forest governance schemes. Although the FSC or

government and industry-dominated certification schemes have emerged in forest-rich developing countries such as Indonesia, Malaysia, Brazil, Chile, and Gabon, they are powerless to stop illegal logging, which accounts for at least half of total timber extraction in developing countries (cf. UN Millennium Project, 2005, p. 48). According to UN Food and Agriculture Organization (FAO) estimates, 97% of the global forest loss over the past decade was in the tropics, with the highest losses in Southeast Asia, West Africa, and Central America (FAO, 2001, p. 9). Despite certification initiatives, deforestation continues at an alarming rate in these regions. In the Asia Pacific, for example, loggers will largely deplete the old-growth forests of commercial timber in East Malaysia (Sabah and Sarawak), the Solomon Islands, Papua New Guinea, and Indonesia within 10 to 20 years under current practices (Dauvergne, 2001). These figures suggest that in the absence of strict legal requirements and domestic enforcement capacities, non-state governance schemes stand little chance of changing on-the-ground practices and ameliorating environmental degradation of forests. Vested corporate and governmental interests in forest exploitation and the informal and political nature of state-business relations in many developing countries are major barriers to change (Dauvergne, 2001). Therefore, it is not surprising that non-state forest governance schemes have been more successful in Sweden and other developed countries with advanced government institutions and extensive environmental protection experience than in developing countries. Currently, certifications in developing countries only make up about 10% of the world's total certified forestland (Gulbrandsen, 2004).

Certification initiatives cannot supplant forest legislation and its enforcement by public authorities. On the contrary, effective implementation of private forest certification schemes requires forest law enforcement, strong legal institutions, and national and local administrations that work. By focusing predominantly on market dynamics and the decisions of firms, many analysts of non-state governance programs tend to ignore or downplay the role of the state and regulatory frameworks in the establishment and implementation of these programs. Although international campaigns and competition between non-state certification schemes in the rule-making market could result in a greater proliferation of forest certification schemes in developing countries, researchers and forest protection advocates would be well advised to pay attention to the legal, socioeconomic, and political contexts that facilitate and constrain successful implementation. The Swedish case shows the importance of not only international market pressures for corporate environmental responsibility but also political and regulatory systems that enable non-state governance initiatives to succeed.

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