

Smallholder Forestry in the FSC System: A Review

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Résumé de l'article

Depuis sa création en 1993, le système de certification du Forest Stewardship Council visant à évaluer la qualité de la gestion responsable des forêts a pour but de certifier les forêts à l'échelle industrielle et les forêts des petits exploitants. Cet article examine les différents modèles de certification FSC des petits exploitants : la certification individuelle ou de groupe ; la certification SLIMF pour les petites forêts ou les forêts gérées à faible intensité ; et la certification des forêts communautaires gérées à la fois par des entreprises et des communautés dans les pays du Nord et du Sud. La classification des petits exploitants, comme « surplus de subsistance » ou « vendre pour survivre », telle que proposée par l'écologiste politique Jason Moore, est également appliquée. Les petits exploitants du Nord représentent les deux tiers de la superficie certifiée des petits exploitants et, en général, sont en mesure de faire face aux coûts de la certification FSC en raison de la demande de bois certifié, de leur meilleure situation socio-économique, d'un plus grand degré d'organisation du groupe et, dans certains cas, de l'accès aux subventions de l'État. Ils sont également plus susceptibles d'être des fixeurs de prix. Les forêts du Sud abritent une plus grande partie de la biodiversité restante de la planète et sont plus vulnérables à la dégradation. Les réalités économiques et sociales font que les petits exploitants des pays du Sud sont largement limités par le fait qu'ils doivent vendre leur bois pour survivre et se retrouvent donc dans la catégorie des preneurs de prix. En l'absence de subventions, de primes de prix ou d'une chaîne de valeur sûre, ils n'ont pas les moyens de renouveler leur certification FSC. L'article se termine par une évaluation de quelques options réalistes pour la certification des petits exploitants forestiers.

Smallholder Forestry in the FSC System: A Review

By Janette Bulkan¹

ABSTRACT

Since its inception in 1993, the Forest Stewardship Council certification scheme to assess the quality of responsible forest stewardship has aimed to certify both industrial-scale and smallholder forests. This article considers variations in FSC smallholder certification: single or group; Small and Low Intensity Managed Forests (SLIMF); and both company- and community-managed community forests in Global North and South countries. The classification of smallholders, as “subsistence surplus” or “sell-to-survive,” as proposed by the political ecologist Jason Moore, is also applied. Global North smallholders account for two-thirds of smallholder certified area and, in general, are able to meet the costs of FSC certification because of the demand for certified timber, their better socio-economic circumstances, a greater degree of group organization, and, in some cases, access to state subsidies. They are also more likely to be price-makers. Global South forests both house more of the planet’s remaining biodiversity and are more vulnerable to degradation. Economic and social realities dictate that global South smallholders are largely constrained by having to sell their timber to survive and fall in the price-takers category. In the absence of subsidies, price premiums, or a secure value chain, they are unable to afford renewal of FSC certification. The article concludes with an assessment of some realistic options for smallholder forestry certification.

Keywords: Forest Stewardship Council; smallholder forestry; community forests; forest certification; price takers; price makers

RÉSUMÉ

Depuis sa création en 1993, le système de certification du Forest Stewardship Council visant à évaluer la qualité de la gestion responsable des forêts a pour but de certifier les forêts à l’échelle industrielle et les forêts des petits exploitants. Cet article examine les différents modèles de certification FSC des petits exploitants : la certification individuelle ou de groupe ; la certification SLIMF pour les petites forêts ou les forêts gérées à faible intensité ; et la certification des forêts communautaires gérées à la fois par des entreprises et des communautés dans les pays du Nord et du Sud. La classification des petits exploitants, comme «surplus de subsistance» ou «vendre pour survivre», telle que proposée par l’écologiste politique Jason Moore, est également appliquée. Les petits exploitants du Nord représentent les deux tiers de la superficie certifiée des petits exploitants et, en général, sont en mesure de faire face aux coûts de la certification FSC en raison de la demande de bois certifié, de leur meilleure situation socio-économique, d’un plus grand degré d’organisation du groupe et, dans certains cas, de l’accès aux subventions de l’État. Ils sont

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également plus susceptibles d'être des fixeurs de prix. Les forêts du Sud abritent une plus grande partie de la biodiversité restante de la planète et sont plus vulnérables à la dégradation. Les réalités économiques et sociales font que les petits exploitants des pays du Sud sont largement limités par le fait qu'ils doivent vendre leur bois pour survivre et se retrouvent donc dans la catégorie des preneurs de prix. En l'absence de subventions, de primes de prix ou d'une chaîne de valeur sûre, ils n'ont pas les moyens de renouveler leur certification FSC. L'article se termine par une évaluation de quelques options réalistes pour la certification des petits exploitants forestiers.

Mots-clés : Forest Stewardship Council ; petites exploitations forestières ; forêts communautaires ; certification forestière ; preneurs de prix ; fixeurs de prix

Introduction to Smallholder Forestry

There are as many variations of smallholder forestry as there are countries, each shaped by its particular history, demography, geography, law and policy, traditional customary practices, and legally recognized or ill-defined property rights (Bulkan, 2017a). This article follows the lead of the Forest Stewardship Council (FSC) in defining smallholder forestry as small in area, private or communal ownership and/or management rather than corporate, and managed for multiple forest values rather than maximum timber yield (Forest Stewardship Council, 2009). The two terms—smallholder and small-scale—are often used interchangeably in the literature.

Until the 1970s, national governments and international institutions like the United Nations Food and Agriculture Organisation (UN-FAO) paid scant attention to smallholder forestry in developing countries. Beginning in the 1950s, UN-FAO led a focus in support of large-scale industrial forestry in newly independent countries, premised on widely held beliefs in sustained yield and “trickle-down” benefits to local economies (Westoby, 1962). However, by the 1970s, there was growing recognition by national and international agencies of the failures of industrial forestry to deliver either outcome in the absence of good governance. Concomitantly, the importance of smallholder forestry to local livelihoods, and forest and biodiversity protection gained support (Hobley, 1996; Menzies, 2007). A range of inter-governmental, multilateral (including IUCN and the World Bank), bilateral, and NGO donors began to support smallholder forestry, but that support was, and often still is, short term and linked to ever-changing donor priorities. Despite oft-repeated commitments, the superstructure of supportive policy and legal measures, business development and financial services for smallholders, and the sub-structure of producer groups and community forest enterprises have yet to be put in place or made functional in many developing countries (Nair, 2007).

In the current Anthropocene epoch, smallholder-controlled forests are recognized as both a human rights issue and a critical component in global processes that strive to protect and/or responsibly manage the planet's remaining forests (de Jong et al., 2017). Small-scale forests that are managed for a range of products retain greater biological and biocultural diversity than large-scale forests managed for timber only (Porter-Bolland et al., 2012). The range of products and services can include tangibles such as timber and non-timber forest products (NTFPs), and intangibles such as cultural and spiritual factors and ecosystem services like clean water and pollution control.

This article considers variations in FSC smallholder certification: single or group, Small and Low Intensity Managed Forests (SLIMF), and “company-managed ... and community-managed community forests” (Forest Stewardship Council, 2012, p. 3). First, I briefly review the impetus for the creation of FSC, a global independent, voluntary, third-party forest certification scheme. Then I outline two classifications—FSC’s adoption of global North versus South based on gross national income (GNI) per capita, and Moore’s “subsistence surplus” versus “sell-to-survive” (Moore 2000a)—and their usefulness and limitations in relation to smallholder forestry. Next, I outline FSC’s smallholder group certification schemes and review some examples in the global North and South. I then review some data on costs of FSC certification and their implications. Last, I point out the urgent need for disaggregated data on the different types of smallholder schemes so that researchers might begin to analyse their benefits and costs against FSC’s stated aspirations for smallholders and their forests.

I limit analysis to the FSC certification system, partly on account of space constraints but more because, as Scrase (2000) puts it, FSC “was developed specifically to include social objectives such as benefits to people who live in, or make their living from forests and forest products. If certification reduces the opportunities for small enterprises to make a living from the responsible management of natural resources, it is unlikely to benefit either rural populations or the forests on which they depend.”

1. Purpose of Certified Quality of Forest Management

Since the 1970s, photojournalists, television film producers, and environmental NGOs have brought into the living rooms of Western homes graphic images of tropical rainforests degraded by legal and illegal logging and cleared for agricultural plantations. The disparity between claims by national forest services to the regulation and practice of sustainable forest management (SFM) and the documented destruction has led to a variety of protests and promises of reform. Inaction by governments spurred civil

society initiatives in the late 1980s to allow consumer preference to distinguish between forest products of poorly controlled and uncontrolled forests from those that could demonstrate responsible forest stewardship (RFS). Quality assurance schemes were proposed, like those widely used in industry for health, safety, and consumer protection, using systematic standards developed under protocols from the International Standards Organisation (ISO). The first schemes were launched in 1989—Smart Wood by Rainforest Alliance, and “a verification programme to promote environmentally sensitive timber production” by the Rogue Institute in Ashland, Oregon (Hatch, 2005).

Many-sided discussions among professional foresters and environmental specialists, mostly in Northern countries in the late 1980s and early 1990s, led to the inauguration of a three-chambered (economic, environmental, and social) FSC in October 1993. FSC’s voting structure ensures that no single chamber can exclusively overpower a decision.

1.1. FSC’s Global Standard for Responsible Forest Stewardship (RFS)

The fourth version of FSC’s global standard, published in November 1994, consisted of 9 (later 10) hierarchical principles and 56 subordinate criteria for evaluation of field performance of forestry. Legal, socio-economic, and environmental criteria aimed to provide better-than-the-legal-minimum requirements, covering all the main aspects of a consensus about responsible forest stewardship (RFS). The phrase “responsible forest stewardship” was meant to avoid arguments about the meaning of “sustainable forest management,” for which there are over 270 definitions (Aplet et al., 1993). As Nussbaum and Simula (2005) explained:

There is a problem with the use of the term “sustainable” in the name of a forest certification standard ... where it is planned to link the name to any claims. This is because of ISO guidance [that states] ... “At this time there are no definitive methods for measuring sustainability or confirming its accomplishment. Therefore, no claim of sustainability shall be made” (ISO 14021, clause 5.6). While it may be acceptable to use the term “sustainable forest management” (SFM) in discussions about the standard, this phrase should be avoided in any claims made relating to certification against the standard (p. 35).

Following membership approval of the fifth version of the global standard in 2012, FSC developed 150+ International Generic Indicators by which field performance of RFS could be assessed (FSC-STD-60-004 V1-0 2015).

Forest managers that planned and implemented management activities that satisfied the multiple requirements in the RFS Standard could have products marked with a distinctive label and the owners awarded a certificate attesting that they practice RFS. That is, independent auditors check the field performance of the forest owner against the RFS Standard, and those auditors are themselves accredited by a separate independent accreditation authority for their competence to make such evaluations. The triangle of standard setting and administration, accreditation of auditors against the standard, and the audits themselves comprise a minimum system for quality assurance on which a customer can rely.

From its beginning, the scope of the FSC was intended to cover boreal, temperate, and tropical forests; natural and semi-natural forests; plantations; and partially replanted forests (FSC 1994 P&C V4, FSC 2005 POL-10-004) (Forest Stewardship Council, 1994, 2005), with no limits on size or ownership (tenure). Recognizing that forests would vary greatly for biological/ecological reasons as well as socio-economic considerations, the global standard was to be adapted to the specifics of individual countries and regions in National Forest Stewardship Standards. Other variations between forests are accommodated by attention to the standards and non-normative guidance, and in audit procedures to scale of operation, intensity of management, and risk of non-conformity.

1.2. FSC Recognition of Global Disparities in Development

Recognizing the varying “developmental” stages reached by the “global North” versus the “global South,” FSC introduced northern and southern sub-chambers around 1995 (Statute No. 19) to increase equity in representation in its governance structure. Countries are assigned to North or South categories following World Bank country classifications based on GNI per capita (Forest Stewardship Council, 2013). “High income” countries, with annual GNI of more than US \$12,616 per capita (as of 2014), are assigned to the “Global North.” FSC has considered the limitations of this categorization, including: income as a misleading measure of “development”; uneven national development (vast disparities in income distribution across individuals, social classes, or regions); and GNI as a non-factor in social or environmental dimensions, as it omits externalities such as pollution, workplace injuries, or loss of biodiversity. China, Taiwan, Russia, and some Eastern European countries are in the global South, while Croatia, Czech Republic, Estonia, Poland, and Slovenia are in the global North. To date, no alternative system has been agreed for balancing membership interests.

2. “Subsistence Surplus” versus “Sell-to-Survive”

The political ecologist Jason Moore (2000a) has argued that a *longue durée* began in the sixteenth century, when “the spread of coercive modes of labor control in the new peripheries—especially slavery in the Atlantic and the second serfdom in eastern Europe” relegated those regions to serve as primary commodity producers for an industrializing western Europe (p. 130). While not entirely transferrable, Moore’s classification is useful when considering forest-owning smallholders. There are two inter-related realities for “sell to survive” producers. First, upstream raw commodity suppliers generally capture little of the value that accrues along the supply chain (Munden Project, 2011). Second, if weak and not organized, they are generally price-takers, not price-makers. However, as shown in examples below, the North/South split is not the same as the price-maker/price-taker split.

Global North forest smallholders generally fit into Moore’s “settlers” category (excepting African-American and poorer Appalachian smallholders; see below). “On the surplus frontier, settlers were not compelled to ‘sell to survive’ by the capitalist market. Rather, they practiced a ‘subsistence-surplus agriculture’ ... in preparation for a more intensive stage of commodity production” (Moore, 2000b, p. 416). Global North forest smallholders are less dependent for their livelihood on market demand for their products, and their ability to withhold production makes them price-makers. In contrast, global South forest smallholders are more likely to be dependent for their livelihoods on immediate sales of forest products at whatever price is offered, and so they are price-takers.

3. Small and Low Intensity Managed Forests (SLIMF)

In the late 1990s, there was growing consensus among FSC headquarters staff, certifiers, and NGOs that forest management (FM) standards for industrial-scale forestry were inappropriate for evaluating small-scale forestry, having been “frequently drawn up by groups anticipating the sort of major negative impacts which might arise if a large-scale operation carries out poor forest management” (Robinson & Brown, 2002, p. 2). In collaboration with the environmental consultancy Proforest (Oxford, UK) and conformity assessment bodies (CABs) like Rainforest Alliance, the fit-for-purpose FSC’s

Policy on Group Certification [FSC-POL-20-001] was published in 1998.² Six years later, FSC issued *Eligibility Criteria for Small and Low Intensity Managed Forests (SLIMF)* (Forest Stewardship Council, 2004). Guidance documents for smallholders were also developed (Forest Stewardship Council, 2007; Proforest Oxford, 2008; UKWAS Steering Group, 2005).

Proforest identified *inter alia* several constraints facing small forest owners, including relative sizes, costs, risks, and feasibility. Size was not the only definition of a small-holder operation: “‘small’ does not necessarily apply only to areas less than a particular number of hectares. It also relates to production and income, impact (or risk of negative impact) and applicability of requirements. Therefore, a definition of ‘small forest enterprise’ is needed which takes into account these factors” (Nussbaum et al., 2000, p. 6).

Proforest proposed the concept of Small and Low-Intensity Managed Forest. The two principal SLIMF eligibility criteria are “small in size” and/or “low intensity” harvested forests. The SLIMF intention was to categorize the majority of forests in this category as small in size, or no more than 100 ha in area. However, recognizing that small is relative to the scale of forest holdings in some countries, a SLIMF could be up to 1,000 ha in area when formally proposed by a national FSC Standard Development Group (SDG) and accepted by FSC’s Performance and Standards Unit (PSU) (Forest Stewardship Council, 2004).

Low-intensity managed forests have maxima where:

- a) the rate of harvesting is less than 20% of the mean annual increment (MAI) within the total production forest area of the unit; *and*
- b) *either* the annual harvest from the total production forest area is less than 5000 cubic metres;
- c) *or* the average annual harvest from the total production forest is less than 5000 cubic metres per year during the period of validity.

Proforest considered what certification would entail for various configurations of smallholders based on area of forest, type (natural or plantation forests), ownership (tenure; private or communal), location, maximum number of members, and costs (Nussbaum, 2002). Proforest recommended either adapting national FSC FM standards in the audit of SLIMF areas by adding specific SLIMF indicators or developing separate SLIMF standards. In the case of small-scale operations, an auditor could apply scale, intensity, and risk-related reductions (SIR) in audit effort, recognizing that operations in small forest areas can pose lesser threats to sustainability than operations in large areas. Public

2. FSC’s 1998 Policy on Group Certification (FSC-POL-20-001 Policy on Group Certification) was revised and replaced in 2017 with FSC-STD-30-005 V1-1 EN. FSC standard for group entities in forest management groups (Forest Stewardship Council, 2017).

consultation in the early 2000s showed that membership strongly opposed having more than one FSC global standard for quality of forest stewardship, but did accept SIR-based reductions in audit efforts for SLIMFs.

4. Group Certification for Smallholders

Group certification was developed to decrease the costs of certification and unify and streamline processes to make FSC certification more accessible to smallholders (Robinson & Brown, 2002, p. 5). The intention was that individual small-forest owners could lower transaction costs by spreading them across the group, united under one management plan. Smallholder forestry would require lighter audits—“internal monitoring and a ‘systems and sampling’ approach to inspection by the certification body make it possible” (Scrase, 2000, p. 62).

FSC developed two types of group scheme, “conventional and resource manager. The conventional group consists of a group manager who defines requirements for membership and then co-ordinates and monitors the activities of group members, each of whom manages their own forest. The resource manager, on the other hand, actually manages the members’ forests on their behalf, making this type of group somewhat simpler to manage and to certify” (Nussbaum et al., 2000, pp. 10–11). Funding issues aside, a group manager would have to educate many smallholders about certification and how to get their forest management systems in place before the external audit.

The growth in FSC-certified smallholder forest areas was slow, and just over one-third of certified smallholders are in global South countries, the location of the world’s most biodiverse forests (Meier-Dörnberg & Karmann, 2015, p. 165). FSC began work on new smallholder standards under its New Approaches project in 2018 to address these gaps (Forest Stewardship Council, 2018a).

The remainder of this article considers available information on four permutations of FSC-certified smallholder forestry: conventional and resource manager group schemes (community-managed versus company-managed), and “subsistence surplus” versus “sell-to-survive.” FSC personnel in the Data Analytics, Evaluation and Learning (DAEL) and New Approaches programs have confirmed that as of June 2020 there is no disaggregated information or trend data on areas or numbers of certified smallholder forests.

5. “Subsistence-Surplus” Forestry: Western versus Eastern Europe

There are an estimated 25 million family forest owners globally (IFFA, 2014). Given that the initial work to develop FSC and its inaugural membership was drawn largely from Northern countries, it is not surprising that the initial interest in forest stewardship certification was stimulated among forest managers, retailers, and consumers of forest products in the global North. Forestry is an important contributor to both GDP and employment in Sweden and Finland, two examples considered below (Jeanrenaud, 2001). Family-scale forest industries, such as small sawmills, were mainly driven out in the twentieth century by economies of scale and the cost of technological innovation in favour of large industrial mills in Nordic countries. But on the forest production side, many small-scale family-owned and community-managed forests remain profitable because of low production costs, contracted-out field work, and transport costs similar between small- and large-scale operations. Long traditions of cooperative-scale purchase of inputs and sale of outputs by agricultural farmers spill over into farm forestry, and the geographic and national associations of small-scale forest owners often also have political clout at the national scale (Carlsson, 1999; Jeanrenaud, 2001).

Negotiated higher prices for forest products in Western Europe not only covered annual management costs but also returned a profit sufficient to allow attribution of non-market high values to recreational benefits, including game hunting and aesthetically-pleasing landscapes and waterscapes during family vacations paid by sales of forest products.

5.1. Sweden

Sweden was the first country to develop an FSC national standard, and the large-scale forest companies were among the founders of its Standard Development Group (SDG). As Gulbrandsen (2005) explains, “although these companies own more than a third of the Swedish forestland, they depend on timber from small, nonindustrial forest owners” (p. 342). To meet the increasing European demand for certified forest products, the large forest companies encouraged small forest owners’ associations to join the SDG in 1996. However, due to disagreements, the small forest owners’ associations dropped out of the SDG before the Swedish standard had been completed. Two years later, “in partnership with sister organizations in other European countries, in 1998–1999 [the small forest owners’ associations] forged the PEFC” (Gulbrandsen, 2005, p. 343).

Following the withdrawal of the nonindustrial forest owners from the FSC SDG, some large-scale forestry companies stepped in as sponsors of group certification, separate from their own FSC FM certificates, in order to secure certified wood. FSC does not

place any limit on the size of a group, whether in terms of number of members or size of forests. The group manager is required to demonstrate that they can manage current and any planned additional group members (Proforest Oxford, 2008).

Sveaskog, for example, in the role of a group manager, operates DNV-FM/COC-000736, a certificate covering 116,000 ha of forestland belonging to around 700 members spread all over Sweden. The company charges a small admission fee to forest owners and pays a small premium (around 2.5 Euros per m³) to suppliers of FSC-certified wood. While Swedish law does not permit Sveaskog or any company to dictate to whom a small forest owner should sell, the company removed from its group certificate those members from whom no timber had been purchased in the previous 10 years (former Sveaskog employee, personal communication, 15 May 2019). Sveaskog can operate its group scheme as a “conventional” rather than “resource” manager in the FSC sense because of the multi-level governance in place. The large forest companies not only provide a secure market for the timber harvested from their forests but also deal with FSC paperwork.

Tracking the relation between the dividend paid to 14 small forest owner associations and timber prices over a 30-year period (1963–1993), Carlsson showed that the dividends paid over the period were stable. The data confirmed that smallholders wanted only a “target income ... an even and predictable economic revenue” rather than increased profits when timber prices were high (Carlsson, 1999, p. 18). Swedish smallholders fit Moore’s “subsistence surplus” category, managing their own forests for the broad suite of ecosystem values and preferring to reduce their already conservative cut when timber prices rose.

5.2 Finland

Financial consideration of only timber values might suggest that Nordic families should sell their holdings of trees to industrial forestry companies. However, family members moving off the land into urban jobs and no longer reliant on the family forest or farm for their entire livelihoods may and do appreciate other forest values. These are recognized in the FSC standards. For example, 632,000 registered owners with an average of 30 ha of natural forest in Finland supply 70 per cent of the national industrial wood supply. For these families, the annual income of about Euros 3,000 from thinnings and final harvests provides a “13th month salary” to pay for holidays and extra education. This money is also enough to encourage active forest management, even if the trend is towards stewardship of ecosystem values rather than timber (Finnish foresters, personal communication, April 2019).

5.3. USA

Across the Atlantic, a study in 1996 of non-industrial private forests in the USA that covered seven case studies of non-certified and three just-certified or thinking-about-certification groups furnished examples of Moore's surplus model, as well as a useful contrast with Appalachian case(s) in the survival model (Washburn et al., 1998). The subjects of the 10 case studies took up few or no government subsidies, although a few may have used technical support and advice programs from state or land grant universities. As in the Nordic countries, data underlined the commercial importance of fibre flow from private forests to industry in the USA (Sustainable Forestry Working Group, 1998). Two decades later, another study confirmed that small forest owners have strong stewardship ethics and value amenity over economic values (Sustaining Family Forests Initiative, 2017a). However a majority lacked management plans (Sustaining Family Forests Initiative, 2017b).

6. "Sell-to-Survive" Forestry

6.1 Forest Owners in the American Southeast

African-American and poor White Appalachian small forest owners fit the "sell to survive" category. They are more often forced to sell their forestlands on account of unclear title deeds and the strain of property taxes (Christian et al., 2013; Fraser et al., 2005; Schelhas et al., 2016). Akin to global South smallholders, they are comparatively less educated and poorer, racialized, not organized, and prey to middlemen who high-grade their forests (Rainforest Alliance, 2018).

FSC's New Approaches Project in collaboration with Rainforest Alliance is testing "a very simple standard, with only 31 indicators" in the southern and central Appalachian region (Forest Stewardship Council New Approaches Project, 2020). The project is underwritten by corporations that need more FSC-certified pulp: "Domtar, along with corporate partners like Staples, Kimberly-Clark and Avery Dennison, is also a major contributor to the Appalachian Woodlands Alliance, a project led by the Rainforest Alliance that seeks to improve forestry and promote biodiversity conservation in the Appalachians" (Domtar, 2017). This project is in its initial stages.

6.2 Western versus Eastern European Countries

A survey of forest owners associations in seven Central and Eastern European countries after the restitution of land rights,³ which began after the collapse of the communist regimes in 1989, found results similar to those in global South countries. “[N]ew so-called non-state owners ... lacked sufficient knowledge about how to manage their forests, and engage in the forestry sector, so as to achieve financial and ecological sustainability. Properties returned to private individuals were often too small for viable independent management and highly fragmented in location. New forest owners also lacked financial capital, technological know-how and the necessary equipment and tools” (Sarvašová et al., 2015, p. 219).

A seven-country pan-European survey of over 1,100 forest owners found marked differences in attitudes between Eastern versus Western Europeans. “[I]n Western Europe, forest owners have a more ecosystem-oriented view of forest management than those in Eastern Europe” (Feliciano et al., 2017, p. 173). By contrast, in the Eastern European countries (Slovenia, Slovakia, Czech Republic, and Romania), “forest owners emphasised forest maintenance and forest economics more” (Feliciano et al., 2017, p. 168).

6.3 Brazil

Brazil has the largest area of public forest under community management (152 million hectares) (Gilmour, 2016, p. 35). The successful and long-term forest management and NTFP certifications were the ones subsidized by government, NGOs, or forestry companies (Drigo et al., 2013; Guedes Pinto et al., 2008; Humphries & Kainer, 2006). In their field surveys with two community logging enterprises in Acre in 2004, Humphries and Kainer (2006) found that “the principal motivation for pursuing certification for both operations was market benefits, as has been observed for other certified CFEs studied” (p. 39).

Duchelle, Kainer, and Wadt (2014) assessed environmental and socioeconomic benefits of Brazil nut certification in three separate schemes—Organic, Fairtrade, and FSC certification for 231 producers in 17 communities in the trinational border region of Bolivia, Brazil, and Peru during the 2006–2007 harvest. They found that “Organic and Fairtrade certification were associated with better postharvest practices and higher prices, while FSC certification was related to pre-harvest planning.” Brazil nut gatherers in Acre “resisted FSC nut certification, credited to a perceived lack of financial benefits in relation to certification costs” (Duchelle et al., 2014, p. 127).

3. ‘Restitution of forest land is a process of returning property rights to the original (pre-Communist regime) owners. This process started in the 1990s (Sarvašová et al., 2015).

7. Company-managed community forests

7.1 Brazil

Klabin, a leading Brazilian pulp and paper company, also supports groups certified under its SLIMF standard (FSC Brazil, 2013). Klabin “helps rural producers in the region of the Middle Tibagi River in Paraná state to obtain [FSC certification] ... The initiative is part of the company’s strategy to have certified 100% of the wood used in its production process ... allows certified producers to sell value-added wood, which benefits the entire production chain. Today, 47,983 hectares on 177 rural properties are already certified. Klabin finances the entire process, which is also supported by expert consultants” (Klabin, n.d.). The Paraná state smallholders, like the other Brazilian smallholders surveyed, fit the “sell-to-survive” and price-taker categories. Klabin provides technical support and a stable market for their wood, two factors singled out by small forest owners as important (Humphries & Kainer, 2006).

7.2 China

FSC-certified smallholder forests in China offer examples of the “resource” manager model. Since 1981, the government of China began devolution of use rights over forestlands from government control to households. The tenure rights held by smallholders are time-limited, so not equivalent to the full suite of freehold or private property rights. Liu and Yuan (2007) note that under the “household responsibility system” created in the 1980s, “rights to use the land have been allocated to individual farmer households for periods of up to 30 to 70 years” (p. 19). He, Wu, Li, & Zeng (2015) report official State Forest Administration (SFA) data in 2008 that “for the tenure of forestland (including forestland use right, forestland management right and ownership of forest trees on the forestland), the state-owned, collectively owned and household-owned forest accounted for 42.14, 37.52 and 20.32 % of the total, respectively,” and that household tenure certificates were valid for 50 to 70 years (pp. 246–250).

Individual forest holdings are small. “In China on average smallholders manage about 2 hectares of forests, with some manage [sic] less than 0.1 hectares and some up to 160 hectares” (Forest Stewardship Council, 2018b). The number of members of a single SLIMF group is also growing. “In the past it was hundreds of households, now it is twenty thousand households per certificate” (FSC staff member, personal communication, August 2018). These are not organic groups that have retained some decision-making authority. The management body is a company functioning as the FSC resource manager.

In a case in Zhejiang province in southern China, Zhejiang Nengfu Tourist Products Co. Ltd. (Zhejiang) helped 344 households who collectively held long-term use rights to 4,000 ha to form a cooperative. Then “... members of the Cooperative transferred their forestland use right to the Cooperative” which in turn transferred management authority to the FSC certificate holder, Zhejiang “for a period equal to that stated in the tenure certificate (50–70 years)” (He et al., 2015, pp. 249–250).

China is perceived as an important growth for FSC so it is not surprising that there is an on-going project to find alternative way(s) to conform with Indicator 6.5.5, which is focused on setting aside 10 percent of the Management Unit(s) (MUs) as a designated conservation area. FSC’s guidance is that one or more ecologically suitable MU(s) be set aside entirely as the representative sample area (RSA) for the group as a whole, with compensation to the owners of those selected MUs arranged within the group. This was adopted in Nepal.⁴ Instead, FSC’s New Approaches project has launched a two-year NFSS pilot test for Indicator 6.5.5 (September 2018–July 2020) whose objective is “to test alternative ways of conforming with in specific regions in China where conformity is a challenge for smallholders” (Forest Stewardship Council, 2019a, 2020). The working group includes the multinational company IKEA, WWF-China, and the Chinese Academy of Forests.

Table 1 shows the smallholder percentages in nine FSC group certificates under the resource manager model in China. These are “company-managed,” as opposed to “community-managed community forests” (Forest Stewardship Council, 2012). FSC’s New Approaches project has not published any information on the benefits, achieved or promised, to involved smallholders.

4. “Indicator 6.5.5. SLIMF organizations can collectively fulfil the conservation requirement of 10% under group certification schemes” (Nepal Standard Development Group, 2018).

Table 1. FSC resource manager group schemes in China

Company name	Certificate number	Total area in hectares	Small holder land (ha)	% of small holder land
Shandong Longsen Woods Co. Ltd.	RA-FM/COC-007089	274.3	274.3	100
Wen Zhou Tai Feng Bamboo Industry Co. Ltd.	RA-FM/COC-007402	3,539	3,539	100
Guangxi Sunway Forest Products Industry Co. Ltd.	BV-FM/COC-124765	18,568	6,770	36
Shen County ShenSen Forestry Development Co. Ltd.	BV-FM/COC-122648	8,209.62	8,209.62	100
Yucheng Kunda Wood Industry Co. Ltd.	BV-FM/COC-126334	5,443	1,692	31
Xuzhou Weilin Wood Co. Ltd.	BV-FM/COC-016845	6,581.27	6,581.27	100
Fujian Jianou Meisen Bamboo Industry Co. Ltd.	BV-FM/COC-140302	8,256.03	85.71	1
Fujian Shuangyi Bamboo and Wood Development Co. Ltd.	BV-FM/COC-123461	5358.2	97.1	2
Guangzhou Huagexiang Wood Co. Ltd.	SGS-FM/COC-011281	233.3	233.3	100

Source: Forest Stewardship Council (2018a).

8. Costs of FSC Certification

There is a cost to securing and retaining FSC certification, and unless smallholders are members of well-organized associations, they do not benefit from economies of scale. While details on the provenance of lapsed FSC smallholder certificates are not available, there is evidence that smallholders can only consider or retain FSC forest certification where there is donor support and/or secure markets (Drigo et al., 2013; Forest Stewardship Council, 2018a; Guedes Pinto et al., 2008; Karmann & Smith, 2009; Piketty et al., 2015).

A prospective certificate holder has to meet the direct costs of certification and the indirect costs associated with administrative and organizational support, including meeting the requirements of the national standard if they exceed the applicant's business-as-usual. The fixed-cost streams associated with FSC FM certification are: the cost of getting a forest company certification-ready (documentation, developing, and implementing the management plan); the cost of the main (quinquennial) audit itself; and annual surveillance audit costs.

FSC commissioned a survey of smallholders in 2011 that asked the following three questions:

1. What are your main challenges in getting FSC certified?
2. What kinds of benefits do you get from FSC certification?
3. Do you think that the benefits of certification outweigh the costs?

The reported survey results were not disaggregated into global North versus global South respondents. The four principal challenges listed by respondents were auditing costs, costs of meeting the standard, understanding the technical language in certification documents, and gathering social and environmental information. The principal benefits were intangible non-market benefits: environmental benefits, forest- and business-related knowledge, and a higher public profile. On the question of cash benefits, around 60 percent of respondents reported no financial benefits: no additional profit or price premium, no increased sales or new markets, and no positive return on investment. Fifty-one percent of respondents (42 of 82 surveyed) nevertheless said that the mostly or wholly non-market benefits of certification outweighed the costs (Meier-Dörnberg & Karmann, 2015, pp. 166–168).

There is no guarantee of a price premium for FSC-certified wood. “Indeed, for many CFEs studied to date [in the global South], market benefits have been insubstantial and/or short-lived, and do not exceed the costs of certification ... The Petén region of

Guatemala, where very few FSC chain-of-custody certified operations exist, is a good example Fonseca (2006) reports some CFEs in Mexico are questioning the value of certification for this reason” (Humphries & Kainer, 2006, p. 41).

Two common reasons given for the non-renewal of FSC FM certificate are that certification costs are not commensurate with benefits received and that transaction costs are very high. In Brazil, for example, “two negative aspects of certification [were] first, fees charged ... are very high, although WWF has helped cover these costs for several CFEs. Second, the pursuit of certification represents very significant risks for communities as they are making large investments of time and effort to get certified without guarantees regarding future profit” (Humphries & Kainer, 2006, p. 36). A decade later, Latin American smallholders reported the same economic and social constraints (Forest Stewardship Council, 2019b).

Beyond the delayed returns on their investment, smallholders are often unable to meet the costs of additional labour, record-keeping, and transaction and opportunity costs in the absence of sustained donor support. Unsurprisingly, then, “the relatively high rate of decertification may also be caused by the fact that local communities considered the benefits of certification insufficient to maintain or renew certification” (Wiersum et al., 2013, p. 22).

On the other hand, the high demand for FSC-certified wood in Vietnam has allowed smallholders to cover certification costs following the end of donor funding (Hoang et al., 2019). Furthermore, in some cases companies meet smallholder certification costs (Hoa Vu, 2016, p. 34).

Conclusion

By 2015, an estimated 8 million hectares (Mha) of forestlands, held in the names of 146,000 smallholders/groups, were FSC FM certified, representing 4 per cent of 200 Mha of FSC-certified forest area worldwide (Forest Stewardship Council, 2015b). FSC does not disaggregate those figures into “company-managed” versus “community-managed community forests,” but data from one growth area (China) points to the former. It is entirely defensible that a resource manager, acting on behalf of a large forest enterprise, could achieve economies of scale that are beyond the reach of newly created small forest owners. However, the power of large forest enterprises in China can be glimpsed in the current New Approaches project—the Chinese NFSS (6.5.5) pilot test discussed above—which ignores the rational precedent set for Nepalese SLIMF-certified smallholder groups. Instead, the Chinese proposal seeks alternative ways of conforming

to the FSC requirement of setting aside 10 percent of the aggregated MUs as a conservation area. In the case of Nepal, the smallholders in a group certification agree to an FSC rule. In the case of company-managed, FSC-certified MU in China, the eventual solution may likely not guarantee responsible forest stewardship in a defined MU.

Several authors (Macqueen et al., 2014; Nambiar, 2019) argue that FSC certification is an inappropriate solution for smallholders who are in the “sell-to-survive” category—weak, unorganized, and unconnected to commodity chains. These authors recommend forms of support for smallholders such as financial aid, reducing annual land and forest taxes, or increasing government subsidies to rural areas and landowners in exchange for more environmentally beneficial practices. A recurring proposal is for more collaboration between governments and certification system requirements for RFS, as opposed to the more common “silo” treatment. One successful example was Vietnam, where the government “introduced a subsidy of 13 USD per hectare of FSC certified forest for both plantation companies and smallholders. In 2018, a total of 80,000 USD has been paid to forest owners to help cover costs associated with forest certification” (Lewin et al., 2019). FSC certification provides verification of the legality and sustainability of timber exports from Vietnam to the EU.

State subsidies for smallholder forestry are also reported for Western European countries (Lindahl & Garforth, 2000). These are mainly “subsistence-surplus” smallholders under the “conventional manager” FSC schemes in which they retain all or “some level of community involvement in decision making regarding forest management” (Forest Stewardship Council, 2012).

Related suggestions that can be taken up by FSC or government include:

- linking and co-labelling with the Fairtrade International logo (a project started in 2009), thus improving prices for forest products;
- increasing the value of products by in-forest or near-forest processing; and
- increasing the market recognition through the FSC Small and Community Label Option (SCLO–FSC-ADV-50-003 V1-0, January 2012), which identifies not only FSC FM products but also their origins in small-scale forests. Certified smallholders could also explore the sale simultaneously of multiple products, such as timber, NTFPs, and environmental services.

FSC’s strategic goal of “20 X 2020” envisions greater incorporation of smallholder wood and fibre into commodity supply chains (Forest Stewardship Council, 2015a). One caution is that more resource-manager group schemes risk silencing the environmental

and social values on which FSC prides itself. FSC needs to publish disaggregated data on the distinct types of FSC smallholder schemes that can then form the basis for future research on achieved and projected benefits.

In general, where there is demand for FSC-certified wood and wood products, there is increasing incorporation of association(s) of smallholders into FSC national or global commodity chains. Following Moore, we see that in the earlier industrialized regions of the world, there is greater retention of autonomous smallholdings, the “community-managed community forests” that the founders of FSC envisioned (Forest Stewardship Council, 2012). In the absence of sustained state or other supports, “company-managed community forests” may increase.

References

- Aplet, G. H., Johnson, N., Olson, J. T., & Sample, V. A. (1993). *Defining sustainable forestry*. Island Press.
- Bulkan, J. (2017). Indigenous forest management. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*, 12(4), 1–16. <https://doi.org/10.1079/PAVSNNR201712004>
- Carlsson, L. (1999). Still going strong, community forests in Sweden. *Forestry*, 72(1), 11–26. <https://doi.org/10.1093/forestry/72.1.11>
- Christian, C. S., Fraser, R., & Diop, A. (2013). African-American land loss and sustainable forestry in the Southeast: An analysis of the issues, opportunities, and gaps. *Journal of Extension*, 51(6).
- de Jong, W., Liu, J., & Youn, Y. C. (2017). Land and forests in the Anthropocene: Trends and outlooks in Asia. *Forest Policy and Economics*, 79, 17–25. <https://doi.org/10.1016/j.forpol.2016.09.019>
- Domtar. (2017). *Rainforest Alliance partnership promotes biodiversity conservation*. <https://newsroom.domtar.com/rainforest-alliance-promotes-biodiversity-conservation/>
- Drigo, I., Piketty, M. G., Pena, D., & Sist, P. (2013). Cash income from community-based forest management: Lessons from two case studies in the Brazilian Amazon. *Bois et Forêts Des Tropiques*, 315(1), 42–51.
- Duchelle, A. E., Kainer, K. A., & Wadt, L. H. O. (2014). Is certification associated with better forest management and socioeconomic benefits? A comparative analysis of three certification schemes applied to brazil nuts in western Amazonia. *Society and Natural Resources*, 27(2), 121–139. <https://doi.org/10.1080/08941920.2013.840022>
- Feliciano, D., Bouriaud, L., Brahic, E., Deuffic, P., Dobsinska, Z., Jarsky, V., Lawrence, A., Nybakk, E., Quiroga, S., Suarez, C., & Ficko, A. (2017). Understanding private forest owners’ conceptualisation of forest management: Evidence from a survey in seven European countries. *Journal of Rural Studies*, 54, 162–176. <https://doi.org/10.1016/j.jrurstud.2017.06.016>

- Forest Stewardship Council. (1994). *FSC Principles and Criteria for Forest Stewardship*. FSC-STD-01-001 V4. (p. 13).
- Forest Stewardship Council. (2004). *SLIMF Eligibility Criteria*. FSC-STD-01-003 V 1-0 EN. Forest Stewardship Council. <https://www.fsc-uk.org/preview.slimf-eligibility-criteria-fsc-std-01-003-version-1-0-e...%0A%0A>
- Forest Stewardship Council. (2005). *Scope of application of the FSC principles and criteria for forest stewardship*. FSC-POL-10-004. <https://ic.fsc.org/en/document-center/id/32>
- Forest Stewardship Council. (2007). *Guidance on the interpretation of FSC Principles and Criteria to take account of small scale and low intensity*. FSC-GUI-60-001 V1-0. EN. <https://pt.fsc.org/preview.fsc-gui-60-001-v1-0-en.a-160.pdf%0A%0A>
- Forest Stewardship Council. (2009). *FSC user-friendly guide to FSC certification for smallholders. Make more out of your forests! FSC Technical Series no. 009-T003*. ic.fsc.org/download.fsc-certification-for-smallholders.18.htm
- Forest Stewardship Council. (2012). *Labeling products from small and community producers*. FSC-ADV-50-003 V1-0 EN.
- Forest Stewardship Council. (2013). *FSC Statutes*. <https://ic.fsc.org/en/fsc-members-portal/members-portal-governance/statutes>
- Forest Stewardship Council. (2015a). *FSC global strategic plan 2015 – 2020*. <https://ic.fsc.org/en/what-is-fsc/fsc-global-strategic-plan-2015-2020%0A%0A>
- Forest Stewardship Council. (2015b). *FSC Market Info Pack 2015*. <https://ic.fsc.org/en/for-business/fsc-tools/local-market.../fsc-market-info-pack%0A%0A>
- Forest Stewardship Council. (2017). *FSC standard for group entities in forest management groups*. FSC-STD-30-005 V1-1 EN. <https://ic.fsc.org/en/document-center/id/317>
- Forest Stewardship Council. (2018a). *2018 Update. New Approaches to smallholders and communities certification*. <https://ic.fsc.org/file-download.2018-update-new-approaches-to-smallholders-and-co...%0A%0A>
- Forest Stewardship Council. (2018b, August 7). *China launches FSC National Forest Stewardship Standard*. FSC Newsroom. <https://ic.fsc.org/en/news-updates/id/2145>
- Forest Stewardship Council. (2019a). *Chinese NFSS (6.5.5) pilot test*. <https://ic.fsc.org/file-download.chinese-nfss-pilot-test.a-8459.pdf>
- Forest Stewardship Council. (2019b). *Latin America Continuous Improvement participatory workshops. January 2018-March 2019*.
- Forest Stewardship Council. (2020, March). *Chinese National Forest Stewardship Standard pilot test. Factsheet, New Approaches Project*. [https://fsc.org/sites/fsc.org/files/2020-04/FSC NA Factsheet – China NFSS - FINAL TI.pdf](https://fsc.org/sites/fsc.org/files/2020-04/FSC%20NA%20Factsheet%20-%20China%20NFSS%20-%20FINAL%20TI.pdf)
- Forest Stewardship Council New Approaches Project. (2020). *Smallholder Access Program pilot test*. [https://fsc.org/sites/fsc.org/files/2020-04/FSC NA Factsheet – SAP Pilot – FINAL TI.pdf](https://fsc.org/sites/fsc.org/files/2020-04/FSC%20NA%20Factsheet%20-%20SAP%20Pilot%20-%20FINAL%20TI.pdf)

- Fraser, R. F., Gyawali, B. R., & Schelhas, J. (2005). Blacks in space: Land tenure and well-being in Perry County, Alabama. *Small-Scale Forest Economics, Management and Policy*, 4(1), 21–33. <https://doi.org/10.1007/s11842-005-0002-0>
- FSC Brazil. (2013). *Brazilian FSC standard for Small and Low Intensity Managed Forests (SLIMF). FSC-STD-BRA-03-2013 V3-2 EN*. <https://br.fsc.org/pt-br/politicas-e-padres/reas-de-programas/programa-de-manejo-florestal>
- Gilmour, D. (2016). Forty years of community-based forestry. A review of its extent and effectiveness. In *FAO Forestry Paper 176* (p. 168). Food and Agriculture Organisation.
- Guedes Pinto, L. F., Stanley, P., Gomes, P. C., & Robinson, D. (2008). Experience with NTFP certification in Brazil. *Forests Trees and Livelihoods*, 18(1), 37–54. <https://doi.org/10.1080/14728028.2008.9752616>
- Gulbrandsen, L. H. (2005). Sustainable forestry in Sweden: The effect of competition among private certification schemes. *Journal of Environment and Development*, 14(3), 338–355. <https://doi.org/10.1177/1070496505280061>
- Hatch, M. T. (2005). *Environmental policymaking: assessing the use of alternative policy instruments*. SUNY Press.
- He, M., Wu, Z., Li, W., & Zeng, Y. (2015). Forest certification in collectively owned forest areas and sustainable forest management: A case of cooperative-based forest certification in China. *Small-Scale Forestry*, 14(2), 245–254. <https://doi.org/10.1007/s11842-015-9285-y>
- Hoa Vu, T. (2016). *Assessing Forest Stewardship Council Certification Implementation for smallholder groups in Vietnam* (Issue November). University of Melbourne.
- Hoang, H. T. N., Hoshino, S., Onitsuka, K., & Maraseni, T. (2019). Cost analysis of FSC forest certification and opportunities to cover the costs a case study of Quang Tri FSC group in Central Vietnam. *Journal of Forest Research*, 24(3), 137–142. <https://doi.org/10.1080/13416979.2019.1610993>
- Hobley, M. (1996). Participatory forestry: the process of change in India and Nepal. In *Rural Development Forestry Study Guide 3, Rural Development Forestry Network Overseas Development Institute* (pp. 1–362). ODI.
- Humphries, S. S., & Kainer, K. A. (2006). Local perceptions of forest certification for community-based enterprises. *Forest Ecology and Management*, 235, 30–43. <https://doi.org/10.1016/j.foreco.2006.07.027>
- IFFA. (2014). *IFFA: The International Family Forestry Alliance*. <http://www.familyforestry.net/article.cfm?id=6176>
- Jeanrenaud, S. (2001). *Communities and forest management in Western Europe: A regional profile of the Working Group on Community Involvement in Forest Management*. IUCN, The World Conservation Union.
- Karmann, M., & Smith, A. (2009). *FSC reflected in scientific and professional literature. Literature study on the outcomes and impacts of FSC certification. FSC Policy Series No. 2009 – P001*. <https://www.fsc-deutschland.de/preview.fsc-impact-study-engl.a-273.pdf>

- Klabin. (n.d.). *Small producer certification*. Klabin Social and Environmental Responsibility. Retrieved May 20, 2019, from <https://www.klabin.com.br/en/social-and-environmental-responsibility/#local-development>
- Lewin, A., Mo, K., Scheyvens, H., & Gabai, S. (2019). Forest certification: More than a market-based tool, experiences from the Asia Pacific Region. *Sustainability*, 11(9), 11. <https://doi.org/10.3390/su11092600>
- Lindahl, K. B., & Garforth, M. (2000). *The effectiveness of FSC group certification*. WWF European Policy Office.
- Liu, J., & Yuan, J. (2007). China's boom in household management of forests. *Unasylva*, 58, 19–22.
- Meier-Dörnberg, J., & Karmann, M. (2015). FSC certification: A solution for smallholders and community managed forests. *ETFRN News*, 57, 164–171.
- Menzies, N. K. (2007). *Our forest, your ecosystem, their timber: communities, conservation, and the State in community-based forest management*. Columbia University Press.
- Moore, J. W. (2000a). Environmental crises and the metabolic rift in world-historical perspective. *Organization & Environment*, 13(2), 123–157.
- Moore, J. W. (2000b). Sugar and the expansion of the early modern world-economy: Commodity frontiers, ecological transformation, and industrialization. *Review (Fernand Braudel Center)*, 23(3), 409–433. <https://doi.org/10.2307/40241510>
- Munden Project. (2011). *REDD and forest carbon: market-based critique and recommendations*.
- Nair, C. T. S. (2007). Scale, markets and economics: Small-scale enterprises in a globalizing environment. *Unasylva*, 58(3), 3–10.
- Nepal Standard Development Group. (2018). *The FSC National Forest Stewardship Standard of the Federal Democratic Republic of Nepal. FSC-STD-NPL-01-2018 V1-0 EN*.
- Nussbaum, R. (2002). *Group certification for forests: a practical guide*. <https://www.proforest.net/en/files/groupcert.pdf%0A%0A>
- Nussbaum, R., Garforth, M., Scrase, H., & Wenban-Smith, M. (2000). *An analysis of current FSC accreditation, certification and standard setting procedures identifying elements which create constraints for small forest owners. DFID Project R7589 Forestry Research Programme*. https://www.proforest.net/proforest/en/files/fsc_requirements.pdf
- Nussbaum, R., & Simula, M. (2005). *The forest certification handbook. 2nd edition*. Earthscan.
- Piketty, M. G., Drigo, I., Sablayrolles, P., De Aquino, E. A., Pena, D., & Sist, P. (2015). Annual cash income from community forest management in the Brazilian Amazon: Challenges for the future. *Forests*. <https://doi.org/10.3390/f6114228>
- Porter-Bolland, L., Ellis, E. A., Guariguata, M. R., Ruiz-Mallén, I., Negrete-Yankelevich, S., & Reyes-García, V. (2012). Community managed forests and forest protected areas: An assessment of their conservation effectiveness across the tropics. *Forest Ecology and Management*, 268, 6–17. <https://doi.org/10.1016/j.foreco.2011.05.034>

- Proforest Oxford. (2008). *Small, low intensity and community forests. Briefing notes and case studies*. <https://www.proforest.net/en/publications/publications-pdfs/fsc-briefing-notes-and-case-studies-for-smallholders-and-community-forestry-operations>
- Rainforest Alliance. (2018). *Social science review regarding small woodland owners in the SAP region*.
- Robinson, D., & Brown, L. (2002). *The SLIMF Initiative: A progress report. Increasing access to FSC certification for Small and Low Intensity Managed Forests*. <https://www.gov.uk/dfid-research-outputs/the-slimfs-initiative-a-progress-report-increasing-access-to-fsc-certification-for-small-and-low-intensity-managed-forests>
- Sarvašová, Z., Zivojinovic, I., Weiss, G., Dobšínská, Z., Drăgoi, M., Gál, J., Jarský, V., Mizaraite, D., Põllumäe, P., Šálka, J., Schiberna, E., Šišák, L., Wolfslehner, B., Zalite, Z., & Zalitis, T. (2015). Forest Owners Associations in the Central and Eastern European Region. *Small-Scale Forestry*, 14(2), 217–232. <https://doi.org/10.1007/s11842-014-9283-5>
- Schelhas, J., Hitchner, S., Johnson Gaither, C., Fraser, R., Jennings, V., & Diop, A. (2016). Engaging African American landowners in sustainable forest management. *Journal of Forestry*, 115(1), 26–33. <https://doi.org/10.5849/jof.15-116>
- Scrase, H. (2000, November). FSC certification of forest products for small enterprises. Improving access — issues and options. *Forests, Trees and People Newsletter*, 57–62.
- Sustainable Forestry Working Group. (1998). *The business of sustainable forestry. Case studies. A project of the Sustainable Forestry Working Group*. The John D. and Catherine T. MacArthur Foundation.
- Sustaining Family Forests Initiative. (2017a). *A profile of woodland owners in Central Appalachia. Prepared for the Appalachian Woodlands Alliance (AWA)*. <https://sffi.yale.edu/about-sffi>
- Sustaining Family Forests Initiative. (2017b). *Key themes from research on woodland owners in Appalachia. Prepared for the Appalachian Woodlands Alliance (AWA)* (Issue May). <https://sffi.yale.edu/about-sffi>
- UKWAS Steering Group. (2005). *Guidance on the interpretation of FSC Principles and Criteria to take account of scale and intensity. Draft for consultation. FSC-GUI-60-100*. Confor.
- Washburn, M. P., Jones, S. B., & Nielsen, L. A. (1998). Nonindustrial private forest landowners: building the business case for sustainable forestry. In *The Business of Sustainable Forestry. Case studies. A project of the Sustainable Forestry Working Group* (p. 41). The John D. and Catherine T. MacArthur Foundation.
- Westoby, J. C. (1962). Forest industries in the attack on economic underdevelopment. *Unasylva*, 16(4), 168–201.
- Wiersum, K. F., Humphries, S., & van Bommel, S. (2013). Certification of community forestry enterprises: Experiences with incorporating community forestry in a global system for forest governance. *Small-Scale Forestry*, 12, 15–31. <https://doi.org/10.1007/s11842-011-9190-y>