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Local perceptions of forest certification for community-based enterprises

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Abstract

Forest Stewardship Council (FSC) certification has been promoted as a way to encourage and recognize community-based forest enterprises (CFEs). However, certification has proved more difficult for CFEs than expected, and few certified operations have achieved the highly anticipated market benefits of certification. This has led to questioning of the compatibility of certification with CFEs, though few studies have directly asked local CFE actors their perceptions on this issue. This study investigates perceptions of certification for two CFEs in Brazil's western Amazon. The specific objectives of this study were (1) to determine the positive and negative aspects of certification as perceived by community members, their principal support organizations, and other key stakeholders, (2) to identify the relative importance of these perceived positive and negative aspects, and (3) to analyze the differences in perceptions between actors. Data were collected through structured interviews and a review of pertinent documents.

Overall, the most positive aspects were economic and social, and the most negative aspects concerned the certification process and, to a lesser extent, the associated economic expenditures. Community members typically scored the positive aspects higher and the negative aspects lower than the support organizations. This is likely due to differences in roles and vantage points of these actors. In general, informants agreed that positive aspects of certification outweighed negative ones. This stands in contrast to some communities in other parts of Latin America that are contemplating dropping certification.

Two particular conditions may have enabled operations in this study to overcome common constraints for CFEs: (1) membership in a regional producers group, and (2) strong political, technical, and financial support from the state government. Their experiences specifically highlight the need to adapt the certification process for CFEs and demonstrate that obtaining market benefits is possible.

Keywords: Amazon; Brazil; Community forestry; Costs and benefits; Forest Stewardship Council; Stakeholder

1. Introduction

In recent decades community-based forest management has been a popular strategy in programs aimed at helping local populations conserve forests and improve their livelihoods (Amaral and Amaral Neto, 2005; Bray et al., 2005). Nearly one-fourth of the forests in developing countries is currently owned and/or controlled by low-income forest communities (White and Martin, 2002). Control of natural resources is being rapidly devolved to communities (Agrawal, 1999; Stone and d'Andrea, 2001; White and Martin, 2002), and this is expected to continue into the future (Molnar, 2003). In the past these communities were often perceived as threats to conservation efforts, but more recently governments, non-governmental organizations (NGOs), and businesses are seeking them out to implement community-based forest management. Nevertheless, few examples exist of successful, long-term, sustainable forest enterprises involving communities. This is due in part to the complexities of the socio-political and environmental contexts in which communities exist, and the difficulties in linking communities with markets (Schmink, 2004).

Forest Stewardship Council (FSC) certification is being promoted by NGOs, governments, and donors as a way to encourage and recognize sustainable community-based forest

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enterprises (CFEs), and improve market access for their products (MMA and Gov. of Acre, 1999; WWF, 2002; Carrera et al., 2006). The FSC is a non-governmental, not-for-profit, international, membership-based organization whose Principles and Criteria for Forest Stewardship are used as the basis for independent, third-party certification of forest management operations around the world. To date over 73 million hectares have been certified in 72 countries on public, private, and communal properties (FSC, 2006b).

Perhaps because certification was not originally intended for small, non-industrial operations (Bass et al., 2001; Butterfield et al., 2005), few CFEs have been certified, and many that have are experiencing difficulties retaining it (Irvine, 1999; Bass et al., 2001; Thornber and Markopoulos, 2001). As of March 2006, 113 CFEs were FSC certified, representing only 13.8% of the total 817 FSC certificates in the world and 3% of the total area certified (FSC, 2006a,b). While these absolute numbers may not seem impressive, they represent a 120% increase over the 51 operations that were certified in August 2001 (Molnar, 2003). Latin America has the majority of certified CFEs, with 52% as of April 2006 (FSC, 2006a). The bulk of the rest are in Europe (39%), Asia has four operations (3.5%) and Africa has none (FSC, 2006a).

The market benefits of certification are reported to be a key motivation for CFEs' pursuit of certification (Bass et al., 2001; Thornber and Markopoulos, 2001; Quevedo, 2006). Case studies of certified CFEs have shown, however, that benefits realized from certification have varied greatly and economic costs for CFEs to obtain certification have been significant (Irvine, 1999; Madrid and Chapela, 2003; Molnar, 2003; Bray et al., 2005; May, 2006).

The difficulties for CFEs in obtaining and maintaining certification and the disparities in the benefits realized have led some scholars, practitioners, and communities to question the practicality and utility of third-party certification for these operations (Markopoulos, 2003; Fonseca, 2006), calling for a more detailed evaluation of the actual impacts of certification and the certification process on these communities and their operations (Nussbaum and Simula, 2004; Carrera et al., 2006). As Molnar (2003) concludes based on her extensive review of certified community-based timber operations, ''It is timely to pose the question of whether and how forest certification supports community forestry . . ..''

This research addresses this information gap by examining local actors' perspectives on the positive and negative aspects of FSC certification for two CFEs in Brazil's western Amazon. Specific objectives were (1) to identify the positive and negative aspects of certification as perceived by community members, their principal support organizations, and other key certification stakeholders, (2) to assess the relative importance of these perceived positive and negative aspects of certification, and (3) to analyze the differences in perceptions between the two operations, as well as between the local associations, support organizations, and other stakeholders.

2. Study area

With the advent of Amazonian ''development'' in the 1970s, forest-dwelling rubber tappers in Brazil's western Amazonian state of Acre organized themselves into a strong social movement to fight for legal rights to forested land they traditionally inhabited (Keck, 1995). This movement led to the establishment of extractive reserves and conservation-oriented land settlements focused on non-timber forest product extraction to sustain local livelihoods and conserve forests (Allegretti, 1990; Schmink and Wood, 1992; Keck, 1995). Because of the historical struggle to prevent forest loss, timber management and the accompanying tree felling was a controversial proposal in Acre (Azevedo and Freitas, 2003), especially in conservation-oriented settlements (Kainer et al., 2003; Stone, 2003). When a handful of community-based timber management projects were initiated in the 1990s, they were met with much resistance.

A self-proclaimed ''Forest Government'' assumed power in Acre in 1999 (re-elected in 2002), and has gradually changed societal perspectives of timber management. The governor, who is a forester, embraced small-scale, sustainable timber production as part of a larger forest-based development plan to make standing forests more attractive than alternative land uses (Kainer et al., 2003). The high-value timber component was seen as critical since the traditional extractivist income base of rubber and Brazil nut had long been economically unstable (Schmink and Wood, 1992) and insufficient (Brown and Rosendo, 2000; Azevedo and Freitas, 2003). The government also pledged to encourage FSC certification to make forest products more competitive in national and international markets (MMA, 2000).

As of August 2004, there were 18 CFEs in Acre. By March 2006, five of these operations had received FSC certification of a total of eight certified CFEs in the entire country (FSC, 2006a), and several more in Acre were in the initial stages of certification (IMAFLORA, 2005; Carlos Ovídio Duarte Rocha, personal communication). Parallel to these efforts, a Community Forest Producers Group was formed in 2002 to help market products from these growing operations (CTA, n.d.). At least eight of the CFEs in Acre were participating in this organization in August 2004, which met monthly to discuss production schedules, commercialization issues, and collective organization of wood sales to buyers, mainly in São Paulo (CTA, personal communication).

Our research focused on two of these operations in Acre: Porto Dias and Peixoto, which attained certification in 2002 and 2003, respectively (IMAFLORA, 2005) (Table 1; Fig. 1). These operations were among the first CFEs to obtain certification in Acre, and they have several notable differences in their livelihood systems and types of land tenure, support organizations, forest operations, and experiences with the certification process. First, Peixoto is legally designated as a PDA, a settlement model based on agricultural colonization (Cunha dos Santos, 2002; Stone, 2003), while Porto Dias is designated as a PAE, an ''agroextractive settlement project'', which is a settlement model based on extractivism of forest products.

Second, the two principal support organizations for the CFEs, EMBRAPA, a governmental research institution, and CTA, an NGO that focuses on social and environmental issues in forest-based communities, have very different missions and project objectives. Third, the Porto Dias operation, which uses heavy machinery to remove and transport logs, is more complex and intensive than the Peixoto operation, which uses a portable sawmill to process logs in the forest and animal traction to remove sawnwood. Finally, Peixoto was evaluated for certification with the FSC's new Small and Low Impact Managed Forests (SLIMF) Streamlined Certification Procedures, while Porto Dias was evaluated with the same procedures and standards used for large-scale industrial operations.

3. Methods

Data were collected through face-to-face, structured interviews conducted from June to August 2004, and centered on a questionnaire. A review of documents, including reports, articles, and presentations related to the operations, was also conducted.

3.1. Structured interviews

The questionnaire guided structured interviews with community members participating in the CFEs (hereafter referred to as *manejadores*), the principal support organization for each operation (the outside organization that has played the most significant role in each community's CFE), and other stakeholders in FSC certification. First, a preliminary version of the questionnaire was prepared to guide the interviews with the *manejadores* in Peixoto and Porto Dias, who are organized into local associations known as APRUMA (Association of Rural Producers in Forestry and Agriculture) and ASPD (Association of Rubber Tappers of Porto Dias), respectively. This version was then revised based on preliminary interviews with *manejadores* in one operation and a focus group in the other, as well as discussions with the principal support organizations. The final questionnaire was then applied to 76% of *manejadores* in Peixoto ($n = 13$) and 87% in Porto Dias ($n = 7$). Those not interviewed were unavailable for personal reasons, except one individual who refused to be interviewed.

For each CFE, interviews were conducted with one *manejador* at a time and took between 45 min and 2 h. In

Table 1
Similarities and differences between the two operations involved in this study

	Peixoto	Porto Dias
Land tenure/livelihoods		
Legal designation	Colonization settlement project (PAD)	Agroextractive settlement project (PAE)
Settlement size (ha)	378,395	22,145
Number of households	3000	88
Average landholding (ha)	80	300
Productive activities	Permanent agriculture for subsistence and markets, cattle-raising	Brazil nut, rubber, subsistence agriculture
Organization		
Local association	APRUMA (Association of Rural Producers in Forestry and Agriculture)	ASPD (Association of Rubber Tappers of Porto Dias)
Number of households in operation	17	8
Principle support organization	EMBRAPA (Brazilian Agricultural Research Corporation), a federal research institute	CTA (Center for Amazonian Workers), a Brazilian NGO
Forest operation		
Year management initiated	1996	1995
Year harvesting began	1997	2000
Area under timber management (ha)	680 (17 × 40 ha)	2400 (8 × 300 ha)
Felling cycle (years)	10	25–50 (five properties are harvested each year)
Mean annual harvest (m^3)	340–680 (17 families × 4 ha × 5–10 m^3/ha)	500 (5 families × 10 ha × 10 m^3/ha)
Timber extraction method	Animal traction	Tractor or skidder
Timber processing	Portable sawmill; processing equipment for carpentry	Band saw; new facility for producing small, value-added products
Certification process		
Year certified	2003	2002
Standards used	FSC-approved Standards for Amazon dry land forests and the new FSC Small and Low Intensity Managed Forests (SLIMF) Streamlined Procedures	FSC-approved Standards for Amazon dry land forests
Pre-conditions received	0	2
Conditions received	12	31

Sources: Cunha dos Santos (2002), FSC (2005), IMAFLORA (2005).

Fig. 1. This map shows the two research sites, Peixoto and Porto Dias, in Acre, Brazil. It also illustrates the great distance between where the wood is produced, near Rio Branco, and the São Paulo market (3604 km). (This map was adapted from an original obtained from the University of Texas Perry-Castañeda Library Map Collection.)

almost all cases, the researcher visited the house of the *manejador* and in a few cases, interviews were conducted in Rio Branco. In all but two cases, the primary and formal participant in the operations, or *manejador*, was male.

Finally, the questionnaire was further adapted for use with the principal support organizations and broader stakeholders in certification. Interviews were conducted with three representatives of EMBRAPA and two representatives of CTA, the principal support organizations who work with the operations in Peixoto and Porto Dias, respectively. Other stakeholders interviewed included: one representative of a donor organization, WWF, which paid certification fees for several CFEs in Acre, and provided funding for courses, meetings, and travel related to certification and community forest management; two representatives of the State Secretary of Technical Support and Extension of Acre (SEATER), which provided technical support to several of the Acre CFEs; two representatives of the State Secretary of Forests (SEF), which helped develop and implement the state government's policies on community forest management and provided funding for the initial certification of several CFEs in the state; and one representative of the certifier involved in all three CFEs, the Institute of Forestry and Agricultural Management and Certification (IMAFLORA), which is a formal partner of the U.S.-based Rainforest Alliance's SmartWood Program.

3.2. Major research themes

Structured interviews focused on three major research themes: (1) the perceived positive and negative aspects of certification; (2) the relative importance of each aspect; and (3) reflections on certification. Quantitative and qualitative data were collected to illuminate positive and negative aspects of certification to date from the perspective of the *manejadores* themselves, their principal support organizations, and other stakeholders in certification. These aspects could include economic, environmental, social, and technical changes related to pursuing or receiving certification, as well as aspects of the certification process itself. The relative importance of these items was then ascertained to understand which aspects were perceived to be most positive and negative. The final topic of interest was respondents' reflections on certification.

3.2.1. Perceived positive and negative aspects of certification

Manejadores and their principal support organizations were asked to free-list (Bernard, 2002) positive and negative aspects of certification to date for their respective operations. The other stakeholders interviewed were asked to free-list these contrasting aspects of certification in general.

3.2.2. Relative importance of each positive and negative aspect

Information from the free-listing exercise was organized into two master lists of positive and negative aspects of certification—one for each operation. Subsequently, a color-coded card was created for each item; positive aspects were written on blue cards and negative on yellow (Fig. 2). Illustrations were drawn on each card to visually present these aspects for respondents with little to no reading skills. Using these cards and the questionnaire, informants evaluated each

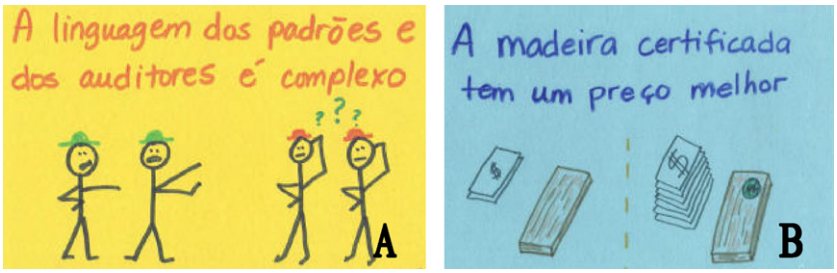

Fig. 2. Examples of color-coded, illustrated cards developed from the free-listing exercise and used during interviews. (A) This card represents the negative aspect, "Both the certification standards and the auditors are hard to understand." (B) This card represents the positive aspect, "Certified wood has a better price."

positive aspect using a three-point Likert-type scale (Bernard, 2002) as follows: ''very good'' = 2, ''good'' = 1, or ''not a positive aspect'' = 0. Likewise, categories for negative aspects were: ''very bad'' = 2, ''bad'' = 1, or ''not a negative aspect'' = 0. As each item was evaluated, the reason for the evaluation result was also queried.

The quantitative data generated by these Likert-scale responses for each positive and negative aspect were analyzed. Average scores were determined first by organization, then by operation, and finally, when applicable, across all four organizations to determine an overall average score. Relative importance of the items was then deduced based on two primary considerations. First, the intensities of the perceived positive and negative aspects were considered, based on the average scores for each organization. For example, the number of positive aspects that scored above a 1.0 was tallied. Next, the aspects perceived to be the most positive and the most negative (i.e., those with the highest average scores) were identified for each organization and then compared among the two organizations in each operation, across operations, and overall.

The same procedures were used to analyze the relative importance of the positive and negative aspects by category (while recognizing that these are not categories with rigid boundaries): economic, social, environmental, technical, and specific to certification. The ''specific to certification'' category represents positive and negative aspects related to the process of obtaining and maintaining certification. Next, average scores for each category were calculated for each organization and overall. Finally, these scores were analyzed for each organization and compared among organizations for each operation, across operations, and overall. This evaluation of relative importance was not performed for the group of ''other stakeholders'' because there was not sufficient time to generate original master lists of positive and negative aspects for them.

3.2.3. Reflections on certification

Manejadores and the principal support organizations for the operations in Peixoto and Porto Dias were asked a series of reflective questions about certification and the certification process. Guiding questions included: (1) Is certification worth it? (2) Should the operations currently certified continue with certification into the future? and (3) Would you recommend certification to other communities?

4. Results

4.1. Perceived positive and negative aspects of certification

4.1.1. Peixoto and Porto Dias

4.1.1.1. Positive aspects. There was some overlap in perceived positive aspects of certification identified by the organizations in general, and specifically between the local association and its principal support organization in each operation (Table 2). The most common type of positive aspect identified was economic.

Table 2
Positive aspects of certification for the operations in Peixoto and Porto Dias identified by APRUMA, EMBRAPA, ASPD, and CTA

Positive aspects of certification	Peixoto[a]		Porto Dias	
	APRUMA	EMBRAPA	ASPD	CTA
Economic				
The project is better known	√		√	√
Certified wood is easier to sell	√			
Better price	√	√	√	√
More confidence in contracts	√			
Access to new markets	√	√	√	√
It differentiates the product[b]		√		
Social				
Association members are more motivated	√			
Improved organization of the Association	√			
Recognition of the work of the Association			√	√
Greater credibility with state agencies				√
The government supports the project because it is certified[b]		√		
Greater use of personal safety equipment	√	√	√	
Technical				
Improved management practices				√
Better control of equipment used in forest management	√			
It is easier to get approval from IBAMA when an operation is certified[b]	√			
Environmental				
The forest has more value			√	
More effort to reduce damage to the forest	√		√	√
Better management of trash	√	√		

[a] ''√'' indicates that this organization identified the corresponding item. No positive aspects were identified for the ''specific to certification'' category.
[b] This positive aspect was mentioned as an additional item during the relative importance evaluation exercise.

4.1.1.2. Negative aspects. In contrast to the positive aspects, there was little overlap in perceived negative aspects of certification identified by the organizations (Table 3). Actors in the Peixoto operation (APRUMA and EMBRAPA, the local association and the principal support organization, respectively) identified mostly economic and technical negative aspects (11 of 13 total negative aspects), while more negative aspects specifically related to the certification process (7 of 10 total items) were identified by the actors in the Porto Dias operation (ASPD and CTA, the local association and the principal support organization, respectively), which had more difficulty obtaining certification. In fact, all negative aspects identified by ASPD concerned the certification process. Only CTA identified a negative social aspect of certification.

4.1.2. Other stakeholders

4.1.2.1. Positive aspects. State agency representatives (four in total) had little overlap in positive aspects identified. Benefits of certification identified by at least one representative included: product distinction, better prices, access to new markets (one stated that certification serves as a ''type of passport'' that permits access for forest products to new markets), certified products are easier to sell, improved enterprise image, and certification guarantees compliance with high production standards. Certification was also credited for promoting learning within CFEs and forestry industry, and promoting awareness among illegal loggers that ''business as usual'' logging will not be tolerated much longer. One representative suggested that certification is creating a new type of business culture, one in which companies and communities work together to both sell wood and conserve the forest. Finally, another representative asserted that certification levels the playing field among countries such as Brazil, Peru, and Bolivia with respect to competition in the international wood products market.

The representative of IMAFLORA reiterated a few positive aspects of certification identified by others: improved self-esteem of the *manejadores*; better visibility for operations; improved social organization, citing for example the requirements for clear rules and responsibilities for local association members; and, in the long-term, improved profitability. Several benefits not voiced by other informants included better access to information, events, and training; improved motivation to manage conflicts (i.e., if parties to a dispute share a higher goal of certification, this can persuade them to resolve conflicts); and stimulation of cultural changes in terms of recognizing the importance of maintaining forests for a better quality of life. He also mentioned that in the long-term improved awareness of issues addressed in the certification standards could lead to other environmental and/or health benefits, such as better management of refuse.

The WWF representative interviewed enumerated two principal positive aspects of certification for communities. The first was remuneration for certified products, although he emphasized that higher prices are not guaranteed, and it was

Table 3
Negative aspects of certification for the operations in Peixoto and Porto Dias identified by APRUMA, EMBRAPA, ASPD, and CTA

Negative aspects of certification	Peixoto[a]		Porto Dias	
	APRUMA	EMBRAPA	ASPD	CTA
Economic				
Certification is expensive to obtain and maintain	√	√		√
Certified wood is too expensive for many buyers	√			
Certified wood is more expensive to produce	√			
Delays in receiving money from distant buyers	√			
Sale of certified wood is more complicated		√		
Market not as good as expected		√		
Social				
Creates more dependency on partner organizations and financial donors				√
Technical				
Registering wood for chain-of-custody takes time and is difficult		√		√
Quality of processed wood must be high		√		
Greater pressure to do good management		√		
Only wood from the CFE can be sawn in the CFE's sawmill	√			
Restrictions on where wood can be sawn	√			
Specific to certification				
Certification is a new and complex process		√	√	√
Both the certification standards and the auditors are hard to understand			√	√
Too many conditions to meet in 1 year			√	
Conditions will be difficult for community to meet				√
Auditors lack experience with communities in the Amazon				√
Certifiers are very distant from the community			√	
Surprise visits are bad[b]	√			
Certification could be lost due to the actions of others			√	

[a] "√" indicates that this organization identified the corresponding item. No negative "environmental" aspects were identified.
[b] This negative aspect was mentioned as an additional item during the relative importance evaluation exercise.

Table 4
Average relative importance score for each positive aspect by organization and averaged across all organizations (overall)

Positive aspects of certification[a]	Peixoto[b,c]			Porto Dias			Overall	
	APRUMA	EMBRAPA	Avg. score	ASPD	CTA	Avg. score	Avg. score	Rank
Access to new markets (Ec)	1.8	2.0	1.9	1.9	2.0	1.9	1.9	1
Better price (Ec)	1.8	1.3	1.6	2.0	2.0	2.0	1.8	2
Recognition of the work of the Association (S)	–	–	–	2.0	1.5	1.8	1.8	2
The project is better known (Ec)	1.7	2.0	1.8	1.7	1.5	1.6	1.7	3
Greater credibility with state agencies (S)	–	–	–	1.4	2.0	1.7	1.7	3
Greater use of personal safety equipment (S)	1.6	1.0	1.3	2.0	2.0	2.0	1.6	4
Association members are more motivated (S)	1.5	1.7	1.6	–	–	–	1.6	4
The forest has more value (Env)	–	–	–	2.0	1.0	1.5	1.5	5
Improved management practices (T)	–	–	–	1.9	1.0	1.4	1.4	6
More confidence in contracts (Ec)	1.5	1.7	1.6	2.0	0.5	1.3	1.4	6
More effort to reduce damage to the forest (Env)	1.5	0.3	0.9	1.9	1.5	1.7	1.3	7
Certified wood is easier to sell (Ec)	1.4	1.0	1.2	–	–	–	1.2	8
Better management of trash (Env)	1.4	1.0	1.2	–	–	–	1.2	8
Improved organization of the Association (S)	1.2	0.7	0.9	–	–	–	0.9	9
Better control over equipment used in forest management (T)	1.5	0.0	0.8	–	–	–	0.8	10

[a] The positive aspects are coded to indicate its category as follows: (Env) = environmental, (Ec) = economic, (S) = social, (T) = technical.
[b] Scoring: 0 = not a positive aspect, 1 = good, 2 = very good.
[c] A "–" indicates an item that was not evaluated because it was not on the master list for the corresponding operation.

only in the previous year that certified CFEs in Acre finally secured higher prices. Second, the green seal differentiates products in the marketplace by indicating that the operation of origin is socially and environmentally responsible. In addition, he said the fact that the products are from communities helps to further differentiate them. He added that WWF, as a conservation organization, benefits from the CFEs they support because these operations are managing their forests well.

4.1.2.2. Negative aspects. One representative of SEF previously worked at CTA and was involved in the Porto Dias certification. He noted that the demands of certification, such as monitoring, made ASPD more dependent on CTA and other outsiders. He also indicated that the decision to pursue certification came from outside the community, and neither the *manejadores* nor CTA fully understood its implications at the time.

The representative of WWF identified two negative aspects of certification. First, fees charged by IMAFLORA 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.

4.2. Relative importance of positive and negative aspects

4.2.1. Positive aspects

Local associations typically had higher scores than support organizations for the positive aspects. For Peixoto, APRUMA (the local association) scored all of the positive aspects between 1.2 and 1.8 (with 1.0 representing a "good" aspect and 2.0 representing a "very good" aspect) (Table 4). EMBRAPA (the support organization) scored 9 of 11 items between 1.0 and 2.0. For Porto Dias, ASPD (the local association) scored all of the items between 1.4 and 2.0, and CTA (the support organization) scored all but one between 1.0 and 2.0. Also notable is that the actors in Porto Dias (the agroextractive settlement) tended to score the positive aspects higher than the actors in Peixoto (the colonization settlement).

Overall, "economic" and "social" positive aspects consistently scored relatively high for all four organizations, receiving average scores of 1.7 and 1.5, respectively (Fig. 3). Positive "environmental" aspects scored relatively high for three of the four organizations. While "technical" aspects also scored high for three of the four organizations, EMBRAPA did not recognize any "technical" benefits of certification.

4.2.2. Negative aspects

In contrast to the positive aspects, the principal support organizations in both operations scored the negative aspects higher than did the local associations in the majority of cases. In Peixoto, APRUMA (the local association) had only one negative aspect with an average score of 1.0 (a 1.0 representing

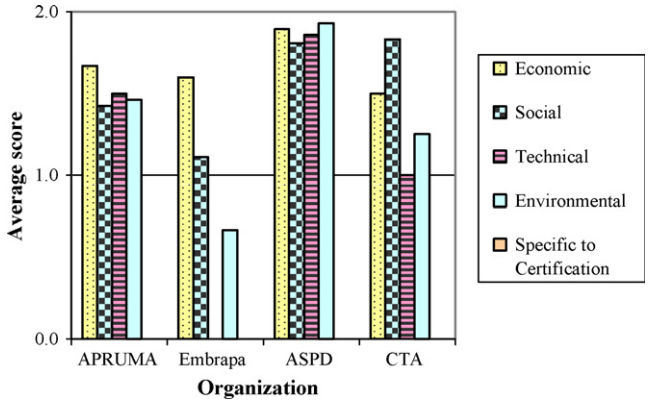

Fig. 3. Relative importance of the positive aspects (0 = "not a positive aspect", 1.0 = "good", and 2.0 = "very good").

Table 5
Average relative importance score for each negative aspect by organization and averaged across all organizations (overall)

Negative aspects of certification[a]	Peixoto[b,c]			Porto Dias			Overall	
	APRUMA	EMBRAPA	Avg. score	ASPD	CTA	Avg. score	Avg. score	Rank
Conditions will be difficult for community to meet (STC)	–	–	–	1.5	2.0	1.8	1.8	1
Too many conditions to meet in 1 year (STC)	–	–	–	1.5	2.0	1.8	1.8	1
Certification is expensive to obtain and maintain (Ec)	0.9	2.0	1.5	0.8	2.0	1.4	1.4	2
Certifiers are very distant from the community (STC)	–	–	–	1.2	1.5	1.3	1.3	3
Creates more dependency on partner organizations and financial donors (S)	–	–	–	0.7	2.0	1.3	1.3	3
Both the certification standards and the auditors are hard to understand (STC)	–	–	–	1.0	1.5	1.3	1.3	3
Certification is a new and complex process (STC)	0.4	1.3	0.9	0.8	2.0	1.4	1.1	4
Certification could be lost due to the actions of others (STC)	–	–	–	1.2	1.0	1.1	1.1	4
Auditors lack experience with communities in the Amazon (STC)	–	–	–	1.0	1.0	1.0	1.0	5
Registering wood for chain-of-custody takes time and is difficult (T)	0.7	1.0	0.8	0.7	1.0	0.8	0.8	6
Market not as good as expected (Ec)	0.6	1.0	0.8	–	–	–	0.8	6
Quality of processed wood must be high (T)	0.5	1.0	0.8	–	–	–	0.8	6
Only wood from the CFE can be sawn in the CFE's sawmill (T)	0.6	0.7	0.6	–	–	–	0.6	7
Certified wood is more expensive to produce (Ec)	1.0	0.0	0.5	0.5	1.0	0.8	0.6	7
Restrictions on where wood can be sawn (T)	0.8	0.3	0.6	–	–	–	0.6	7
Delays in receiving money from distant buyers (Ec)	0.9	0.0	0.5	–	–	–	0.5	8
Certified wood is too expensive for many buyers (Ec)	0.5	0.3	0.4	–	–	–	0.4	9
Sale of certified wood is more complicated (Ec)	0.3	0.3	0.3	–	–	–	0.3	10
Greater pressure to do good management (T)	0.6	0.0	0.3	–	–	–	0.3	10

[a] The negative aspects are coded to indicate its category as follows: (STC) = specific to certification, (Ec) = economic, (S) = social, (T) = technical.
[b] Scoring: 0 = not a negative aspect, 1 = bad, 2 = very bad.
[c] A "–"indicates an item that was not evaluated because it was not on the master list for the corresponding operation.

a "bad" aspect and a 2.0 a "very bad" aspect) (Table 5), while EMBRAPA (the support organization) had five negative aspects with an average score of 1.0 or higher. For the operation in Porto Dias, ASPD (the local association) scored six items between 1.0 and 1.5, while CTA (the support organization) scored all items between 1.0 and 2.0. Also, as they did for the positive aspects, actors in Porto Dias had higher average scores for their top ranked negative aspects than actors in Peixoto.

The "specific to certification" category was perceived to be the most important negative aspect, scoring relatively high for three of the organizations (between 1.2 and 1.6) and receiving the highest overall average score (1.1) (Fig. 4). While "economic" was the second highest scoring category overall (0.9), in general this category scored relatively low on average (0.6–0.7) for three of the four organizations; CTA was the exception with an average of 1.5. The negative "social" aspects scored very high (2.0) for CTA, but relatively low for ASPD (0.7), while EMBRAPA and APRUMA did not identify any negative social aspects of certification for the operation in Peixoto.

4.3. Reflections on certification

4.3.1. Is certification worth it?

Almost everyone interviewed from the Peixoto and Porto Dias operations responded positively to the broad question: "Is certification worth it?" The exceptions were the two representatives of CTA, who replied that in some respects it is, and in others it is not.

For the operation in Peixoto, two of three EMBRAPA representatives reasoned that actual and potential price increases and market access were benefits that make certification "worth it", even with the challenges involved in the certification process. One also stated that certification could improve the organizational aspect of the operation. Almost half of the *manejadores* (6 or 46%) in APRUMA cited better price as their principal justification, and five (38%) reasoned that certified wood is easier to sell. Other advantages cited in favor

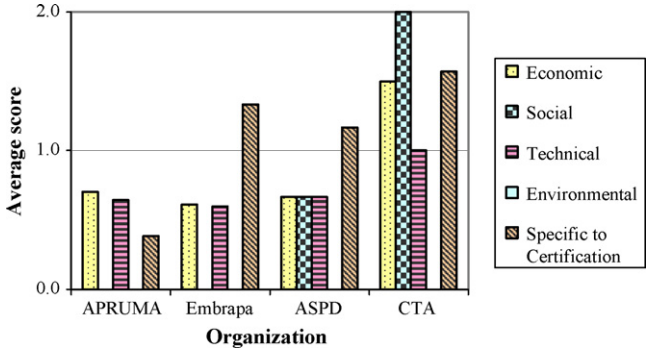

Fig. 4. Relative importance of the negative aspects (0 = "not a negative aspect", 1.0 = "bad", and 2.0 = "very bad").

of certification included access to new markets, increased recognition of APRUMA, and a guarantee that their wood would be sold in a legal manner. One respondent outlined several disadvantages of certification, such as not being allowed to hunt in the timber management area, but still agreed it is worth maintaining. In addition, two people stated that certification is worth continuing, to see what benefits it could bring in the future.

In Porto Dias, *manejadores* cited the following reasons for their response that certification is worthwhile: access to new markets, better price for wood, recognition of the association and the community, learning more about forest management, and improved safety. The first response was mentioned by two people and the rest by one each. One person stated that if they did not have certification, they would not have a way to sell their wood; it is worth it because they have a market. He also declared that the time is coming when it will be impossible to sell wood without certification. The representatives of CTA articulated positive and negative aspects of certification in response to ''Is certification worth it?'' They noted that there was strong donor and state government support for certification, and that the Porto Dias operation and CTA would not have access to this support if they were not involved in certification. Indeed, both CTA and EMBRAPA stated that their main incentive for encouraging these operations to pursue certification was because donors offered badly needed project funds to community forest management projects willing to become certified. However, CTA representatives also observed that certification places a lot of responsibility on the community and that some demands of certification are impossible for the community to comply with alone (e.g., controlling land invasions). Furthermore, they identified an important contradiction in the goals of certification—while it supposedly strives to guarantee the independence of small-scale operators, the 31 conditions (or corrective action requests necessary for maintaining certification) received by Porto Dias actually exacerbated community dependence on support organizations for technical and financial assistance. Finally, one CTA representative concluded that certification is costly and complicated, and not that important. She also said that they were going to study other, less expensive ways to recognize community efforts to manage their forests sustainably.

4.3.2. Should the operations currently certified continue with certification?

There was general agreement among all respondents that the two operations should continue with certification for the next 5 years, with the only deviations coming from two *manejadores* in Peixoto who responded ''maybe''. When asked about a 10-year timeframe, one EMBRAPA respondent changed his response to ''maybe'' as well.

For the Peixoto operation, one EMBRAPA representative stated that maintaining certification would be difficult for APRUMA, mostly due to social dynamics between members, but that they should continue with it. The other two EMBRAPA representatives said the decision to continue with certification should depend on how the market changes over time. *Manejadores* from APRUMA were more adamant about the necessity to maintain certification, with five saying that it should continue over the long-term. Two further clarified that certification should be maintained even if APRUMA had to pay for it. One stated that if certification were lost, it would be difficult, if not impossible, to get back. He affirmed that they should maintain certification for 10 years or more, and added that if possible, this work should continue for the rest of their lives. One of the two who responded that ''maybe'' they should continue with certification said APRUMA should have a better idea of the difficulties of certification at the end of 5 years, and could decide at that time.

Similarly, *manejadores* in Porto Dias were resolute that certification of their operation should continue indefinitely. Representatives of CTA, however, were less committed to continuing certification into the future. They agreed that certification should be continued *for now*, and one related that ongoing pressure from the state government and wood buyers was incentive to continue with certification into the future.

4.3.3. Would you recommend certification to other communities?

All respondents for both operations unanimously concurred that they would recommend certification to other communities. EMBRAPA reasoned that certification could help with organization and product marketing, the latter being especially important for operations with low production volume. In APRUMA, one *manejador* said that he and fellow *manejadores* were proud of having successfully completed the difficult certification process and that recommending certification was one of the first things they did when speaking to other communities. Three *manejadores* also asserted that other communities should have the same benefits they had attained. Another pointed out that if other communities got certified, it would increase the volume of certified wood, which would be good for everyone.

Reasons cited by *manejadores* in Porto Dias for recommending certification included that certified wood was easier to sell due to a higher demand (two people), certified wood had a better price (one), and that the use of personal safety equipment was important (one). However, one person indicated that in his experience, other communities were not interested in certification because of the amount of work involved and the fact that wood sales took a long time to complete. Two others qualified their response with the condition that community members must make an effort to understand certification (one) and become well-trained (one). One representative of CTA also recommended that communities not pursue certification until they had at least 1 year of experience in managing forests for timber production.

5. Discussion and conclusions

This study was designed to illuminate stakeholder perceptions of the positive and negative aspects of FSC certification for community-based forest enterprises (CFEs). While international conservation organizations, governments, and donors

are increasingly promoting FSC certification for CFEs, there is limited understanding of how local actors (both communities and their local support organizations) perceive certification, and how these perceptions might vary across different operational contexts.

The research methods were specifically designed to tap into these local perceptions. Community members and representatives of their support organizations were asked to identify specific positive and negative aspects of certification in their own words, instead of using outsider-imposed categories. This not only more accurately captured perceived positive and negative aspects, but also made the relative importance scoring exercise easier for participants since base-line responses came from them. By eliciting relative importance of perceived contrasting aspects, instead of simply listing these items, a more informative analysis of local perceptions regarding certification was provided. In addition, interviews were conducted with *manejadores* and their principal support organization representatives separately. This facilitated independent responses from both groups of actors, allowing support organizations and individual *manejadores* to be frank in their responses. It also permitted comparisons between these two groups.

5.1. What are the most important positive and negative aspects of certification?

Almost all positive aspects of certification identified were perceived to be important. Overall, economic and social benefits were perceived to be most important across the stakeholder groups. Indeed, the principal motivation for pursuing certification for both operations was market benefits, as has been observed for other certified CFEs studied (Irvine, 1999; Bass et al., 2001). Moreover, both operations were realizing these benefits by selling their wood in a new market at four times the local market price, which appears to be fairly unique among CFEs.

The importance of social benefits highlighted by our respondents mimics several studies of other certified operations. These studies cited improved image of the local association and operation, and resulting greater credibility with governments, for example in Mexico (Markopoulos, 2003; Fonseca, 2006) and Guatemala (Carrera et al., 2006).

While a wide range of negative aspects were identified, not all of them were perceived important. Economic costs of certification were found to be one of the most important negative aspects of certification. Several studies have voiced concern over the high costs of certification and the burden these will present communities when they assume this expense (Irvine, 1999; Bass et al., 2001; Thornber and Markopoulos, 2001). The direct costs of certification (or fees paid to the certifier) were approximately US$ 11,420 for Porto Dias for the pre-audit visit and initial assessment (Mauricio Voivodic, personal communication) and US$ 2000 for each annual audit. For Peixoto, the costs were US$ 9200 for the pre-audit visit and initial assessment (Mauricio Voivodic, personal communication). These values are similar to what CFEs in Mexico and Honduras paid for initial assessments (US$12,000) (Molnar, 2003), more than what CFEs in Guatemala paid for initial assessments (around US$5000) (Soza, 2003), and significantly lower than Molnar (2003) reports for a certified CFE in Bolivia (US$47,425).

When asked if certification was worth it, most stakeholders interviewed affirmed that it was, and that certified operations should maintain certification into the future. Furthermore, both *manejadores* and representatives of the principal support organizations stated they do or would recommend certification to other communities.

5.2. How did perspectives differ among stakeholder groups?

The explicitly comparative approach to this study revealed that perspectives of stakeholders differed by operation, as well as between the local association and its support organization within each operation. The two principal differences were: (1) actors in the Porto Dias operation scored both positive and negative aspects of certification higher than their counterparts in Peixoto, and (2) local associations scored positive aspects higher and negative aspects lower than their principal support organizations.

The seemingly paradoxical result that actors in Porto Dias scored both positive and negative aspects higher than their counterparts in Peixoto is consistent with several differences between the operations and their experiences with certification. Actors in Porto Dias scored negative aspects in the ‘‘specific to certification’’ category much higher than the Peixoto actors perhaps due to differences in the certification process, which was much more burdensome for the Porto Dias operation for several reasons. Because the Porto Dias operation uses heavy machinery and outside labor to remove logs from the forest, while Peixoto uses animal traction and local labor, Porto Dias was scrutinized more closely during the certification process for environmental impact and labor issues, and given conditions (or corrective action requests necessary for maintaining certification) concerning these issues. Also, because inhabitants of Porto Dias have a long history of gathering non-timber forest products and hunting, the *manejadores* were required to document and monitor use of these resources in addition to the standard impact monitoring of timber harvests; these were not issues in the agriculturally-oriented Peixoto. Third, because Porto Dias was only the second CFE to get certified in the country, certifiers did not have much experience or guidance in the certification of CFEs at that time. During the certification process APRUMA was held to the same standards as large industrial operations, and received more than 30 pre-conditions and conditions from IMAFLORA. The Peixoto operation, in contrast, was evaluated according to the newly drafted FSC SLIMF Streamlined Certification Procedures, and received no pre-conditions and far fewer (12) and less onerous conditions. While these factors help explain why the certification process was much more difficult for Porto Dias than Peixoto, it is worth noting that a perception existed that the certification process results were unfair for Porto Dias, given that its inhabitants had

traditionally maintained and utilized the forest for the sustainable harvest of non-timber forest products, while inhabitants in Peixoto had traditionally cleared forest for agriculture and pasture.

Other reasons why actors in Porto Dias scored a wider range of positive aspects (environmental, social, and technical) of certification higher than their counterparts in Peixoto (who scored economic aspects the highest) may include differences in livelihood systems, motivations for implementing timber management, and support organizations. *Manejadores* in Peixoto are colonists whose livelihoods are primarily focused on cattle and agricultural production. The motivation for implementing timber production was to complement these sources of income in forested areas they were not allowed to legally clear. EMBRAPA, the support organization for Peixoto, approached the project as an income generation initiative and placed great emphasis on technical capacity. In contrast, livelihoods of the *manejadores* in Porto Dias have long depended on intact forests for harvest and sale of non-timber forest products. In addition to providing an increasingly significant source of income for them, timber production, due to the value it adds to the forest, helped justify their constantly threatened forest-based economy. One of the most critical threats has been a movement by some residents to convert the settlement's legal status from an ''agroextractive settlement project'' to a ''colonization settlement project'', which would involve sweeping changes to the way land is divided and how the settlement is managed. CTA, the support organization for Porto Dias, approached certification as a way to bring critically needed infrastructure to the settlement (which lacked a permanent road) and provide income, while also conserving the forest and maintaining the current settlement status. CTA had increasingly emphasized improving the organization of the local association and intensifying technical training, particularly after the initial certification assessment. Based on these differences, it is not surprising that actors in Peixoto perceived economic benefits to be most important, while their counterparts in Porto Dias also scored highly other types of benefits (social, technical, and environmental). Richards (1997) and Schmink (2004) have emphasized that it is precisely these non-market benefits of forests that communities often value most highly.

The higher optimism of local associations regarding certification compared to their principal support organizations was evident in the former's typically lower scores for negative aspects and higher scores for positive ones. This finding appears to be consistent with the suggestion of Bass et al. (2001) that donor subsidies have led communities to underestimate the economic costs and overestimate the economic benefits of certification. In our study, the support organizations were responsible for paying the costs of certification and proving compliance with certification standards. At the same time, these support organizations received few of the direct economic and indirect social, environmental, and technical benefits (e.g., reduced damage to the forest, improved organization of the local association). Therefore, from their vantage point, it is not surprising that economic costs figured most prominently for support organizations and positive aspects of certification less so. Similarly, from their contrasting vantage point, perhaps *manejadores* were unable to accurately evaluate economic costs, but were in a better position to evaluate other non-economic positive and negative aspects (i.e., environmental, social, and technical).

5.3. Addressing major CFE certification challenges

Many studies, including ours, have indicated that economic costs of certification for CFEs have been substantial and the certification process has proven difficult. However, efforts are underway by certifiers and the FSC to make the process less expensive and cumbersome, and Brazilian organizations have taken a leading role in this endeavor. IMAFLORA has taken several steps to reduce costs for CFEs in Brazil, including: creating the Social Fund for Certification to help subsidize the direct costs of certification (fees paid to IMAFLORA), developing the Volunteer Auditors Bank of specialists to perform certification of CFEs at no cost or at significantly discounted rates (also see Azevedo and Freitas, 2003), and printing a booklet specifically aimed at informing community members about certification (the booklet is available in Portuguese at http://www.imaflora.org/arquivos/cartilha_comunidades.pdf). The FSC has also developed Small and Low Intensity Managed Forests (SLIMF) Streamlined Certification Procedures and FSC-Brazil has composed new SLIMF forest certification standards—which representatives of CFEs, NGOs, and governmental organizations helped to develop (FSC - Brazil, 2004).

Application of SLIMF Procedures in Peixoto may have contributed to the local association and its support organization having a less negative perception of certification compared to Porto Dias. Results cannot be divorced, however, from the fact that Peixoto also had a smaller scale and lower intensity operation than Porto Dias. Nonetheless, expanded efforts to streamline the certification process, such as certification standards specifically for SLIMF operations, may be key to achieving widespread FSC certification of CFEs globally. See Humphries (2005) for detailed analysis of the certification process in the two communities involved in this study.

While many non-economic benefits of certification were perceived to be important, economic benefits proved most important. In fact, higher prices for wood related to access to the certified market may be the only way for these operations to achieve economic viability given the disadvantages of unfavorable economies of scale (i.e., high cost per unit volume), distance from major markets, and stiff competition with illegal wood. On the other hand, the difficulty of meeting certification standards (especially those concerning documentation and monitoring) and paying certification fees may doom CFEs to indefinite dependence on support organizations. Time will tell if the process can be simplified enough to make standards and costs manageable for local associations, or if a permanent relationship with support organizations will be acceptable. Moreover, new models may emerge to address these problems and new solutions for obtaining good prices for wood may be found.

Perceptions are the basis for action, and therefore critical in natural resource management decisions. Detected differences in perceptions between local associations and their support organizations on the importance of positive versus negative aspects of certification could lead to conflict between these two groups over whether or not to make certification a priority. Support organizations may not want to commit to securing funds and providing technical assistance to meet certification standards if they do not think the positive aspects outweigh the negative ones. Similarly, differences in perceptions of economic costs and benefits among CFEs could, for example, complicate cooperative efforts in wood sales or cost sharing. However, no evidence of these types of conflicts was found in our study.

Differences in CFE's operational contexts will likely continue to be a challenge for the FSC and certifiers. Our study provides some insight into how differences among CFEs in livelihood and land tenure systems, support organizations, and types of management regimes might affect operations' experiences with and local actors' perceptions of certification.

5.4. Key enabling conditions

Two important enabling conditions distinguish CFEs in our study from other CFEs globally, and perhaps have contributed to their success, especially with regard to economic benefits. First, both operations were members of the Community Forest Producer Group, which as of August 2004 included at least eight local associations with certified and non-certified CFEs in Acre, as well as several non-governmental and federal and state organizations. The Group provided a forum to discuss certification (including the process, costs, and benefits), a platform for the members to confront problems or propose change as a group (e.g., in dealing with IBAMA, the federal agency that approves forest management plans), and, most importantly, it facilitated wood sales to 10 members of the Brazilian Buyers Group, a consortium of buyers of certified wood in São Paulo (Francisco de Assis Correa Silva, personal communication).

According to *manejadores* and their principal support organizations, both the Porto Dias and Peixoto operations had difficulties selling wood in local and national markets prior to this São Paulo connection. The proliferation of illegal wood drives down local wood prices (Freitas, 2004) and previous buyers had refused to pay for wood received (EMBRAPA, APRUMA, CTA, ASPD, personal communications). In contrast, buyers in São Paulo had become regular customers, purchasing the majority of the harvest from Porto Dias and Peixoto in 2003, and from several other communities in 2004. Although they were paying the same price for certified sawnwood as the going rate in São Paulo for non-certified sawnwood (about R$ 800 or US$ 338 per cubic meter) (EMBRAPA, CTA, personal communications), this was at least 400% more than the standard price in the local Acre market (between R$ 100–200 or US$ 42–85 per cubic meter) (EMBRAPA, CTA, personal communications). In addition, these buyers accepted lesser known species and small quantities communities offered, and were reportedly more forgiving than the industry norm with regard to quality (CTA, personal communication). Still, it is difficult to precisely calculate the differences in profit that this new market is generating for the *manejadores* due to subsidization of production and certification costs by support organizations, donors, and government, and the different approaches to cost–benefit calculations among the operations.

Participation in a producers group (or a similar organization) that assists members with marketing and sales could diminish many of the constraints CFEs have traditionally encountered in their relationships with wood products markets, such as distance to certified markets and limited capital, production capacity, processing technology, and marketing skills (Aguilar, 2000; Bass et al., 2001; Quevedo, 2006). Similar efforts at organizing the different actors in community-based forestry are also underway in Mexico (Fonseca, 2006) and Guatemala (Carrera et al., 2006). Fonseca (2006) reports that an alliance of 12 CFEs in Mexico has helped to market members' products, offered aggregated volumes of products for sale, and created new product designs.

Although some *manejadores* and representatives of principal support organizations in our study argued the price should be higher and cautioned against assuming this marketing arrangement would last forever, most agreed the higher prices and access to the São Paulo market represented major benefits of certification for local associations. Of course, it remains to be seen if current market benefits will continue for these operations, and if these benefits will outweigh the economic costs and other negative aspects of certification in the future, especially if operations must pay for certification themselves. Indeed, for many CFEs studied to date, market benefits have been insubstantial and/or short-lived, and do not exceed the costs of certification (Irvine, 1999; Bass et al., 2001; Molnar, 2003). The Petén region of Guatemala, where very few FSC chain-of-custody certified operations exist, is a good example (Soza, 2003; Carrera et al., 2006). Fonseca (2006) reports some CFEs in Mexico are questioning the value of certification for this reason.

A second and relatively unique enabling condition for the communities in our study was the high level of support for community forestry and certification by the state government of Acre. Bass et al. (2001) reported that government involvement in CFE certification has been minimal due to disinterest in community forestry. In contrast, the current government of Acre is offering technical and monetary assistance to augment the number of certified CFEs (Marcelo Fernandes, personal communication; Carlos Ovídio Duarte Rocha, personal communication). Strong governmental support of community forestry and certification has also helped foment CFE certification in Mexico (Fonseca, 2006) and Guatemala (Soza, 2003), countries with the highest numbers of certified CFEs (FSC, 2006a).

In contrast, most Asian governments have given little support to FSC certification, choosing to support national certification programs instead (Cashore et al., 2006). A lack of regional markets for certified products has also been cited as a

limiting factor in the application of FSC certification in Asia and Africa in general (Eba'a Atyi, 2006; Muhtaman and Prasetyo, 2006; Njovu, 2006; Shahwahid, 2006).

A third factor that contributed to the success of CFEs in our study that is less unique but crucial is the high level of technical and financial support these CFEs are receiving as early adopters of certification from governmental and non-governmental support organizations and donors. This has made the high risk decision to pursue certification, with its very uncertain market benefits, easier to make. It is uncertain if more CFEs will choose certification when donor subsidies become scarce, even if the market for certified products poses lower risk.

As Aguilar (2000) astutely observes, ''The potential of certification to promote responsible forest management will depend to a great extent on how the communities view the balance between the opportunities and limitations of certification for them.'' The specific positive and negative aspects of certification perceived by local actors in this study, reasons behind differences in perceptions, and conditions that have enabled these operations to achieve relative success provide insight into CFE certification. It is hoped that these results will assist the FSC, certifiers, national working groups that develop certification standards, and other stakeholders to improve the certification process for communities, minimize the costs, and promote its diversity of benefits.

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