FOREST COMPANY-COMMUNITY AGREEMENTS IN BRAZIL:
CURRENT STATUS AND OPPORTUNITIES FOR ACTION

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PREFACE

In *A New Agenda for Forest Conservation and Poverty Reduction: Making Markets work for Low-Income Producers*, Forest Trends and CIFOR documented the dramatic changes in the forest sector and in the scope for creating market opportunities for low-income producers to manage their forest resources for livelihoods and conservation, as well as the shifts in the supply and demand for industrial forest products. At least a quarter of the forests in developing countries are now officially owned or administered by indigenous and other communities. Millions of smallholder farmers, especially those in forest-scarce but agriculturally less favored regions, are growing trees not only to recover local ecosystem services, but also to meet rapidly growing domestic demand for forest products. In some areas, forest and farm tree resources are the principal assets of the poor and the most proximate opportunity for poverty alleviation. Unfortunately, however, low-income producers presently benefit only marginally from commercial forestry activities. Forest markets pose formidable barriers to profitable participation by the rural poor. Government policies and regulations have not been adjusted to support the new opportunities for low-income producers and communities to compete in the marketplace with natural forest products or plantation wood. Many communities lack use rights over the forests they own or those assigned to them, and antiquated rules and regulations make the logistics and cost of forest management and use expensive. Current market trends, if unabated, will continue to deny these poor people opportunities to fully use their forest resources for their own development.

Local management of natural forests faces new challenges. Internationally, the pulp and paper industry and industry concentrated in low-value wood segments is consolidating rapidly and relying more on plantations, especially outgrower schemes in tropical countries with good growing conditions. Policies currently promoted by some environmental groups and industry lobbies would mean that in the near future most industrial wood could come from industrial plantations, effectively cutting off forest and farm communities from critical income opportunities. In an increasingly competitive marketplace, local producers of natural wood or farm plantations need access to sufficient capital, market contacts and information, and technology to capitalize on their forest assets—or lose the incentive to keep their forests or restore rural landscapes.

New solutions are appearing. An important opportunity has emerged within the private sector, whereby private companies have entered into new types of collaboration with communities and low-income producers for the supply of their raw material, and, in some cases, for finished products. International forest companies and financial investors are increasingly recognizing the high business and financial as well as environmental and political risks and costs associated with large-scale logging in natural forests and industrial plantations in many parts of the world (e.g., Barr 2002). They are engaging communities in natural forests and small plantation growers in a diversifying set of business arrangements around the supply of wood and wood products. In the best of cases, this collaboration provides communities and smallholders with market linkages and access to technology, capital and capacity-building. Companies gain flexibility in their business investments, and are able to support social and environmental as well as financial goals, while building long-term supply relationships.

This study is one of two Latin American studies investigating markets in Brazil and Mexico. It looks at the experience with community-company business collaboration in Brazil. It builds upon the path-breaking work and methodology of an international study by an International Institute for Environment and Development

research team, which documented 47 examples of community-company partnerships, most of them in the pulp and paper sector in Africa and Asia. By documenting business models and trends in the case of Brazil, it expands the existing knowledge base on community-company partnerships into Latin America. It helps the private sector identify long-term opportunities and potential benefits of engaging more with local forest producer organizations, and informs private sector actors and communities and smallholder producers of the emerging lessons, the criteria for building viable relationships to mutual benefit. It also identifies key issues that need to be addressed for these opportunities to have positive outcomes.

The scale of opportunities in the case of Brazil is enormous. Brazil is one of the leaders in pursuing forest certification for forest operations and value chains in the tropical forest. The scale of the domestic and export market is huge, with more than 10,000 processing installations, a rapidly expanding plantation sector and rapid changes in the extensively forested Amazon. It is estimated that more than 200,000 families have settled there between 1995 and 2001. Soybean production, particularly at larger scales, is expanding rapidly in response to the highly favorable growing conditions in parts of the Amazon and high-world commodity prices for cattle feed. The forest industry in Brazil is large and diverse, with more than 80% of production destined for domestic consumption. It ranges from vertically integrated processors of high-quality tropical timber products from natural forests in the Amazon to pulp and paper makers whose supply comes exclusively from plantations, many of them managed by farmers and their cooperatives, to small, primary sawmillers. There are many intermediaries in the value chain with complex patterns of timber harvesting and supply related to the legal deforesting of future agricultural lands in the Amazon and to illegal sources of timber from standing forests and illegal land clearing.

There is a wide range of potential models for collaboration with small-scale producers; companies can choose those models that work well in their own setting. To be successful they will need to partner with institutions and individuals that have strong community organization and communication skills and that are willing to respect the perspectives and positions of their local partners. Private industry can ally with community forest owners and small-scale private owners to lobby for reform of archaic forest laws and regulations, to secure tenure rights for potential local business partners, to promote lower-cost and more effective alternatives to improve environmental standards of forest management, and to encourage public investment for protection of natural forests and reforestation of treeless landscapes.

The case material gathered in this study indicates that industries supplied exclusively from the natural forest, with mixed supplies, and those reliant exclusively upon plantation wood have a strong interest to increase their supply from communities and small holders through collaborative arrangements among. There is interest in long-term supplier agreements, agreements for providing technical assistance, support to community enterprise, and investments in community and smallholder operations and equity investments. While most of these are incipient, all of those interviewed expressed interest in expanding these types of relationships and learning from an on-going experience.

Making this new set of examples of business models in Brazil available intends to inform the forest industry of opportunities and lessons of experience, to provide useful lessons and models for communities and small producers, and to inform investors of new opportunities and trends. It adds to the global knowledge base on

company-community collaboration and contributes to understanding what sets of business models are most promising, what elements lead to good relationships and outcomes.

Michael Jenkins
President, Forest Trends

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EXECUTIVE SUMMARY

Agreements between the private forest sector and local forest communities have been increasingly recognized as a potential solution to some problems related to poverty alleviation, increasing demand for wood products and the need to increase the global forest area under sustainable forest management. Very little is known about the Brazilian experience on these types of forest company-community agreements. The few examples described in the literature are about out-grower programs in pulp and paper companies. Although there are only a few of these examples, they demonstrate the enormous potential of this country to develop these kinds of agreements.

This study was conducted with the objectives of (1) identifying models of agreements that have proven successful and that have potential for replication; (2) discussing the factors that led these models to succeed; and (3) documenting legislative, technical, institutional or fiscal policy constraints hindering the involvement of low-income producers. The study was conducted in two phases. The first phase included a literature review on the state of company-community agreements in Brazil as well as consultation with specialists in the Brazilian forest sector. The second phase included telephone interviews with forest products companies in all regions of the country. Companies were selected to represent both plantation-dependent companies and companies from the Amazon region.

A summary of the main results is presented in **Table 1**. Plantation-dependent companies have the most developed agreements with local communities. More than half of these companies stated that they already have an out-grower program. The Amazon region offers the most promising scenario for action in the development of company-community agreements. Only one case of agreements with local communities was identified for these companies. However, this region certainly has tremendous potential for developing agreements and some of these opportunities for action were identified in this study. These include the simplification and clarification of policy constraints, the need to develop community enterprises and the need to identify markets for community forest products.

Table 1: Summary of Main Results

	Group A (Vertically Integrated Companies – Tropical Timber)	**Group B** (Non-Integrated Companies – Tropical Timber)	**Group C** (Companies Dependent on Plantation-Based Supply)
Status of agreements	No agreements found	Only one agreement found	64% have out-grower programs
Companies' interest in entering agreements	100% of companies are interested	89% of companies interested	24% planning out-grower programs
Constraints[1]			
Technical	1. Great distance between rural properties 2. Unclear land tenure system 3. Communities lack the knowledge of forest management plan preparation and procedures for approval	1. Limited market access of community forest products 2. Terrible supply capacity of communities 3. Lack of access to community forest resources 4. Lack of managerial capacity	1. Out-growers lack knowledge on forest activities
Economic	1. Lack of initial capital 2. Long-term return on investments for communities 3. Competition with illegal logging 4. Lack of markets for community forest products 5. The lack of aggregated value in community forest products	1. Lack of initial capital	1. Long-term return on investment for communities 2. Out-growers require a guarantee that company will purchase their wood 3. Lack of initial capital for communities 4. Competition of forest activities with other land uses
Political	1. Government bureaucracy to authorize forest management plans 2. The need to improve environmental legislation 3. Some NGOs want to ban logging of tropical forests	1. Government bureaucracy to authorize forest management plans 2. Inappropriate and obsolete legislation which does not allow the participation of communities in the forest products market 3. Lack of government experience in these programs	1. Inflexibility of environmental legislation 2. Lack of government subsidies for the development of these programs

	Group A (Vertically Integrated Companies – Tropical Timber)	**Group B** (Non-Integrated Companies – Tropical Timber)	**Group C** (Companies Dependent on Plantation-Based Supply)
Positive features/benefits[2]	1. Agrarian reform 2. Combat to illegal logging 3. Government is motivating the development of agreements between companies and communities	1. Increasing demand for wood products in the domestic and international markets 2. Interest of companies in securing access to raw material	1. Decreased investment in lands 2. Increased wood supply helps to stabilize market prices 3. Possibility to collaborate on community development 4. Improved relationship with local communities 5. Possibility to promote and enhance environmental protection
Types of agreements[3]	1. Company only purchases wood 2. Company only provides technical assistance or forms a Joint Venture 3. Community leases land to company	1. Company only to purchase the wood 2. Joint venture 3. Company only provides technical assistance 4. Company leases land from communities	1. 100% out-grower programs
Types of investment[4]	1. Technical assistance; training in forest management 2. Equipment and machinery 3. Loan / credit	1. Technical assistance 2. Loan / credit 3. Equipment and machinery; training in forest management	1. Inputs (e.g. seedlings, fertilizers) 2. Technical assistance 3. Other[5] 4. Administrative support; financing
Contracts	91% will have formal contracts	89% will have formal contracts	67% have formal contracts

[1, 2, 3, 4] Rank of most frequent responses.

[5] This category includes: (1) the company leases the land and is responsible for all forest operations and (2) the company contributes financially to a partner institution that provides assistance to producers.

INTRODUCTION

The forest sector is currently facing the debate on how to reconcile apparently conflicting goals such as conserving forest ecosystems, meeting the increasing demand for forest products, and at the same time, promoting sustainable development in order to reduce rural poverty. Forests are closely connected to social issues and play an important role in the livelihood of the rural poor (Scherr, White and Kaimowitz 2004). Besides, it is becoming increasingly evident that poverty is one of the main drivers of environmental degradation (Nelson 2002). With the increasing number of forest areas in developing countries under the control of communities (White and Martin 2002), it is necessary to develop mechanisms that allow forest communities to have access to and benefit from these resources. Scherr, White and Kaimowitz (2004) argue that "fundamental changes underway in the forest sector offer new opportunities for commercial forestry to benefit local people and provide more sustainable pathways of economic development for local communities."

In light of this context, this study aims to identify potential partners in the forest industry that demonstrate interest in linking low-income forest producers to the private forest sector and market opportunities. Specific objectives include:

1. Identifying models of agreements that are successful and have potential for wider replication;
2. Discussing factors that led these models to succeed;
3. Document legislative, technical, institutional, or fiscal policy constraints hindering the involvement of low-income producers.

This study was divided into two distinct phases. The first phase consisted of an exploratory research, including a literature review of agreements between forest companies and forest communities in Brazil as well as consultation with forestry and forest products associations in Brazil, government departments connected to environmental issues, non-governmental organizations (NGO) and other forestry specialists. This phase had the objectives of (1) aggregating available information on these types of agreements in Brazil; (2) providing a general idea of the characteristics of the Brazilian forest sector; and (3) assembling a database of forest products companies in Brazil. The second phase of this study consisted of telephone interviews with forest products companies. In general, these interviews aimed to collect information on the companies' interest in developing agreements with local communities as well as the positive and negative features of these agreements. For more details on the methodology of this study please refer to Appendix 1.

This report describes the findings of this study in three sections: (1) a characterization of the Brazilian forest sector based on the information provided by industry associations, NGOs, government and forestry specialists as well as on literature review; (2) a review of the literature on the situation of agreements between companies and communities in Brazil; (3) the results of the interviews for each group of companies. A discussion and conclusion of these findings are presented at the end.

CHARACTERIZATION OF THE BRAZILIAN FOREST SECTOR

FOREST AREA

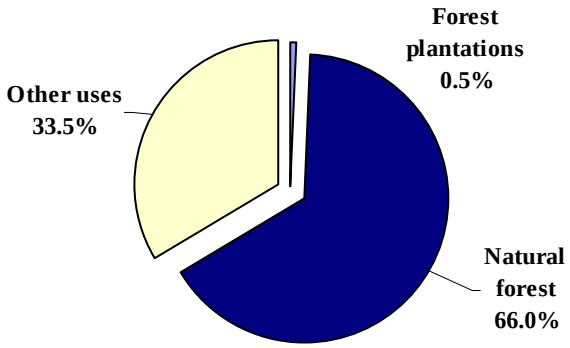
Approximately two-thirds of Brazil's land area is covered with forests (**Table 2**) (FAO 2003). 66% of the country is covered with natural forests, 0.5% is composed of plantation forests with different species of Eucalyptus and Pinus; the remaining area (33.5%) is used for agriculture, cattle industry, urban settlements or infrastructure (**Figure 1**) (ABIMCI 2003a; FAO 2003).

Table 2: Information on Land Area, Forest Cover and Land Cover/Use for Brazil, South America and the World

	Land Area (1,000 ha)	Forest Cover (2000) (1,000 ha)	Distribution of Land Cover/Use (1989) (%)		
			Forest	Other Wooded Land	Other Land
Brazil	845,651	543,905	64.3	0.0	33.1
South America	1,753,520	885,618	50.5	3.9	43.0
World	13,139,618	3,869,453	29.4	11.2	58.6

Source: FAO 2003.

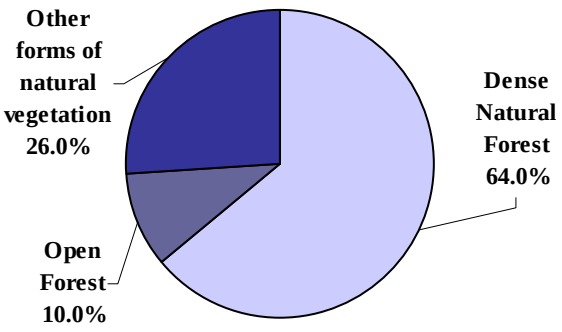
Figure 1: Land Use in Brazil



Source: ABIMCI 2003a.

Natural forests are usually classified as dense natural forests, open forests or other types of native vegetation (**Figure 2**). Dense natural forests occupy the largest area of the Brazilian territory and are considered to have the greatest economic potential (ABIMCI 2003a).

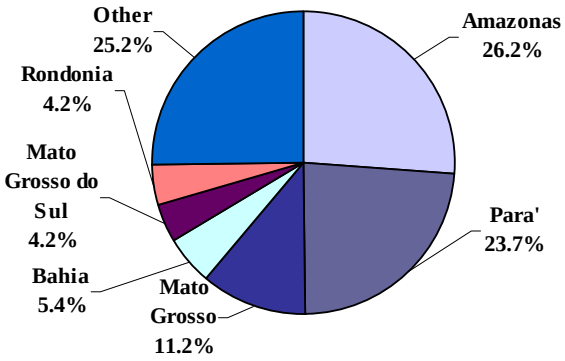
Figure 2: Types of Natural Forests and Their Proportion in Brazil



Source: ABIMCI 2003a.

It is estimated that dense forests cover around 412 million hectares of the land in Brazil. Of this total, 245 million hectares are considered to be available for industrial use, most of it (61%) in three states in the North of Brazil: Amazonas, Pará and Mato Grosso (**Figure 3**). The remaining area includes public forests and protected areas (ABIMCI 2003a).

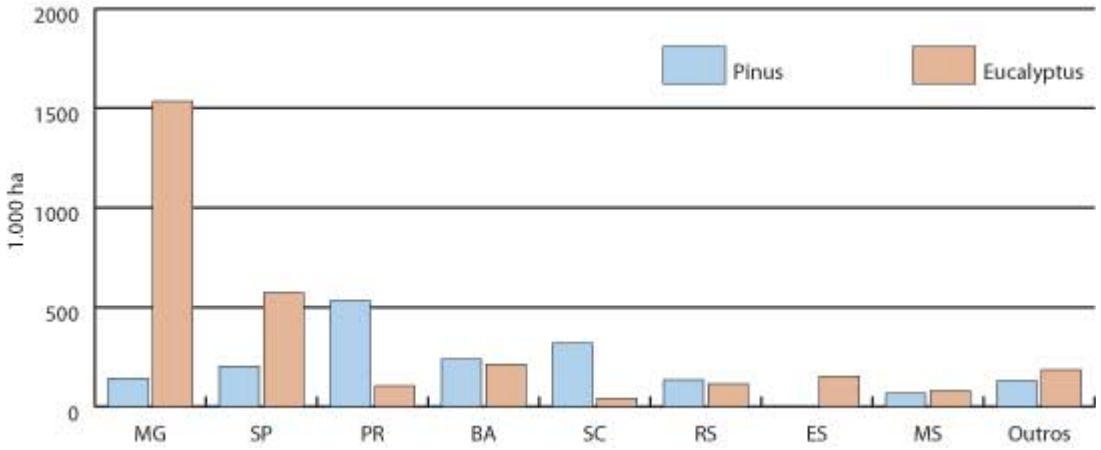
Figure 3: Distribution of Natural Dense Forests in the Brazilian States



Source: ABIMCI 2003a.

Forest Plantations are generally composed of different species of Pinus and Eucalyptus. Other species used in plantations include Acácias, Teak and Araucária. Currently, Brazil has 4.7 million hectares of Pinus and Eucalyptus plantations. Of this area, around 64% are Eucalyptus plantations and 36% are Pinus plantations. The states of Minas Gerais, followed by São Paulo and Paraná, have the highest concentration of plantations (**Figure 4**) (ABIMCI 2003a).

Figure 4: Distribution of Pinus and Eucalyptus Plantations in Different Brazilian States



Source: ABIMCI 2003a.

Approximately 73% of Pinus plantations are found in the states of Paraná, Santa Catarina, Bahia and São Paulo. These states are home to most of the pulp and paper industry and solid wood industry (**Figure 6**). Eucalyptus plantations are largely concentrated in the Southeast region of Brazil. Minas Gerais has about 51% of the Eucalyptus plantations (**Figure 5**). Together, Minas Gerais and São Paulo are home to more than 70% of Eucalyptus plantations in Brazil (ABIMCI 2003a).

Figure 5: Proportion of Eucalyptus Plantations in Each State

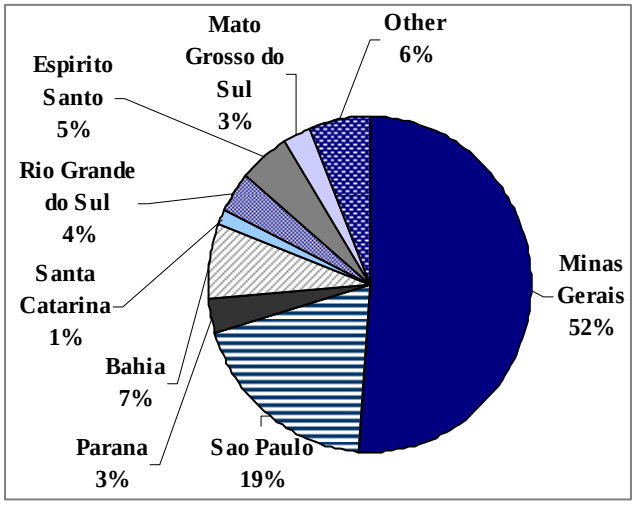
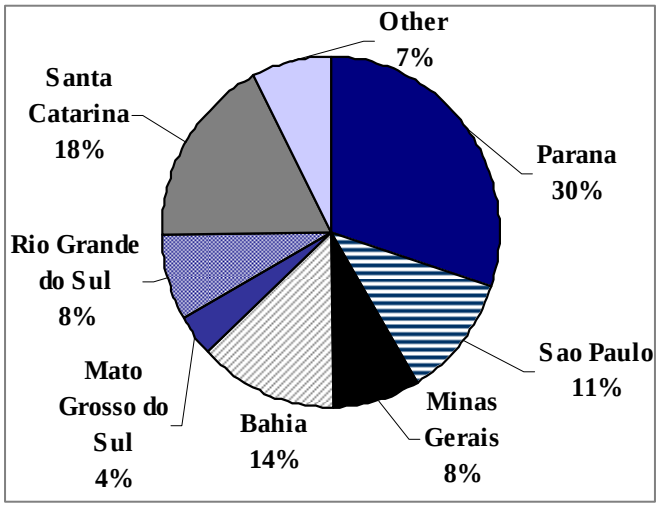


Figure 6: Proportion of Pinus Plantations in Each State



FOREST SECTOR ECONOMIC CONTRIBUTION

The forest sector has increased its contribution to the Brazilian economy over the period of 1993 - 2002. **Table 3** summarizes its main contributions in 2002. In general, contributions from the pulp and paper and solid wood segments are fairly balanced.

Table 3: Forest Sector Economic Contribution

Indicator	Forest Sector	Solid Wood Sector	Pulp and Paper Sector
GDP	US$ 20 billion (4.5% of total Brazilian GDP)	US$ 8 billion (1.8% of total Brazilian GDP)	US$ 12 billion (2.7% of total Brazilian GDP)
Taxes	US$ 4.6 billion (2% of total country collected)	US$ 2.1 billion (1% of total collected)	US$ 1.7 billion (0.8% of total collected)
Employment	6.5 million (9% of country total)	2.5 million (3.5% of country total)	4 million (5.5% of country total)
Exports	US$ 4.4 billion (7% of total Brazilian exports)	US$ 2.2 billion (4% of total Brazilian exports)	US$ 2.1 billion (4% of total Brazilian exports)
Commercial Surplus	US$ 3.6 billion (27% of Brazilian surplus)	US$ 2.1 billion (16% of Brazilian surplus)	US$ 1.5 billion (11% of Brazilian surplus)
Forecasted Investments	US$ 12 billion (2.4% of total country's forecast)	US$ 5.4 billion (1.1% of country's forecast)	US$ 6.6 billion (1.3% of country's forecast)

Source: ABIMCI 2003a; BRACELPA 2003.

NUMBER OF COMPANIES

Table 4 specifies the number of forest companies in Brazil. Small companies comprise most of the solid wood sector in Brazil. These companies are located in different regions of the country. However, the companies operating in forest plantations are usually located in the South and Southeast regions, while those operating in natural forests are usually located in the Amazonian states in the North of the country (ABIMCI 2003b). Companies from the pulp and paper industry are distributed throughout 450 municipalities of 16 states in the five country regions (*BRACELPA* 2003).

Table 4: Number of Companies per Segment in the Forest Sector

Type	Number of Companies
Sawmills	10,000
Plywood	250
Processed Wood[1]	2,000
Furniture	13,500
Pulp and Paper	220

[1] Includes blocks, blanks, moldings, doors, and other.
Source: ABIMCI 2003b; BRACELPA 2003.

FOREST PRODUCTS PRODUCTION

The general trend in forest products production in Brazil indicates an increase in the production of all major forest product segments from 1993 to 2001 (**Table 5**).

According to FAO (2003), wood-based panels had the greatest increase (81%) in production in the period between 1993 and 2001. In this product category, particleboard production increased by 167%, veneer sheets increased by 120%, plywood by 57%, and fiberboard by 43%. Sawnwood production increased by 24% from 1993 to 2001 (**Figure 7**). Tropical sawnwood production increased by 52% while coniferous sawnwood decreased by 9% during this time period (FAO 2003). However, these data on coniferous sawnwood production conflict with data provided by the Brazilian Association for Mechanically Processed Timber (ABIMCI) on the sawnwood production of pine species. Data from ABIMCI indicate that sawnwood production of pine species increased by 84% from 1993 (production of 4.3 million m^3) to 2002 (production of 7.9 million m^3). The difference may be due to the fact that ABIMCI's data refers to only one pine species while FAO data refers to coniferous in general. However, there is one other major commercial coniferous species in Brazil, Araucária, but it is unlikely that Araucária trading accounts for this huge discrepancy in the data since the traded volume of Araucária is not significant.

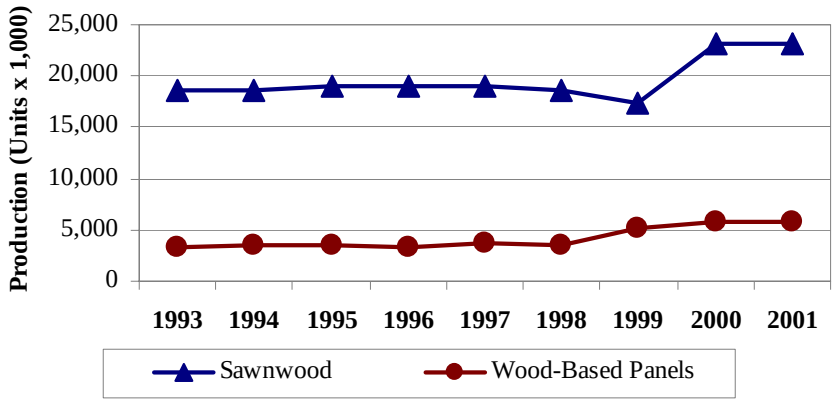
Table 5: Forest Products Production in Brazil

	Units x1000	1993	1994	1995	1996	1997	1998	1999	2000	2001
Roundwood	Cum	**205,686**	**208,913**	**211,130**	**212,306**	**213,480**	**213,703**	**231,563**	**235,402**	**236,422**
Industrial Roundwood	Cum	**81,350**	**83,435**	**84,518**	**84,601**	**84,684**	**83,764**	**100,395**	**102,994**	**102,994**
Sawlogs and Veneer Logs	Cum	44,779	46,779	47,779	47,779	47,779	46,779	48,300	49,290	49,290
Pulpwood and Particles	Cum	30,701	30,701	30,701	30,701	30,701	0	0	0	0
Other Industrial Roundwood	Cum	5,870	5,955	6,038	6,121	6,204	6,284	7,361	7,843	7,843
Wood Fuel	Cum	**124,336**	**125,478**	**126,612**	**127,705**	**128,796**	**129,939**	**131,168**	**132,408**	**133,428**
Sawnwood	Cum	**18,628**	**18,691**	**19,091**	**19,091**	**19,091**	**18,591**	**17,280**	**23,100**	**23,100**
Sawnwood (C)	Cum	8,591	8,591	8,591	8,591	8,591	8,591	6,730	7,800	7,800
Sawnwood (NC)	Cum	10,037	10,100	10,500	10,500	10,500	10,000	10,550	15,300	15,300
Wood-Based Panels	Cum	**3,233**	**3,538**	**3,558**	**3,223**	**3,708**	**3,498**	**5,214**	**5,853**	**5,853**
Veneer Sheets	Cum	300	310	300	265	1150	440	560	620	620
Plywood	Cum	1,575	1,870	1,900	1,600	1,200	1,700	2,200	2,470	2,470
Particle Board	Cum	660	660	660	660	660	660	1,500	1,762	1,762
Fibreboard	Cum	698	698	698	698	698	698	954	1,001	1,001
Wood Pulp	Mt	**5,441**	**5,795**	**5,903**	**6,292**	**6,421**	**6,774**	**7,113**	**7,338**	**7,436**
Mechanical Wood Pulp	Mt	475	448	466	492	443	466	444	502	460

Semi-Chemical Wood Pulp	Mt	37	37	37	31	27	27	44	46	27
Chemical Wood Pulp	Mt	4,870	5,240	5,331	5,627	5,795	6,147	6,521	6,689	6,814
Dissolving Wood Pulp	Mt	59	70	69	142	156	134	104	101	135
Other Fibre Pulp	Mt	**119**	**106**	**75**	**75**	**77**	**80**	**102**	**104**	**89**
Recovered Paper	Mt	**1,287**	**1,287**	**1,287**	**1,287**	**1,287**	**1,287**	**2,416**	**2,612**	**2,612**
Paper and Paperboard	Mt	**5,352**	**5,730**	**5,856**	**5,885**	**6,475**	**6,524**	**6,255**	**6,473**	**7,354**
Newsprint	Mt	268	263	282	277	265	273	242	266	230
Printing+Writing Paper	Mt	1,670	1,858	1,791	1,807	1,996	1,966	2,070	2,100	2,150
Other Paper+Paperboard	Mt	3,414	3,609	3,783	3,801	4,214	4,285	3,943	4,107	4,974

Source: FAO 2003.

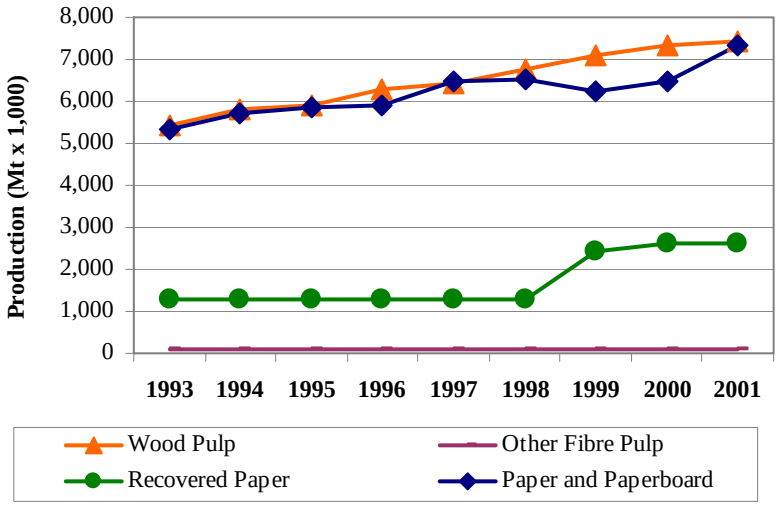
Figure 7: Production of Wood-Based Panels and Sawnwood in Brazil 1993-2001



Source: FAO 2003.

Wood pulp as well as paper and paperboard productions increased by 37% between 1993 and 2001 while "other fiber pulp" production decreased by 25% in this same period (**Figure 8**). Recovered paper production had the greatest production increase (103%) in the pulp and paper segment during this period.

Figure 8: Wood Pulp, Paper and Paperboard, Recovered Paper and Other Fiber Pulp Production in Brazil 1993-2001

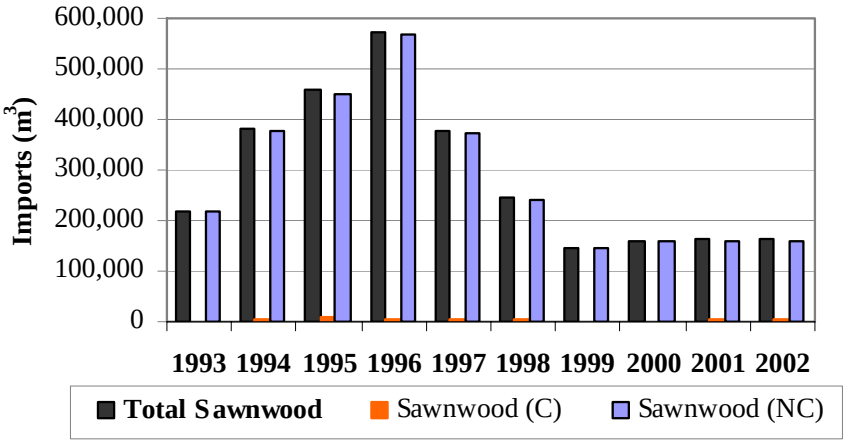


Source: FAO 2003.

FOREST PRODUCTS IMPORTS AND EXPORTS

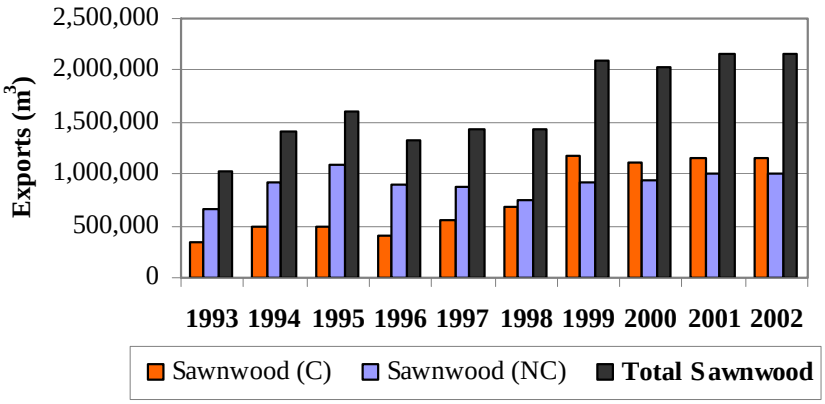
Almost all of Brazil's sawnwood imports consist of non-coniferous species (**Figure 9a**). On the other hand, sawnwood exports are fairly balanced between coniferous and hardwoods (**Figure 9b**). Until 1998, exports of hardwood were slightly higher than coniferous exports; from 1999 to 2002 this relationship reversed, with the amount of coniferous exports higher than hardwood exports.

Figure 9a: Brazilian Imports of Sawnwood 1993-2002



Source: FAO 2003.

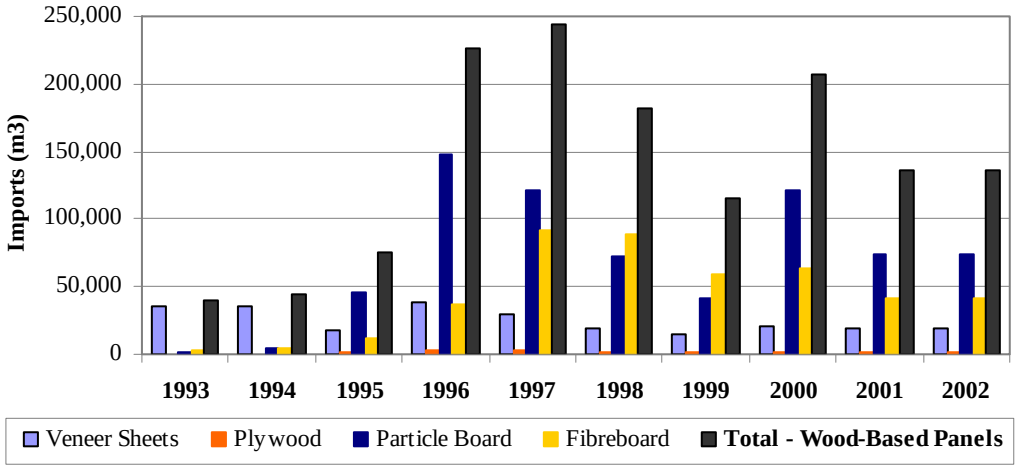
Figure 9b: Brazilian Exports of Sawnwood 1993-2002



Source: FAO 2003.

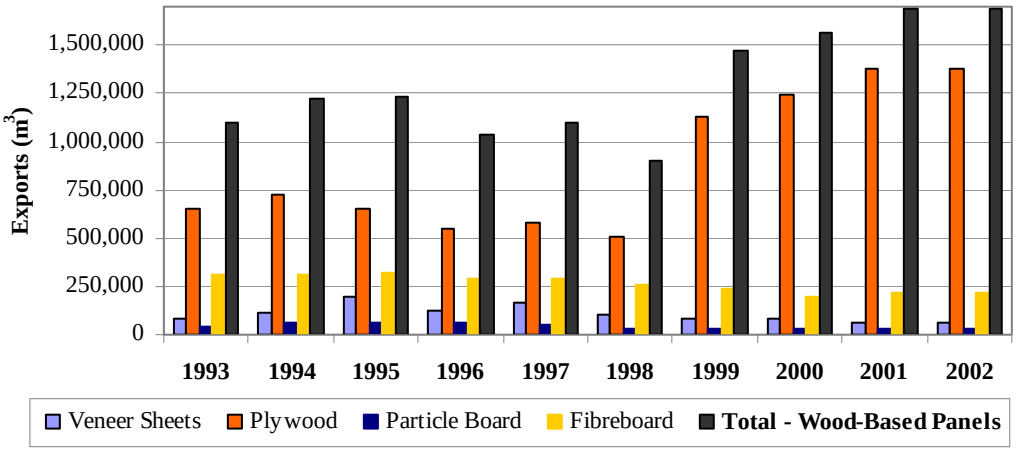
Particleboard has been dominating imports of wood-based panel since 1995 (**Figure 10a**). Plywood has been dominating exports since 1993 and has barely appeared on the imports data (**Figure 10b**). Fiberboard has occupied second place in both imports and exports of wood-based panels. In general, average imports of wood-based panels between 1993 and 2002 have corresponded to only 11% of the average of wood-based panel exports in the same period.

Figure 10a: Brazilian Imports of Wood-Based Panels 1993-2002



Source: FAO 2003.

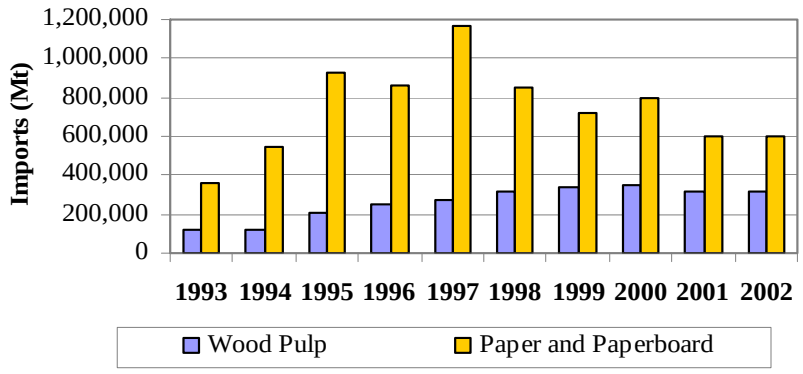
Figure 10b: Brazilian Exports of Wood-Based Panels 1993-2002



Source: FAO 2003.

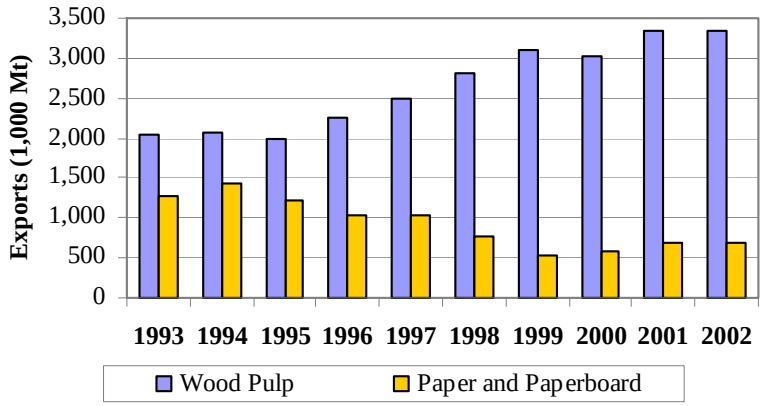
Since 1998, imports of paper and paperboard have been decreasing and imports of wood pulp have stabilized (**Figure 11a**). On the other hand, exports of wood pulp have been increasing since 1993, while paper and paperboard exports have been declining since 1994 (**Figure 11b**). On average, imports of wood pulp accounted for approximately 10% of wood pulp exports, and imports of paper and paperboard accounted for 80% of exports of these products for the period between 1993 and 2002.

Figure 11a: Brazilian Imports of Wood Pulp and Paper and Paperboard 1993-2002



Source: FAO 2003.

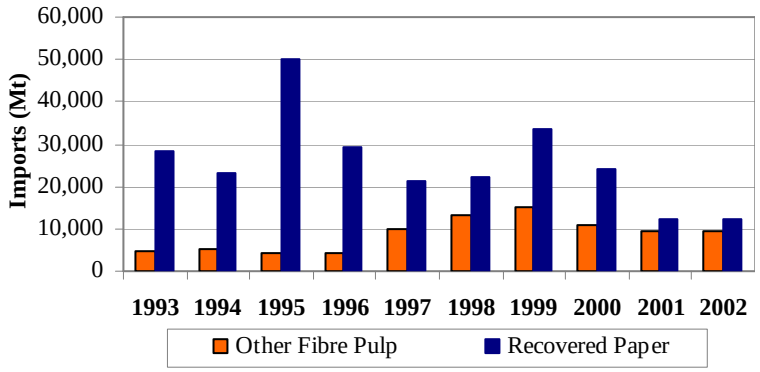
Figure 11b: Brazilian Exports of Wood Pulp and Paper and Paperboard 1993-2002



Source: FAO 2003.

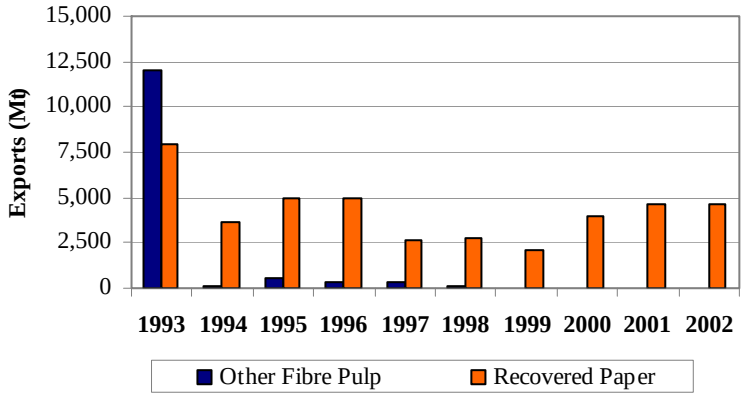
Imports of recovered paper have been declining from 1993 to 2002, while on average imports of "other fiber pulp" have doubled for the same time period (**Figure 12a**). Brazil has stopped exporting "other fiber pulp" since 2000. Exports of recovered paper decreased between 1997 and 1999, but have been recovering since 2000 (**Figure 12b**).

Figure 12a: Brazilian Imports of Recovered Paper and "Other Fiber Pulp" 1993-2002



Source: FAO 2003.

Figure 12b: Brazilian Exports of Recovered Paper and "Other Fiber Pulp" 1993-2002



Source: FAO 2003.

FOREST COMPANY-COMMUNITY AGREEMENTS IN BRAZIL

Two possible types of contractual agreements between forest companies and communities[1] are described in the literature and emerged in consultations with specialists. One of them refers to agreements including forest communities in the Amazon region and the other includes out-grower programs developed by forest plantation companies.[2] The majority of the consulted literature focuses on the situation of communities in the Amazon region (Amaral and Amaral Neto 2000; Armelin 2001; Anderson and Clay 2002; Lima et al. 2003). Most of these discuss the situation of community forest management plans. Little literature was found on agreements developed by plantation companies. Only two cases were intensely documented and will be presented in this section.

COMMUNITY FOREST MANAGEMENT IN THE AMAZON

The Legal Amazon[3] occupies approximately five million square kilometers, accounting for 59% of Brazilian territory. In general, not much information on the land tenure situation in the Amazon is available. However, according to data from Brazilian Institute of Geography and Statistics (IBGE), 24% of the Amazonian territory is declared to be private property, 29% are legally protected areas and 47% are composed of uninhabited areas and lands under dispute or litigation (Lentini, Veríssimo and Sobral 2003). Since 1995, the Brazilian Amazon has been experiencing a huge land settlement; about 210 thousand families have been established in the Amazon between 1995 and 2001 (Macqueen et al. 2003; Lima et al. 2003). Each family receives 100 hectares of which they can clear 20% for agriculture. The remaining 80% are kept as legal reserve and can only be explored with an authorized forest management plan (Lima et al. 2003). In order to be able to clear the land for agriculture or to request a forest management plan, the settlers need to have legalized land tenure rights. The process of legalizing land tenure can take a considerable amount of time and resources as it requires to prepare necessary documentation as well as to obtain government approval (Lima et al. 2003; Macqueen et al. 2003).

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[1] For the purpose of this study, the term "communities" will be used as a synonym for "smallholders". These include: (1) indigenous and other community groups who manage collectively-owned forest resources; (2) local individuals or groups who co-manage or harvest products from public forests; (3) smallholder farmers who manage remnant natural forests or plant trees in or around their crop field and pastures; (4) individuals or groups who engage in small-scale forest products processing; and (5) employees of forest production or processing enterprises (Scherr, White and Kaimowitz 2003).
[2] For the purposes of this study, plantation companies refer to those companies that have their timber supply originated from plantation of exotic species such as Eucalyptus spp. and Pinus spp. These companies do not necessarily need to have plantation areas, but they have to use timber supply from exotic forest plantations.
[3] The Legal Amazon is a political definition of the Brazilian Amazon used for public administrative purposes in Brazil that includes not only the dense and non-dense tropical rainforest, but also a large area (approximately 700 thousand km^2) of transitional vegetation such as savannahs and open fields. The Legal Amazon includes the States of Amazonas, Amapá, Acre, Mato Grosso, west of Maranhão, Pará, Rondônia, Roraima and Tocantins (Ambiente Brasil 2004).

The lengthy processes necessary to acquire secure land tenure may be impacting the development of agreements between companies and communities as well as community forest management. So far, it is possible to verify some cases of community forest management in Brazil. However, these cases are rare and still in a very early stage (Armelin 2001). There are 14 initiatives of community forest management in the Amazon and it has been documented that the forest industry has great interest in purchasing forest products from these communities (Amaral and Amaral Neto 2000; Armelin 2001).

Lima et al. (2003) state that the rural poor in the Amazon occupy around one third of forested areas in this region. In total, this population includes six million people. According to the authors, the difficulty in transporting the wood is a main constraint to the direct participation of rural poor in the commercialization of timber extracted from their properties. These authors analyzed agreements between rural settlement communities and a forest company in the Amazon (**Box 4**). They verified that the rural settlements projects could generate benefits to the wood industry. The three most important benefits identified were (1) the attractive price of the wood supply, (2) the low transportation cost due to the existence of roads to the settlement areas, and (3) the wood extraction from the rural settlements.

The literature indicates that there are some common limitations to the development of community forest management as well as to agreements between forest companies and communities. The ones cited most often are (Amaral and Amaral Neto 2000; Armelin 2001; Anderson and Clay 2002; Lima et al. 2003):

- Low production volume and irregular wood supply
- Absence of quality control systems which results in low quality of manufactured wood products
- Logistical problems such as the difficulties buyers experience in accessing community sites
- Low technical and managerial qualifications
- Difficult market access for community forest products
- Low level of social organization of communities
- Lack of conflict resolution mechanisms
- Constant dependence of communities on subsidies and the need for high-tech and financial investment;
- Conflict of agendas between communities, NGOs and financial agents
- Conflict of interest with powerful local groups that try to use forest resources according to their own interests.

Several authors (Amaral and Amaral Neto 2000; Armelin 2001; Anderson and Clay 2002; Lima et al. 2003) also suggest aspects that should be improved in order to make community forest management plans as well as company-community agreements successful. They are:

- Continuity of investments
- Land tenure legalization
- Adapting the concept of community forest management to the social, economic and technical aspects of each community
- Establishing achievable objectives
- Acquiring critical information about products to be manufactured as well as their markets
- Finding an equilibrium between specialization and diversification of products
- Adding value to products and reducing production costs
- Developing safe agreements, including agreements with companies that can provide technical and managerial capacity as well as agreements with other communities in order to increase bargaining power.

OUT-GROWER PROGRAMS

Little information is available on out-grower programs developed by plantation companies. Most of the information about these types of agreements comes from company web sites as well as from some case studies. The best known examples of this type of programs in Brazil are those of Klabin S/A and Aracruz Celulose S/A.

The Forestry Partners Program of Aracruz was created 13 years ago and includes over 2,500 smallholders in 113 municipalities in the States of Espírito Santo, Minas Gerais, and Bahia (WBCSD 2001; Hall 2003). The program employs around 6,000 people and generates extra revenue for landowners. The average size of the properties is 21 hectares and the company estimates that landowners obtain R$8,000 (USD 2,750) gross at harvest, or R$432 (USD 150) average per hectare per year net (Hall 2003). Farmers participating in this program have three contractual options: seedlings supply contract, preferential contract and buy-and-sell contracts. The company provides eucalyptus seedlings and technical assistance in all three contractual options. The farmers are not charged for the costs of the seedlings or for the technical assistance if they sell their wood products to the company. Farmers also have the option of keeping 3% of the production plus residuals for their own use (WBCSD 2001). In total, there are 55,000 hectares planted under this program, which corresponds to 20% of the company's wood supply requirements. The company's target is to reach 30% of Aracruz's timber supply (Mayers and Vermeulen 2002; Aracruz 2003; Hall 2003).

Klabin S/A has four different contract options in its out-growers program. These options vary depending on the size of the area each producer manages and on their individual needs. One of the options includes leasing the land from the small farmer. Another option includes the development of a joint venture between the company and the producer. Farmers can also choose other contractual alternatives that may involve being in charge of land preparation, planting and maintenance, while the company provides different types of assistance (Mayers and Vermeulen 2002).

TELEPHONE INTERVIEWS WITH FOREST PRODUCTS COMPANIES

WHO PARTICIPATED?

This section provides information on the average profile of respondents in each type of company. For more information on the criteria used to divide companies into groups and for a complete description of the methodology used in this study including questionnaire design, company selection, and data collection and analyses, please refer to Appendix 1. **Table 6** presents information on the number of responses in each group of companies. It is important to keep in mind that this is an exploratory study, which is qualitative in nature.

Table 6: Number of Responses in Each Group of Companies

	Type of Company		
	A	**B**	**C**
Number of selected companies	25	25	32
Number of companies that participated	11	9	21
Response rate	44%	36%	66%

The main characteristics of respondents are described in **Table 7**. Data indicates that companies from Groups A and B will have an average increase of 37% and 31%, respectively, in their log supply requirements in the next five years. According to responses from Group C companies, their average log requirement in the next five years will increase by 6%.

Table 7: Profile of Survey Respondents by Group of Companies

	Type of Company		
	Type A (Tropical Timber – Vertically Integrated)	**Type B** (Tropical Timber – Non-Integrated)	**Type C** (Plantation Timber)
Have own timber lands?	Yes – 91% No – 9%	No – 100%	Yes – 75% No – 25%
Area of forestland/ plantations	Average = 34,858 ha Smallest = 1,500 ha Largest = 206,000 ha	N/A	Average = 54,143 ha Smallest = 150 ha Largest = 270,000 ha
Average number of suppliers[1]	N/A	10 (range from 1 to 42)	1
Difference in cost of wood from own lands and independent suppliers/out-grower programs?	Yes – 71% No – 29%	N/A	Yes – 54% No – 46%
Source of less expensive wood	Own – 83% Suppliers – 17%	N/A	Own – 67% Out-growers – 33%
Average cost of wood/m³	R$161.25/m³ (range: R$85 to R$350)	R$392/m3 (range: R$8 to R$1,800/m³)	R$316/m³ (range: R$48 to R$550)

Annual Log Input (average)	27,564 m^3	20,688 m^3	52,141,544 m^3
From own lands	68%	N/A	49%
From independent suppliers / out-grower programs	32%	N/A	51%
Log requirement in five years (average)	37,778 m3	27,071 m3	55,298,798 m3
From own lands	45%	N/A	65%
From independent suppliers / out-grower programs	26%	94% of the increase should come from communities	46%
Products[2]	1. Plywood 2. Lumber 3. Specialty products 4. Veneer	1. Plywood 2. Specialty products 3. Lumber 4. Veneer	1. Specialty products 2. Lumber; Pulp 3. Panels; Paper 4. Veneer; Plywood 5. NTFP
Main species[3]	1. Mescla 2. Cedrinho 3. Angelim, Ipê, Jatobá, Maçaranduba 4. Cumarú, Pinho Cuiabano 5. Other4	1. Faveira 2. Jatobá 3. Copaíba 4. Other5	1. Pinus taeda 2. Eucalyptus grandis 3. Pinus elliottii; other Eucalyptus species 4. Eucalyptus saligna 5. Araucaria angustifolia 6. Other Pinus species
Markets			
Domestic	66%	40%	57%
Export	53%	60%	68%
Location			
Main office	Mato Grosso – 55% Paraná – 18% Pará – 18% Mato Grosso do Sul – 9%	Maranhão – 12.5% São Paulo – 25.0% Pará – 37.5% Mato Grosso do Sul – 12.5% Rio Grande do Sul – 12.5%	Santa Catarina – 32% São Paulo – 32% Paraná – 21% Rio Grande do Sul – 11% Rio de Janeiro – 5%
Divisions	Mato Grosso – 43% Pará – 43% Santa Catarina – 15%	Mato Grosso do Sul – 100%6	Santa Catarina – 24% São Paulo – 24% ParanáR – 19% International – 14% Rio Grande do Sul – 5% Espírito Santo – 5% Bahia – 5% Minas Gerais – 5%

[1] For those companies that do not have their own timberlands or plantations areas.

[2, 3] Rank of most frequent responses.

[4] Other: tauari, farinha seca, peroba, muiracatiara, freijó, pau-amarelo, sumauma, faveira, amapá, sucupira.

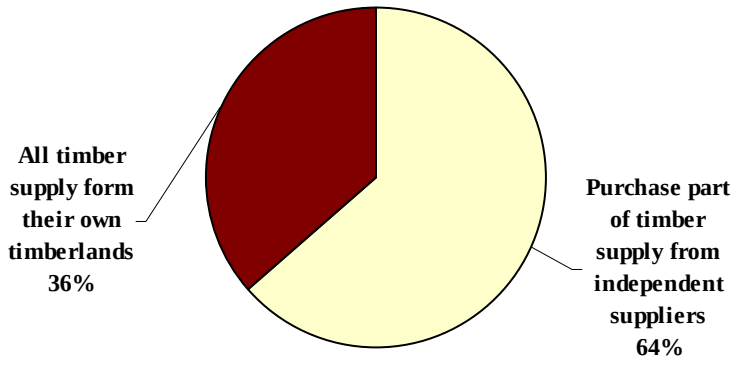
[5] Other: cedro arana, oak, açacu, preciosa, sucupira, angelim rajado, piquiá, pau santo, amapá, tauari, sumauma, mescla, angelim vermelho, maçaranduba, amesclão, marupá, morototó, pinus tropical, goiabão, ipê amarelo.

[6] Only two companies had divisions in other locations, both in Mato Grosso do Sul.

VERTICALLY INTEGRATED COMPANIES IN THE AMAZON – GROUP A

Companies' interest in agreements with communities - 64 percent of companies that use native tropical timber and have their own forest lands stated that they purchase part of their timber supply from independent suppliers (**Figure 13**).

Figure 13: Source of Timber Supply of Vertically Integrated Companies in the Amazon (Group A)



When asked about their interest in purchasing part of their timber supply from forest communities/low-income producers, all of the respondents from this group said that they do have interest in this type of agreement. 55 percent of the respondents indicated that it will be necessary to make changes in their company's policy and management in order to make these agreements with forest communities/low-income producers. All of these respondents said they would be willing to implement such changes. Changes specified by the respondents are: (1) the need for better information in order to be able deal with a greater number of suppliers; (2) the need to implement employee- and community-training in wood extraction and the development of forest management plans; and (3) the need to invest in a long-term relationship with communities/low-income producers.

Constraints - Respondents were asked whether or not they thought there were any technical, economic, or political limitations to the development of these agreements (**Table 8**). Almost all of the respondents found limitations in all five of the following areas: (1) bureaucracy of government institutions to authorize forest management plans; (2) pressure from NGOs that want to ban logging of tropical forests; (3) great distance between rural properties; (4) unclear land tenure system; and (5) lack of knowledge of communities on preparation and approval procedures of forest management plans.

The most common economic limitations mentioned by respondents are (1) the lack of initial capital; (2) the lack of aggregated value in community forest products; (3) the slow economic return from forestry activities; (4) competition with illegal logging; and (5) the lack of markets for community forest products. Political limitations include (1) government bureaucracy to authorize forest management plans; and (2) the need to improve environmental legislation.

Table 8: Constraints to the Development of Agreements (Group A)

	Are there limitations?	
	Yes	**No**
Technical Limitations	67%	33%
Economic Limitations	73%	27%
Political Limitations	73%	27%
Other Limitations	60%	40%

Change of government policies – 60 percent of the respondents think that the government should change some of their state and federal policies in order to facilitate agreements between forest companies and communities/low-income producers. According to these respondents, state and federal governments should solve land tenure system problems, simplify the process to authorize forest management plans and combat illegal logging.

Positive features - 82 percent of the respondents believe that there are positive features in the country's actual political and economic situation that may facilitate the development of these agreements. The most common features mentioned were (1) the agrarian reform; (2) the fight against illegal logging; (3) characteristic features of their own companies that favor the development of these agreements; and (4) the government's motivation to support agreements between forest companies and communities/low-income producers.

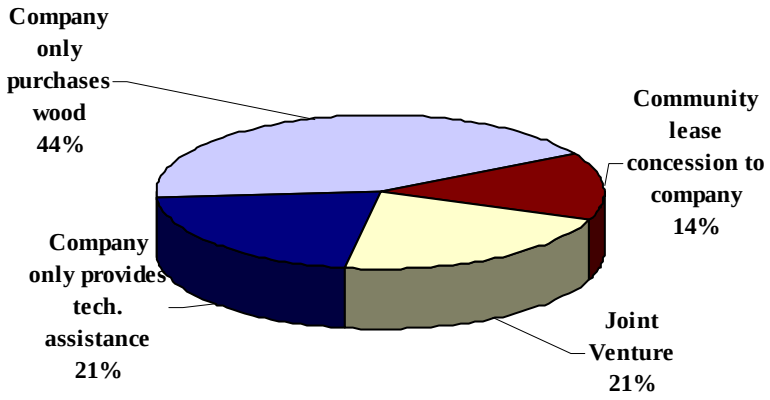
The role of governments - Respondents were asked to state what the government could do to facilitate these agreements. The most common responses included (1) better orientation and technical capacity-building for communities and companies; (2) creation of a credit line and fiscal incentives; (3) combating illegality and bureaucracy.

The role of companies - When asked what forest companies could do to facilitate the development of these agreements, respondents answered that companies could assist with reforestation of harvested species and have qualified professionals work with communities/low-income producers.

The role of NGOs - All respondents believe that NGOs can be helpful in the development of these partnerships. NGOs can provide training and technical capacity-building to communities; facilitate communication with the government by negotiating financial incentives for these programs; and provide communities with orientation about environmental legislation.

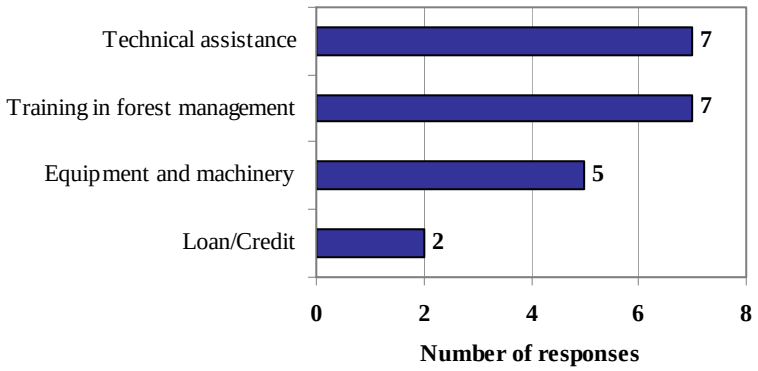
Preferred types of agreements and investments - Respondents were asked to choose among four different types of agreements with communities they would enter into (**Figure 14**). Most respondents (44%) would prefer to only purchase the wood.

Figure 14: Preferred Types of Agreements (Group A)



When asked what types of investment they would be willing to provide to communities, 33% of the respondents said that they would be willing to provide training in forest management and another 33% would be willing to provide technical assistance to communities (**Figure 15**).

Figure 15: Types of Investment Companies Would Be Willing to Make in Agreements with Communities (Group A)



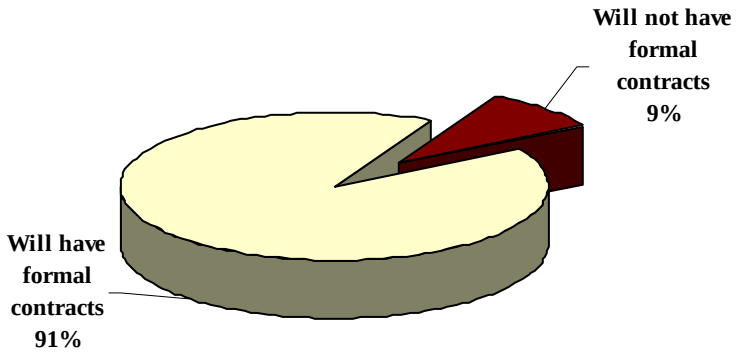
Contract framework – Respondents were asked to state what they expect communities/low-income producers' obligations to be in these agreements. Common answers included: (1) to follow product specifications; (2) to deliver the products within the specified time; (3) to understand and follow a company's activities within the

community area; (4) to develop and implement their own forest management plan; (5) to follow environmental legislation; and (6) to have well-defined land tenure.

According to the respondents, companies' obligations include: (1) making correct payments and obey the contract; (2) executing projects correctly; and (3) having a clause for community development.

91 percent of the respondents declared that they will have formal contracts signed in their agreements with communities/low-income producers (**Figure 16**) in order to have legal protection for both parties. Respondents that prefer not to have a formal contract signed said that a contract would not be valid in their case because they are buying illegal wood. They justified this course of action by saying that the federal government organization (IBAMA) was responsible for approving forest management plans that were too slow and bureaucratic and that their companies were having financial difficulties because of that.

Figure 16: Companies' Preference for Formal Contracts (Group A)



Risks involved – When asked what risks would be involved in entering an agreement with forest communities/low-income producers, the most common responses were: (1) communities could not follow contract specifications (product quality and delivery time specifications); (2) communities are not able to follow the environmental legislation; and (3) land tenure system instability. Some respondents (36%) believe that there will be no risks involved in these agreements if there is a formal contract signed.

NON-INTEGRATED COMPANIES IN THE AMAZON – GROUP B

Companies' interest in making agreements with communities – 89 percent of the respondents of this group said that their suppliers practice sustainable forest management. 89 percent of the respondents also stated that they are interested in purchasing part or all of their timber supply from local communities/low-income producers. The 11% of respondents that did not show any interest in purchasing their timber supply from communities are service companies (e.g. furniture designer) to whom this situation does not apply.

38 percent of the respondents believe it will be necessary to make changes in the management and policies of their companies in order to implement these agreements. All of these respondents would be willing to

implement these changes that would involve hiring a person to take care of legal aspects and other procedures as well as adapting their strategic plan in order to be able to receive timber supply from community/low-income producers.

Constraints – Respondents were asked about technical, economic, and political limitations to the development of these agreements (**Table 9**). Technical constraints mentioned were the limited market access for community forest products, the unsatisfying supply capacity of communities and lack of access to community forest resources.

With regards to economic limitations, respondents identified the lack of managerial capacity and the lack of initial capital as being the main constraints. Bureaucratic hurdles to approving forest management plans, inappropriateness of a legislation process that does not allow the participation of communities/low-income producers in the market, lack of government experience in these programs and obsolete legislation were the political limitations identified.

Table 9: Constraints to the Development of Agreements (Group B)

	Are there limitations?	
	Yes	**No**
Technical Limitations	56%	44%
Economic Limitations	56%	44%
Political Limitations	67%	33%
Other Limitations	75%	25%

Change of government policies – 75 percent of the respondents believe that there are state and federal government policies that should be changed to facilitate the implementation of these agreements. They identified the following specific changes: (1) streamline bureaucratic processes; (2) improve government's knowledge and experience in promoting agreements between forest companies and communities; and (3) adapt legal procedures to fit the activities of communities/low-income producers.

Positive features – 44 percent of the respondents believe that there are positive features in the country's current political and economic situation that may facilitate the development of these agreements. According to them, there is an increasing demand for wood products in both domestic and international markets and forest companies also have an interest in securing access to raw material.

The role of government – Governments should support the communication between companies and communities, guide companies on how to proceed correctly in these agreements, provide financial and fiscal incentives, provide technical support to communities and simplify legislative processes for communities/low-income producers.

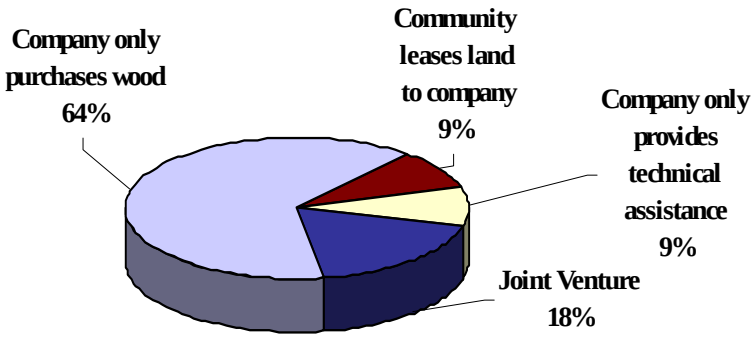
The role of companies – Most respondents from this group believe it to be difficult for companies to help in any way. Others believe that companies need the assistance of intermediaries (e.g. NGOs, governments or other professionals) in order to be able to do something in favor of these type of agreements. Just one respondent

stated that company commitments to purchase community forest products would serve as an incentive for the development of agreements.

The role of NGOs – According to respondents, NGOs can be helpful by providing technical support to communities, orienting communities on how to market their products, guiding communities on legal aspects (especially land tenure aspects), monitoring and following the agreements, providing educational and social support to communities, providing financial support, and helping communities to certify their forest resources.

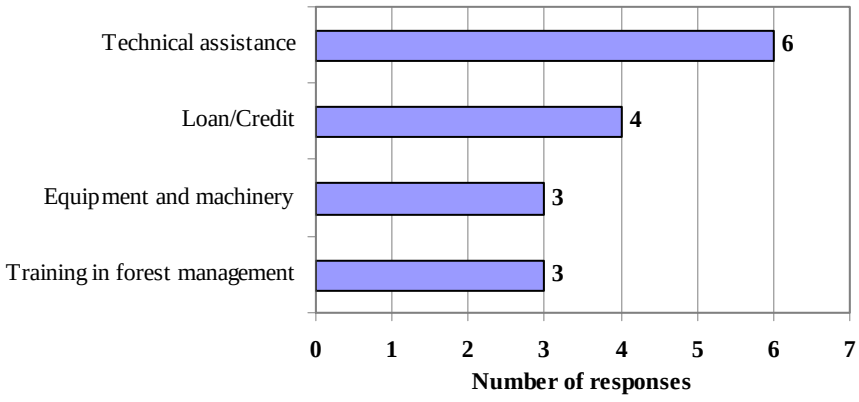
Preferred type of agreements and investments – Respondents were asked to choose their preferred type of agreements from four different options (**Figure 17**). Over 60% of the respondents would prefer to purchase only wood from communities.

Figure 17: Preferred Type of Agreement (Group B)



Thirty-eight percent of the respondents stated that they would be willing to provide technical assistance to communities, and 25% were willing to provide loan or credit (**Figure 18**).

Figure 18: Types of Investments Companies Would be Willing to Make (Group B)

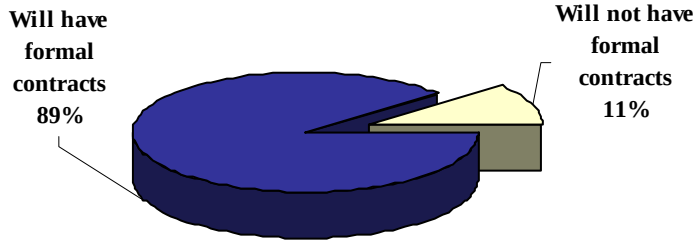


Contract framework - When asked about the obligations of communities/low-income producers in these agreements, respondents stated that they expect communities to comply with product specifications, deliver products on time, supply legalized wood, guarantee exclusiveness of supply to the company and adopt sustainable forest management.

Respondents believe that companies' obligations should include: (1) paying market price and making payments on time; (2) providing technical assistance to communities; (3) making a commitment to purchase the wood; and (4) collecting taxes.

89 percent of the respondents would prefer to have formal contracts with communities when making these types of agreements (**Figure 19**). According to these respondents, formal contracts provide legal protection for both parties and increase transparency of the agreement. The remaining 11% of respondents said that the choice to sign a formal contract with communities/low-income producers would depend on the specific situation.

Figure 19: Companies' Preference for Formal Contracts (Group B)

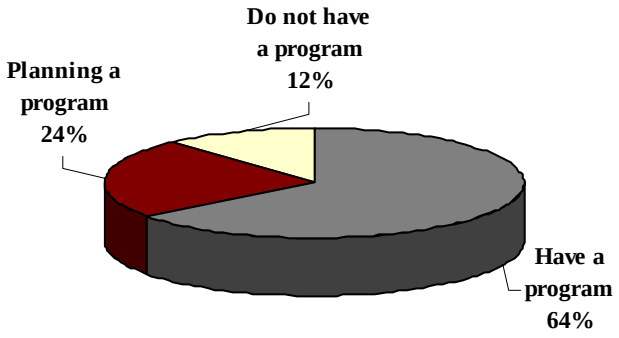


Risks involved – According to the respondents, the greatest risk involved in these agreements would be receiving a product that did not meet the quality and delivery-time specifications. Another risk involved is the discontinuity of the work as a consequence of a change in the community's commitment. One respondent believes that there would be very little risk involved.

PLANTATION-DEPENDENT COMPANIES – GROUP C

Companies' interest in entering agreements with communities – 76% of the companies interviewed in this group have their own plantation areas. Of these, 65% stated that they have an out-grower program (**Figure 20**). Those companies that do not have an out-grower program stated that they do not need timber supply in the long-term and that lands for forest plantation are abundant in their region, which makes the development of agreements with local communities unnecessary. Half of the companies planning the implementation of an out-grower program are already selecting land and producers, while the other half is still developing the idea.

Figure 20: Current Status of Companies with Out-Grower Programs in Brazil (Group C)



The 24% of the companies that do not have their own plantation areas have an average of 1.75 suppliers.[4] Currently, none of these companies purchase wood from low-income producers/communities, but most of them stated that they have interest in doing so. Some companies said that they would purchase wood from low-income producers depending on the price and quality of their product as well as on their supply capacity. The companies said that purchasing from low-income producers would increase the income of communities/low-income producers as well as reduce the company's costs.

Reason for establishing an out-grower program – Companies that already have an out-grower program as well as those that are considering implementing one stated that the main reasons for establishing an out-grower program were (1) to increase timber supply; (2) to decrease investments in lands; (3) to promote social development for low-income producers nearby company areas; and (4) to promote forest activities in their community.

General characteristics of out-grower programs – The average number of out-growers participating in the programs of interviewed companies is 657. However, overall respondents mentioned numbers ranging from four to 4,300 producers. Small and medium-sized producers are the main types of participants in these agreements (**Figure 21**). Companies usually deal with out-growers individually (**Figure 22**).

Figure 21: Size of Properties of Out-Growers (Group C)

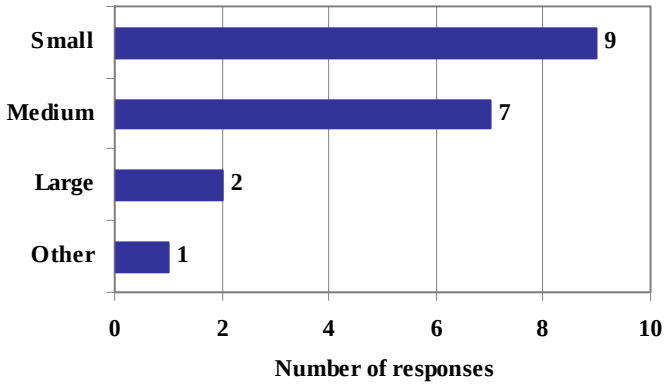
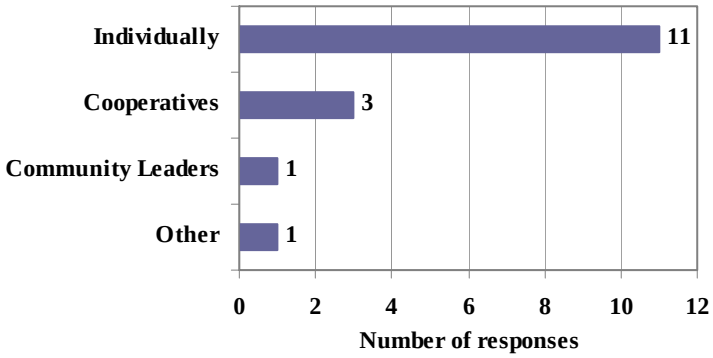
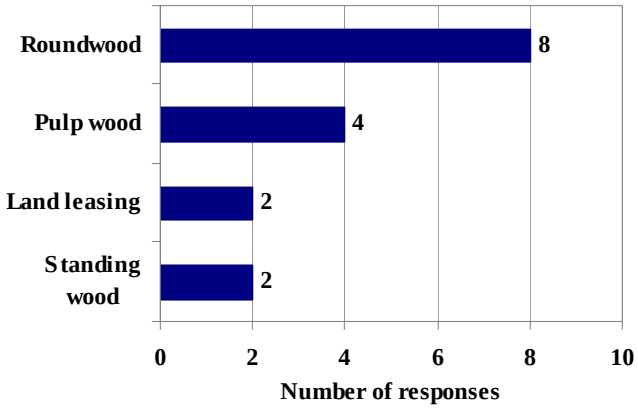


Figure 22: Type of Representation of Out-Growers when Dealing with Companies



The most common product out-growers supply to companies is round wood. Pulp wood was the second most frequent response (**Figure 23**).

Figure 23: Types of Products Out-Growers Supply to Companies



Most companies planning the implementation of an out-grower program did not know yet the number of producers that should participate in their program. Just one gave an estimate of around 25 families. They expect producers to supply them with standing wood, roundwood and green sawnwood. They believe that the out-grower producers will be represented by cooperatives or individually.

Constraints – Less than half of the respondents from this group believe that there are technical, economic and political limitations to the development of agreements between forest companies and communities (**Table 10**). Lack of technical knowledge on forest activities is the most important technical constraint. The slow

[4] Responses to this question ranged from one to four suppliers.

economic return from forestry activities was one of the most important economic limitations cited. Companies also stated that producers usually require a guarantee that the company will purchase their timber production. Some companies view this requirement as an economic limitation. Other economic limitations were the lack of initial capital for communities/low-income producers and competition of forest activities with other land uses. The inflexible character of environmental legislation was considered to be the greatest political constraint. Another less cited political limitation was the lack of government subsidies for the development of these programs. Three other types of limitations were mentioned: uncertainty about the renewal of contracts, competition with other companies to establish agreements with low-income producers, and difficult access to some properties.

Table 10: Constraints to the Development of Agreements (Group C)

	Are there limitations?	
	Yes	**No**
Technical Limitations	46%	54%
Economic Limitations	39%	62%
Political Limitations	39%	62%
Other Limitations	39%	62%

Most companies planning an out-grower program stated that they have not yet had any difficulties with the program. They believe this is due to the early stage of the process of their programs. Those companies that are more advanced in the implementation of the program stated that the main difficulties so far are the lack of credit lines from the federal government as well as the lack of producers who meet their criteria (this company is certified).

Changes in government policies – 59% of the respondents believe that there are federal and state government policies that should be changed to facilitate the implementation of agreements between forest companies and communities. The need to improve the current environmental legislation, which is considered inefficient and inflexible, is the main change these respondents suggested. Another change considered important is the improvement of fiscal incentives and credit lines for the promotion of these programs.

Positive features – Most of the interviewed companies are obtaining benefits from their out-grower programs (**Table 11**). The most common financial benefits verified were the possibility to decrease investment in lands for forest plantations as well as the increased supply of wood that helps to stabilize its market price.

By far, the most frequently mentioned non-financial benefit was the possibility to contribute to community development. Other important non-financial benefits include the improved relationship with local communities and the possibility to promote and enhance environmental protection.

Companies implementing out-grower programs expect to obtain the same financial and non-financial benefits stated by companies that already have out-grower programs. Companies that do not have their own plantation areas expect to obtain the following benefits: (1) regional development; (2) better prices and quality of purchased wood; and (3) nearby suppliers.

Table 11: Respondents' Opinion on Positive Features of Agreements with Communities

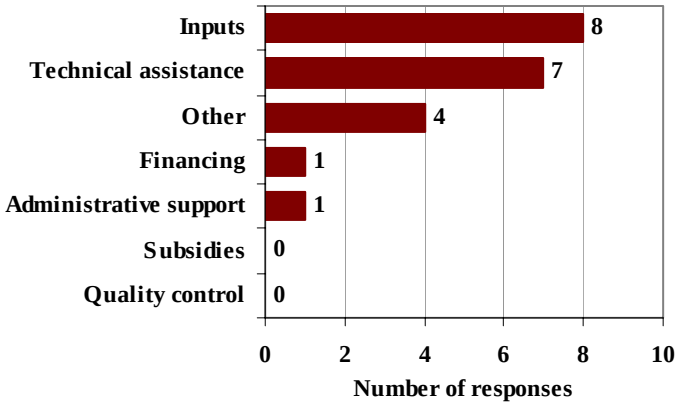
	Are there benefits?	
	Yes	No
Financial benefits	75%	25%
Non-financial benefits	83%	17%

The most important lessons learned by companies in this group are that: (1) it is possible to contribute to economic and social development by behaving responsibly; (2) it is possible to have a respectful relationship between companies and communities/low-income producers; and (3) it is necessary to show producers what the advantages of these programs are in order to increase their participation. Other important lessons learned include the fact that communities are interested in participating in the company's activity, the need to understand what producers think, and the fact that out-grower programs can really meet timber supply needs of the company.

Continuity of out-grower programs – 91% of the respondents plan to keep or extend their out-grower programs. The respondents that decided not to keep their out-grower program explained that they are certified and the restrictions imposed by certification make this type of program too complex. Most of the respondents that will keep or extend their programs will continue to make the same investments. Other respondents intend to increase the number of out-growers participating in their program.

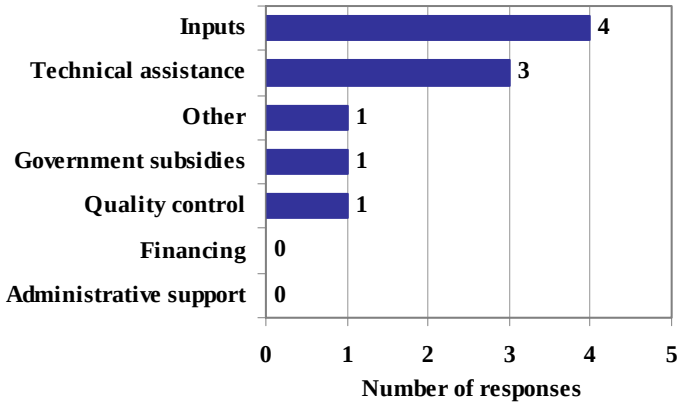
Types of investments – Most companies that already have out-grower programs prefer to make investments in the form of inputs such as seedlings, fertilizers and pest control. The second most common type of investment is the provision of technical assistance (**Figure 24**). The "other" category includes: (1) the company leases the land and is responsible for all forest operations and (2) the company contributes financially to a partner institution that provides assistance to producers.

Figure 24: Types of Investments Companies Make in Out-Growers Programs



Companies planning the implementation of out-grower programs would be willing to provide producers with inputs and technical assistance (**Figure 25**). Only 33% of the companies that do not have their own plantation areas would be willing to provide some kind of assistance to low-income producers. This assistance would include technical support and input. Most of these companies stated that if they had to provide some kind of financing to producers, they would prefer to invest in their own forestlands.

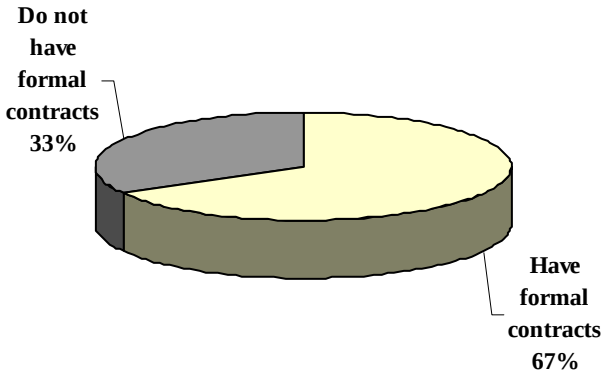
Figure 25: Types of Investments Companies Planning Out-Grower Programs Would Be Willing to Make



Contract framework – 67% of the companies that already have out-grower programs sign formal contracts with producers (**Figure 26**). All of the companies planning out-grower programs stated that they will sign formal contracts with producers.

In order to enter one of the current forms of agreement, some companies did not have to look for interested producers; producers usually contacted the company proposing some kind of agreement. Other companies had to develop a long-term relationship with the local community, including educational and orientation programs for producers about forestry activities. Some companies started looking for interested producers through real state agents and the idea of the program spread through word of mouth among producers.

Figure 26: Companies' Preferences for Formal Contracts (Group C)

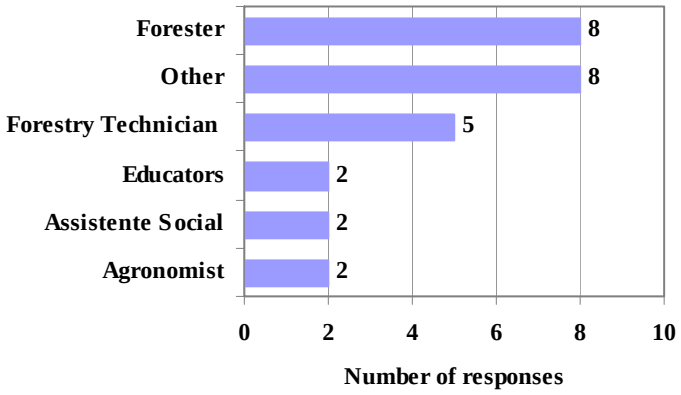


60% of the companies that sign contractsstated that these contracts were modified over time. Common changes included: (1) correction of timber market price; (2) inclusion of a clause giving preference to the company when selling the wood; (3) increased share of benefits to producers; (4) increased contract time; (5) the addition of technical assistance as one of the company's obligations; (6) an added clause guaranteeing work insurance and minimal work conditions to producers; and (7) adjustments regarding development and distribution of technologies to producers.

56% of the respondents believe that their contracts will need adjustments in the future. However, most of them do not know yet what these adjustments will be. Others believe that these adjustments will include other contract options as well as other possibilities of income to producers.

Professionals working directly with out-growers – Foresters are the most common type of professionals working directly with out-growers (**Figure 27**). The category "other" includes a diverse set of professionals, such as sociologists, biologists, administrators, lawyers, economists and forestry students. Forestry technicians were the ones named second most frequently as professionals working with out-growers.

Figure 27: Type of Professionals Working Directly with Out-Growers



DISCUSSION

SUCCESSFUL MODELS

In each group of companies, one case was selected to illustrate a model agreement that has been working well or that demonstrates potential. None of the companies interviewed in Group A (vertically-integrated companies in the Amazon) have agreements with local communities for timber supply. Some said that they have tried to develop these agreements but the limitations were too great and they have decided to end the agreements. The case chosen for this group is that of Cikel Brasil Verde S/A (**Box 1**). Currently, this company does not have any agreements with communities. However, they have been working with communities to establish agreements in the near future. One of the most interesting features of this case is the indication that agreements should be born from long-term relationships with local communities, in a mutual learning process. Therefore, this company was chosen because its case represents best how these agreements should be developed.

Box 1 – The Experience of Cikel Brasil Verde in the Development of Agreements with Local Forest Communities

Cikel Brasil Verde S/A is a certified forest products company with headquarters in Curitiba, Paraná in the south of Brazil and four industrial divisions in the Amazon region. The company produces lumber, decking, flooring, veneer and plywood from tropical species from the Amazon. They manage 400,000 hectares of forestlands in the Amazon, 140,000 hectares of which belong to the company. The managed forestlands provide 95% of their necessary timber supply. The other 5% comes from independent suppliers. The company has started their contact with local communities through the development environmental education project. This project was established several years ago and had the primary objective of identifying environmental problems in the company's forest lands. The company has developed relationships with several communities that usually contact the company in search of access to the wood residuals the company produces. Local communities use these residuals to produce craft wood products sold in local markets.

Cikel has now started to contact communities with the intent of establishing agreements for timber supply. This communication has been developed in several steps as a way to demonstrate to communities that the company wants to develop serious work relationships with them. The company has contacted the Instituto Internacional de Educação do Brasil (IIEB) that will provide technical support in the development of agreements. Cikel is also categorizing the communities according to types of resources available in their areas. For this step, the company has been working in collaboration with local government offices.

The company identified the same constraints as other companies in this group. These include a lack of the communities' organizational capacity, an undefined land tenure situation and the need to develop a market for community forest products.

Just one case of agreements between forest companies and communities was identified among companies interviewed in Group B (non-integrated companies in the Amazon). Companies in this group were very skeptical about these agreements. The general impression was that they did not want to invest in partnerships because they could not see how this would benefit them. The experience of Tramontina Belém S/A is described in **Box 2**. It shows that companies in this group can collaborate on the development of agreements

with local communities while benefiting from this effort as well. It is possible that specific management and/or manufacturing characteristics of this company have facilitated the development of agreements with communities, but nevertheless this case represents an important starting point. It seems that the agreement still has points that could be improved since the company has not yet verified financial benefits. Furthermore, there is also the need to access the opinions of the communities participating in the agreement in order to verify their perceptions of benefits and constraints. The cases of Cikel and Tramontina indicate that companies should be willing to dedicate time and resources towards the development of these agreements. Most importantly, these cases suggest that in the current situation, promising business models are those that are able to overcome major constraints.

Box 2 – The Case of Agreements of Tramontina Belém S/A and Local Communities

Tramontina Belém S/A is a forest products company located in Belém, Pará. It is part of the Group Tramontina with headquarters in the State of Rio Grande do Sul in the South of Brazil. Tramontina Belém S/A produces indoors and garden furniture as well as kitchen utensils made of tropical wood from the Amazon. The company does not own forestlands and buys its timber supply from more than 40 suppliers including smallholders and forest communities. The company made it a part of their strategy to buy from communities. Smallholders supply sawn wood to the company, which provides communities with technical assistance on sawmill stage. The company does not provide assistance and training in forest activities because they do not have the capacity to do so. However, the company lends some machinery to the community and provides financing to communities interested in purchasing their own machinery and equipment. Currently, the company does not financially benefit from the exchange. However, they benefit from the constant supply of the species they need. Since developing agreements with local communities can be very time-consuming; the company dedicates more time to smaller suppliers, such as forest communities and small landowners, than to larger suppliers. The company works directly with smallholders in some cases, and deals with community associations in other cases. Nevertheless, the company believes that the effort is worthwhile and intends to increase the number of agreements in the future.

The group of plantation-dependent companies (Group C) offered many examples of successful agreements between forest companies and local communities in the form of out-grower programs. The best known examples are those of Aracruz Celulose S/A and Klabin S/A. The experiences of these two pulp and paper companies have been cited in other studies (Mayers and Vermeulen 2002; Hall 2003; Scherr, White and Kaimowitz 2004). The case of Nobrecel S/A – Celulose e Papel is described in **Box 3** as another successful model in this group. Interesting features of this case are the actions the company has been taking to solve the problems related to the long-term return on investment rates.

According to the data collected in this study, most programs follow some rules. Therefore, promising business models seem to be those that (1) offer different and clear contract options that better adjust to the situation of out-growers; (2) provide some kind of technical assistance and/or training in forestry activities; and (3) are interested in developing long-term relationships with producers. According to the respondents, agreements with small landowners for timber supply offer several advantages for the company including the possibility to decrease investments in plantation lands as well as stabilized timber market price due to increased supply. It is likely that, as more companies start to realize these and other benefits, out-grower programs will become a common practice in Brazil.

Box 3 – Out-Grower Program and Agreements with Medium Landowners Developed by Nobrecel S/A

Nobrecel S/A is a pulp and paper company located in Pindamonhangaba in the State of São Paulo. Their timber supply comes from three sources: their own plantation forests, agreements with medium forest landowners and out-grower programs for smallholders. In the case of agreements with medium landowners, there are 20 producers and the company deals individually with each producer. In these cases, the company leases the land and implements the plantation. The production is shared with the landowners.

The out-grower program was reestablished one year ago. Currently, there are 70 smallholders participating in the program and the company works with community leaders. The company provides technical assistance and input to the out-growers. Nobrecel has chosen to work with a community nearby that used to depend on the dairy industry. However, milk producers stopped operating in the region and the community lost a source of income due to the fact that they did not have any other qualifications. The company has been trying to implement forest activities in this community as an alternative source of income. However, the company emphasizes the need of establishing other sources of income and has been offering workshops and training not only in forest activities and environmental legislation, but also in apiculture and mushroom cultivation. The company has developed partnerships with local NGOs that provide assistance to communities. It has also been promoting the experience to other companies that may want to extend the project with them. Major constraints include the community's lack of knowledge on forestry activities and the lack of credit lines offered by the government.

CONSTRAINTS

Technical constraints – Constraints identified by companies in Groups A and B differ from those identified by Group C companies (**Table 12**). Three major constraints were identified for companies in the Amazon region (Groups A and B). Land tenure was the constraint most often cited by respondents in these groups. Companies in Group A (vertically-integrated companies in the Amazon) are directly affected by this problem while companies in Group B (non-integrated companies in the Amazon) feel its effects only indirectly. The seriousness of this situation is due to the fact that property rights and land tenure are "the key underlying condition[s] and determinant[s] of the development of company-community deals" (Mayers and Vermeulen 2002). The legal use of forest resources depends on land tenure.

Table 12: Technical Constraints Hindering the Development of Agreements in Brazil

Group A (Amazon –vertically integrated)	Group B (Amazon – non-integrated)	Group C (plantation)
• Unclear land tenure	• Unclear land tenure	• Lack of knowledge of forestry activities
• Lack of infrastructure (roads)	• Lack of infrastructure (roads)	
• Development of forest management plans		

The lack of infrastructure was another limiting factor cited by respondents in these two groups, especially the lack of roads for timber and personnel transportation. Respondents stated that the distance between properties is great and that roads are usually in a bad state especially during the rain season. Under these conditions, transport may represent a large share of the costs of forest activities.

The last main constraint identified by companies in the Amazon region is related to the development of forest management plans. These documents are required to receive approval for the use of forest resources in the Amazon. They have to contain details of position, size, condition and market value of all commercial species with at least 35cm of diameter. They should also include information on forest treatments necessary prior to timber harvest as well as the best exploration strategy for each area (Lima et al. 2003). Therefore, this document requires knowledge in forest inventory, harvesting and forest legislation, knowledge that communities usually do not have. Besides, it takes time to prepare the document and get approval and so requires some initial investment.

The main constraint to the development of agreements for plantation-dependent companies is the communities' lack of knowledge about forest activities. This reflects the larger situation of a general lack of forestry culture in Brazil. The lack of forestry culture can be felt in the weak economic support for the sector, in the lack of specialized professionals and the low wages they receive as well as in the general lack of respect the population has for the national forest resources. It thus affects not only the development of agreements with communities, but the entire forest sector. Out-grower programs may represent an important tool to start changing this reality. They provide an alternative source of income and training to smallholders as well as education about the importance of forest resources. **Box 4** presents an example of a company operating in the State of Pará that found solutions to these constraints.

Economic constraints – Three main economic constraints were identified by respondents in all three groups (**Table 13**). Some of them apply to all groups, while others apply only to particular groups. The lack of initial capital necessary for communities to establish an agreement with forest companies was cited in all three groups. In the case of communities in the Amazon region, initial capital is necessary to develop a forest management plan and conduct the first set of forestry operations. For out-growers, initial capital is necessary to establish plantations. Initial capital can usually be obtained through credit lines offered by the government. However, respondents seemed to agree that the lines of credit now available are enough to create an incentive for smallholders and communities.

The fact that forestry activities usually have a long-term return on investment was a constraint especially emphasized by plantation-dependent companies (Group C). However, this is a point that has great chances of also becoming a reality for Groups A and B once agreements in these groups are being formed. Some Group C companies are already taking some measures to provide alternatives to out-growers. Most companies do not let the out-grower use the entire area of their property to establish plantations. Instead, they suggest that the out-grower should reserve part of their property to raise cattle or other crops such as coffee and corn. Other companies provide training in activities that can be developed while the plantation forest cannot be explored, such as mushroom cultivation or honey production. Viable alternatives for communities in the Amazon region would be the extraction of non-timber forest products as well as agro-silvicultural practices.

Box 4 – The MAFLOPS Experience in Dealing with the Main Constraints to the Development of Agreements with Smallholders

MAFLOPS (Manejo Florestal e Prestação de Serivço) is a small forest company operating near Santarém in the State of Pará that has developed an interesting example of agreements with smallholders in the Amazon region. The model developed by MAFLOPS offers solutions to the main constraints to company-community agreements: land tenure, the lack of infrastructure and the development of forest management plans for community forestlands. So far, the company has formed agreements with six communities, involving 360 families and 32,000 hectares of forestlands.

During the first four years of a contract, MAFLOPS prepares the documents necessary to regulate the land tenure situation of smallholders and submits them to the National Institute of Colonization and Agrarian Reform (INCRA) which issues legal land tenure certificates to the smallholder. INCRA has an agreement to accelerate the process of issuing land tenure certificates to smallholders working with MAFLOPS. In this agreement, INCRA accelerates the issuing of permits to producer families working with MAFLOPS, who in turn become responsible for building roads. Originally, road construction was the responsibility of the federal government, more specifically of INCRA, and usually takes a long time to be completed due to the prolonged bureaucratic processes of government organizations.

Once the smallholders have their land tenure certificate, they can request permission to deforest 20% of their property to be used for agriculture. MAFLOPS submits the requests in the name of the smallholders and also buys, extracts and sells the wood. The company uses the money from these operations to cover the costs of the road construction. During the following years, the company extracts wood according to the forest management plan they developed for each property within the first year of the contract. MAFLOPS pays US$ 3.10 per cubic meter of wood extracted from the properties.

The company still faces several challenges. The greatest is the risk of smallholders transforming the forest into pasture, instead of waiting the necessary period of time (30 to 40 years) for the forest to regenerate. It is therefore necessary that smallholders find another source of income and consider the forest to be an alternative source of income.

Source: Lima et al. 2003.

Table 13: Economic Constraints Hindering the Development of Agreements in Brazil

Group A (Amazon –vertically integrated)	Group B (Amazon – non-integrated)	Group C (plantation)
• Lack of initial capital	• Lack of initial capital	• Lack of initial capital
• Long-term return on investment	• Competition with illegal logging	• Long-term return on investment
• Competition with illegal logging		

Competition with illegal logging was highlighted by some companies in the Amazon region (Groups A and B) as being an economic constraint for them. Illegal timber is much less expensive than legal timber which makes companies working with legal wood less competitive. However, some of these companies emphasized that the Brazilian government has been taking measures to combat illegal logging. The government has been trying to reduce the operational costs of sustainable management. Furthermore, the development of a new legal framework since 1996 has led to an increased number of prohibitions and restrictions. Companies that

have been found violating these restrictions have been heavily fined. These measures result in an increased cost of illegal activities (Smeraldi 2003).

Political constraints – The most significant political constraint for Groups A and B was the difficulty of having a forest management plan approved (**Table 14**). This problem was already mentioned as a technical limitation constraint. However, once the document is prepared and submitted to IBAMA, it may take months to be approved which increases the operational costs of sustainable management. As mentioned above, the Brazilian government has been trying to speed up this process in order to make forest management more financially attractive (Smeraldi 2003). Although this situation may have improved over the past five years, companies still seem to be discontent. They believe that if it is difficult for them to have forest management plans approved, it will be even more difficult for smallholders.

Companies from all three groups consider the current environmental and forest legislation to be obsolete and inflexible, which generates a great constraint to the development of agreements with local communities. They believe that compliance with the environmental legislation results in costs that the smallholders cannot bear. For companies in the Amazon region, the legislation involving the preparation and approval of forest management plans may greatly limit the involvement of smallholders in forest products market. Plantation-dependent companies feel that the environmental legislation poses so many restrictions that it becomes economically impracticable to establish a plantation forest in an area smaller than 50 hectares. Companies in all three groups suggested that the legislation should be simplified for smallholders in order to allow their participation in the forest products market. Reduction of excessive regulatory burden may be a crucial measure to the development of agreements between forest companies and local communities (Scherr, White and Kaimowitz 2004).

Table 14: Political Constraints Hindering the Development of Agreements in Brazil

Group A (Amazon –vertically integrated)	Group B (Amazon – non-integrated)	Group C (plantation)
• Difficult to have a forest management plan approved	• Difficult to have a forest management plan approved	• Forest and environmental legislation is obsolete and inflexible
• Forest and environmental legislation is obsolete and inflexible	• Forest and environmental legislation is obsolete and inflexible	

POSITIVE FEATURES OF AND BENEFITS FROM AGREEMENTS

Perceived and expected benefits as well as current features that may foster the development of agreements with communities were very much related to the specific situations of companies in each group. Responses from Group A indicate that these companies still see the political situation around them as the major factor influencing the development of agreements between the private forest sector and communities. The fact that companies in this group cited agrarian reform as a positive feature most frequently only reinforces the importance of land tenure in the construction of these agreements. Land tenure is in fact a basic condition to be fulfilled before these agreements can be developed (Scherr, White and Kaimowitz 2004). Furthermore, the

agrarian reform leads to the development of basic infrastructure, such as road constructions (Lima et al. 2003). This basic infrastructure may help to reduce costs of forest activities and thus makes this type of agreement more financially viable for companies and communities and a real alternative to illegal logging (Smeraldi 2003).

This group also mentioned combating illegal logging as another positive feature conducive to the development of agreements. Some respondents stated that illegal logging is an unfair and hard competition for them, let alone for smallholders. Smeraldi (2003) cited several actions the Brazilian government has taken to make forest management more financially attractive to the forestry industry. These actions include harsher legislation to increase the costs of illegality as well as faster and simpler procedures to comply with forest legislation. Finally, respondents in Group A view government programs as a good sign when it comes to developing agreements with communities. A respondent from Pará declared that "companies in this region have been receiving documentation from IBAMA stimulating them to develop agreements with smallholders because it is a way to guarantee timber supply and help the sustainable development in this region." Others believe that government programs should focus more on offering credit lines as well as technical training to smallholders.

Plantation-dependent companies (Group C) see the benefits obtained and expected from their out-grower programs as business opportunities. The two main reasons mentioned are cost reduction and image improvement. For these companies, the investments necessary to establish an out-grower program are compensated by the cost reductions resulting from decreased investment in lands and stabilized market prices. Plantation-dependent companies also see out-grower programs as a way to improve their public image and reputation. Out-grower programs create opportunities for the company to demonstrate their good intentions by collaborating on community development and enhancing environmental protection. This, in turn, improves their relationship with local communities, government and environmental and social groups.

Non-integrated companies in the Amazon region (Group B) are not directly affected by the political situation around them as happens to companies in Group A. Consequently, these companies are able to visualize business opportunities resulting from agreements with communities that companies in Group A have not realized yet due to the more urgent constraints they face. Group B companies see the increasing demand for tropical wood products in the domestic and international markets as a positive feature that will drive the development of agreements with communities. They also believe that agreements with smallholders may be an efficient way to secure access to raw material.

The experience that Group C companies have with out-grower programs may be useful in the promotion of these type of agreements to Groups A and B. Companies would be more interested in forming agreements with communities once they understand the business opportunities that can result from them. Cost savings may be the most attractive benefit for companies in these two groups. Most companies in Groups A and B are small and medium enterprises to which cost savings are usually an important factor. Land prices may vary considerably in the different country regions and are probably lower in the Amazon region. However, companies may benefit from a stabilized timber market price resulting from increased and constant legal supply of timber. Furthermore, companies could reduce costs on forestry activities even more with communities being involved in this phase of the process. Finally, Group C's experience with contract

frameworks may also guide companies as well as communities during the initial phase of establishing and developing these business relationships.

OPPORTUNITIES FOR ACTION

The Amazon region, represented by companies in Groups A and B, presents the richest scenario for action in terms of developing agreements between the forest private sector and communities in Brazil. A lot of work still remains to be done. According to the results of this study, work could be concentrated in the following areas: (1) simplification of public policies; (2) development of community enterprises; and (3) development of markets for community forest products. The study developed by Scherr, White and Kaimowitz (2004) may enlighten advancements in these areas and benefit greatly the development of forest company-community agreements.

Public policies and government programs – As identified by Scherr, White and Kaimowitz (2004), policy and regulatory constraints can pose a barrier to the development of market opportunities for local communities as well as to the development of company-community agreements. Among the constraints identified by companies in the Amazon region (Groups A and B) is the need for more attention to the development and approval of forest management plans. There is a general view among companies that the entire process is extremely complex and confusing. The major complaint, however, was not about the preparation of the document, but about the long time IBAMA takes to approve each plan. Government programs have been emphasizing the need to make the process more efficient and thus more attractive to companies (Smeraldi 2003). However, even though some progress has been made, it does not seem to be sufficient. The process needs to be simplified and clarified, especially if the participation of smallholders is to increase. Forest management plans are an important tool in guaranteeing the sustainable use of forest resources as well as in increasing access of smallholders to these resources.

Developing community enterprises – The most frequently cited technical constraints in all groups of companies was the lack of managerial and technical knowledge of local communities. Scherr, White and Kaimowitz (2004) emphasized that "weakness of local organizations is often the greatest constraint to commercial development." They outline possible roles for community organizations in the commercial production of forest products, "design principles" for building successful producer organizations, and capacity-building and networking. This information may serve as a key starting point, but local forest communities in the Brazilian Amazon would benefit greatly from detailed directions specific to their situation.

Developing markets – A respondent from Group A stated that "community forest products are unique, and this fact alone accumulates value for their products." The respondent further suggested that the production of community forest products has a better chance of being successful if it focuses on product differentiation instead of industrial scale production. This suggestion may be the key to opening markets to community forest products. In order to have effective results, it will be necessary to identify market opportunities and niches. These are the objectives of the market study for community forest products in Brazil being conducted by GTNA for Forest Trends.

Other issues – Forest certification may play a role in the development of agreements in the Amazon region. Certified companies that participated in this study seemed more proactive and open-minded towards their relationships with local communities. However, it is difficult to say if this type of behavior from companies is a result of certification or if their proactive behavior was what initially led them to pursue forest certification. Both could be true. While these companies may already have been proactive before becoming certified, forest certification emphasizes the need of developing relationships with local communities and involving them in the company's activities.

CONCLUSION

Several changes are affecting the global forest sector. There is an increasing demand for forest products, and market access for community forest products may offer solutions to several interested parties. Agreements between forest companies and communities offer advantages to both groups. Companies can increase their timber supply at reasonable costs. Communities have the chance to increase their income and improve their quality of life. Furthermore, these initiatives will tend to favor the sustainable management of forests.

Two distinct groups of agreements could be visualized after reviewing the literature. Out-grower programs are the common form of agreements between plantation-dependent companies and communities. Agreements in this group of companies are fairly advanced and well-structured. The oldest and largest agreements can be found in the pulp and paper sector, with some companies having agreements with local communities for more than 10 years and involving more than 4,000 producers. Other plantation-dependent segments, such as panels and specialty products, are not so advanced but demonstrated increased interest.

The other group of agreements involves forest products companies in the Amazon region. Although there are almost no agreements in this group, there is enormous development potential. Different aspects of the economic, political and social situation in this region are pushing the development of agreements between forest companies and local forest communities. However, despite the fact that opportunities exist, there are several constraints hindering the development of these agreements. These constraints, as well as positive features to the development of these agreements, were identified in this study. There are several opportunities for action that could greatly benefit this group. Opportunities identified in this study are connected to policy constraints, the development of community enterprises and the development of markets for community forest products.

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APPENDIX 1: METHODOLOGY

The design of this study was influenced by the methodological approach proposed by Mayers and Vermeulen (2002). The study was divided into two phases. The first phase consisted of an exploratory research, including a literature review of agreements between forest companies and forest communities in Brazil as well as consultation with forestry and forest products associations in Brazil, government departments concerned with environmental issues, non-governmental associations (NGO) and other forestry specialists. This phase had the objectives of (1) aggregating available information on these types of agreements in Brazil and (2) assembling a data base of forest products companies in Brazil. This data base contains data on types of manufactured products, species used in these products, company location, annual log input and markets of each company. Information gathered in this phase of the study guided the design and implementation of the subsequent phase.

The second phase of this study consisted of telephone interviews with forest products companies. Companies that produce lumber, veneer, plywood, wood-based panels (e.g. fiberboard, MDF, OSB, particleboard and others), pulp, paper and specialty products (e.g. furniture, treated wood, tools, moldings, doors, windows etc.) were included in this study. Non-timber forest products (NTFP) were not included due to the high degree complexity involved in the classification of these products. Both certified and non-certified companies were part of the sample frame. Even though certified companies demonstrate a more responsible behavior towards the use of forest resources, they do not constitute the majority of the population of forest companies in Brazil. In order to have a more representative sample of Brazilian forest companies, non-certified companies were included in this study. Furthermore, the fact that companies are not certified does not necessarily mean that they are not responsible and/or refuse to form equitable agreements with local communities.

According to the information collected in the first phase, companies were divided into three groups. Group A included integrated forest companies that have private timber holdings in the Brazilian Amazon. The second category, Group B, included non-integrated forest companies. Companies in this group use tropical wood from the Amazon in their products, but have to purchase all of its timber supply. Finally, Group C included companies that depend on plantation-based timber supply.

Twenty-five companies were randomly selected from each group to participate from the interview. This number of companies was chosen based on the amount of time available to conduct the telephone interviews. Selection of 25 companies within each group was made proportionally to the number of companies in each product segment (e.g. lumber, plywood and veneer, wood-based panels, pulp and paper and specialty products). Seven additional companies were added to the 25 randomly selected companies in Group C. It was known, prior to the selection of companies, that these seven companies already had out-grower programs. Thus, these companies were considered to be important sources of information for this study. Since this is a qualitative study (i.e. the sample is not large enough to allow for inferences to the entire population of forest products companies in Brazil) with exploratory purposes, the addition of these seven companies in Group C should not interfere in the reliability of the data.

Structured telephone interviews and advance letters were designed for each group in order to address their specific characteristics. However, all versions collected information on (1) the companies' interest in

developing agreements with local communities; (2) the main characteristics of these agreements such as the level of involvement and investments the company would devote to these agreements as well as form and nature of contracts; (3) the factor(s) that favor the development of these agreements; (4) technical, economic and political constraints to these agreements; and (5) profile questions such as annual log input, types of manufactured products, types of wood species used, markets and location. Since this is a qualitative study, descriptive statistics like means, standard deviation and proportions were used to analyze the data collect in the interviews.

APPENDIX 2: SCIENTIFIC NAMES OF SPECIES CITED IN THIS STUDY

Common Name	Scientific Name
Açacu	*Hura crepitans* L.
Amapá	*Brosimum parinarioides*
Amesclão	*Trattinnickia burseraefolia* (Mart.) Willd.
Angelim Rajado	*Marmaroxylon racemosum*
Angelim; Angelim Vermelho	*Dinizia excelsa* Ducke
Araucária	*Araucaria angustifolia*
Cedrinho	*Erisma uncinatum* Warm.
Copaíba	*Copaifera langsdorffii* Desf.
Cedro Arana	*Cedrelinga catenaeformis* Ducke
Cumaru	*Dipteryx odorata*
Faveira	*Parkia nitida* Miq.
Farinha Seca	*Albizzia hasslerii*
Freijó	*Cordia bicolor*
Goiabão	*Pouteria bilocularis*
Ipê	*Tabebuia sp.*
Ipê Amarelo	*Tabebuia serratifolia* (Vahl) Nichols
Jatobá	*Hymenaea courbaril*
Marupá	*Simarouba amara*
Maçaranduba	*Manilkara huberi*
Mescla	*Myristica sebifera*
Morototó	*Schefflera morototoni*
Muiracatiara	*Astronium lecoientei*
Oak	*Quercus spp.*
Pau-Amarelo	*Euxylophora paraensis* Huber
Pau Santo	*Zollermia paraensis*
Piquiá	*Caryocar villosum*
Peroba	*Aspidosperma polyneuron* Muell. Arg
Pinho Cuiabano	*Parkia spp.*
Preciosa; Casca preciosa	*Aniba canelilla* (H.B.K.) Mez.
Sucupira	*Diplotropis purpurea*
Sumauma	*Ceiba pentandra*
Tauari	*Couratari guianensis*