Impact of FSC forest certification on agroextractive communities of the state of Acre, Brazil

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<td>SEPROF</td>
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<td>WARP</td>
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1. Executive Summary

1.1. Assessing the Impact of Socioenvironmental Forest Certification – Method used

In impact assessment studies, the main interest is focused on the identification of the consequences of one particular treatment on one or more variables that were affected by such treatment (PRENNUSHI et al., 2000; RAVALLION, 2003; RAVALLION, 2006). In the present case of assessing the impact of socioenvironmental certification on community forest management in the State of Acre for wood production, the treatment consisted of socioenvironmental certification and the certified community forest producers were the beneficiaries. The control sample (paired) for this experiment was a group of community producers that had a profile similar to that of the beneficiaries and also practiced forest management, but who were not certified producers. The differences between the group receiving treatment (certified community producers) and the control group (non certified community producers) were attributed to the treatment (certification).

A total of six associations took part in this research: Associação dos Moradores e Produtores do Projeto Agroextrativista Chico Mendes - AMPPAE-CM (Association of Dwellers and Producers of the Chico Mendes Agroextractive Project), Associação de Produtores do Projeto de Assentamento Agroextrativista Seringal Equador
ASSPAE-SE (Association of Producers of the Equator Rubber Trees Agroextractive Settlement Project), Associação de Moradores Agroextrativistas do Remanso de Capixaba Acre – AMARCA (Association of Agroextractive Dwellers of the Remanso do Capixaba Acre), Associação Seringueira Porto Dias (Association of Rubber Tappers of Porto Dias), Associação Vicente de Melo (Vicente de Melo Association), Associação de Produtores do Projeto de Assentamento Agroextrativista São José (Association of Producers of the São José Agroextractive Settlement).

The main output variables analyzed were: environmental preservation, quality of the administration of the association, use of Personal Protection Equipment (PPI), and income from wood sales.

Two aspects of fundamental importance in ensuring the quality and the assumptions of this impact assessment were: i) similarity of the community forest operations, and ii) the existence of similar non certified community forest operations. Four criteria were considered in determining similarity among forest community operations: i) use of community forest management practices; ii) logging for wood production as the main forest management activity; iii) land rights/ownership situation as Agroextractive Settlement Project, and iv) forest management carried out according to the FSC Management Standard for Highland Natural Forests of the Brazilian Amazon Region.

The procedure used for gathering data was based on questionnaires answered by community producers and
technicians. Most of the issues addressed in the questionnaires were not checked on the field. Therefore, the results obtained in this study not only represent what may be actually happening on the field, but also reflect the opinion and possible bias of the persons interviewed.

Factors linked to environmental degradation - such as wild fires, deforestation, trapping of wildlife, left garbage, overgrazing and illegal logging – were assessed in areas of Agroextractive Settlement Projects (PAEs), but their occurrence was also checked within the Management Units (MUs) that had been granted certification. For this reason, the results of the environmental impacts identified refer not only to the areas where the Management Unit is located but also to the areas surrounding it.

1.2. Assessment of Socioenvironmental Forest Certification – Results

The results of the Socioenvironmental Forest Certification Impact Assessment Study show that the impact caused by FSC certification actions on agroextractive communities of the State of Acre was small. The vast array of institutions and public policies that are involved with Community Forest Management (CFM), many times carrying out activities that lead to results similar to those of certification, was the main reason for this reduced impact, as detected by observing the behavior of the group exposed to treatment (certification FSC) and the control group.
Together, the actions of those various entities decreased the direct effects of certification, as analyzed by the Impact Assessment study, since they produced the same effects on certified operations as well as on the public outside certification (control group).

However, it is assumed that probably certification may have had a positive influence on the multiplication of initiatives of community forest management and of institutions dedicated to supporting and promoting such initiatives. This statement is based on the fact that certification is not restricted to local actions geared at certified communities, but also has indirect effects on the entire production chain, thus opening up discussions on the sustainability of community forest management in different spaces.

Despite the rather weak effects of certification, some positive changes related to environmental issues were observed, such as the degree of knowledge about the Management Plan and the PAE’s Utilization Plan, execution of the activities prescribed in the Annual Operational Plan (POA), disposal of residues (garbage and sewer), awareness about the use of fire, measures to protect wildlife (hunting) and degree of involvement in environmental complaints.

With respect to economic impacts, the quantitative analysis of income from wood sales by the associations involved in this study was affected by the lack of data on sales volume and on the cost of forest management.
However, it was possible to register a high degree of dissatisfaction among certified community producers in relation to wood sales and the corresponding economic returns. The main reasons for such dissatisfaction was the difficulty in accessing the market for certified wood, and the absence of aggregated value in certified wood. On the other hand, a significant number of community producers mentioned that, although there is no price differential between certified and non certified wood, certified wood is better accepted by the market.

At the time this study, all certified communities were going through a transition phase in their procedures for selling wood due to the centralization of trade activities by COOPERFLORESTA, a cooperative organization. Thus, the dissatisfaction shown by community producers regarding the economic returns of their forest management activities can be partly explained by this transitional period, which was characterized by operational flaws and deficiencies in the administration of their community forest management. In addition, at that first stage, the cooperative organization had to spend time and effort in its own structuring process and also to comply with its role in the commercialization of certified wood.

Since the data collection for this study covered a period of only one year, it is assumed that its results might reflect some seasonal influences. Usually, in order to minimize seasonal effects in studies of impact assessment, it is recommended that the collection of field data be done at
three different points in time. Therefore, collecting field data at different times will minimize seasonal effects and bring out the real effect of the treatment.

2. **Research Details**

2.1. **The need for studies on the impact of certification in Brazil**

In the 80’s, the alarming rates of destruction of the world’s tropical forests mobilized the attention of some responsible sectors of civil society. As a result, there was a clear awareness that something had to be done in order to protect tropical forests and promote the conservation of natural resources. It was in this context that socioenvironmental forest certification came into existence.

In the beginning, socioenvironmental forest certification was the initiative of wood traders, corporate consumers, NGOs, and producers that were quite worried about deforestation. The Forest Stewardship Council (FSC) was established in 1993 with the purpose of defining international principles and criteria to attest socioenvironmental forest certification.

The fundamental premises of forest certification include:

i) the possibility that the consumer’s attitude at the moment of purchase could increase the market price of certified products, and
ii) this price differential would reward producers that follow the good practices imposed by certification standards, leaving non certified producers out of this market.

In addition to financial rewards, there are similar ecologic, social and economic potential benefits resulting from the certification process (NEBEL et al., 2005).

Based on these promises, now civil society looks at socioenvironmental forest certification as a useful tool, based in market forces, to preserve natural resources and assist forest workers.

Despite current structural difficulties affecting forest management in the Brazilian Amazon Region, in recent times (FSC) forest certification has expanded significantly. In 2005, the total area certified according to the FSC scheme exceeded 2.8 million hectares, of which approximately 60% were natural forests in the Amazon Region owned by communities or private corporations (AMARAL NETO E CARNEIRO, 2005). According to data available at the FSC web page (www.fsc.org), in February 2008 the total area of certified forests in Brazil was 6,007,304 hectares, of which 2,579,492 (42.94%) were forests localized in the Amazon Region.

In the Amazon Region, community forest management projects (CFM) face many problems due to various factors: poor definition of land tenure rights, complex environmental legislation, and lack of administrative skills (EMBRAPA, 2000). The concepts and ideals of sustainable forestry envisioned by FSC forest certification are not restricted to
large operations, but are also quite applicable to small and medium size producers, as can be proved by the significant number of this type of producer that has received FSC certification in recent years. For this to happen, there is often the need for a constant support from NGOs and, in some cases, also from the government (CARNEIRO, 2006).

Taking into account current worries about the fate of tropical forests, investments in the conservation of natural resources, well-being of forest workers and the lack of certification FSC impact assessment studies, there was a clear need for a research project like the present one. It is hoped that it will serve as a yardstick to measure the impacts generated by socioenvironmental forest certification in agroextractive communities in the State of Acre with respect to environmental and socio-economic aspects. The information presented in this study may contribute to expand the knowledge on community forest certification for the benefit of the various actors directly or indirectly involved in the process, such as:

i) Government agencies: in planning public policies and incentives for promoting sustainable forest management;

ii) NGOs: in reshaping their intervention methodologies and rethinking practices geared at community forest management;

iii) Consumers: in reflecting on their social function at the moment they buy forest products and use the opportunity to strengthen their relationship with producers;
iv) Donors and financing agencies: in better understanding the return on their investments through impacts generated, and

v) Accreditation organization FSC: in evaluating the impact of the activities carried out for the certification of agroextractive communities in the State of Acre.

It is important to point out that the methodology for Impact Assessment is able to isolate the effect of a given treatment from the results obtained and, for this reason, it is more efficient and convenient than other methodologies that do not present this feature.

2.2. Impact assessment

In impact assessment studies, the main interest is focused on the identification of the consequences of one particular treatment on one or more variables that were affected by such treatment (PRENNUSHI et al., 2000; RAVALLION, 2003; RAVALLION, 2006). In the present case of assessing the impact of socioenvironmental certification on community forest management in the State of Acre, the treatment consisted of socioenvironmental certification and the certified community forest producers were the beneficiaries. The main output variables analyzed were: environmental preservation, quality of the administration of the association, use of Personal Protection Equipment (PPI), and income from wood sales. Thus, an attempt was made to establish a cause-effect relationship.
between socioenvironmental certification label and changes in output variables. In order to estimate impact it is necessary to compare treatment beneficiaries with a control group (not exposed to treatment). This way, alternative explanations or circumstantial factors not linked to treatment can be isolated, so that a change in a given output variable can be associated to treatment. In the context of community forest management, the control sample consists of a group of community producers that practice forest management but are not certified.

In order to make the impacts generated by forest certification easier to understand, the hypotheses used in the present study, as presented in the following paragraphs, were analyzed and discussed in detail in Chapter 9 “Results and Discussion”.

**Hypothesis 1:** More participation and involvement of certified communities with respect to social movements;

**Hypothesis 2:** Better knowledge on the part of certified community producers about the Management Plan;

**Hypothesis 3:** Better care on the part of certified community producers with respect to garbage and sewer disposal;

**Hypothesis 4:** Better control on the use of fire by certified community producers;

**Hypothesis 5:** Measures to protect wildlife are enforced in certified communities, while they do not exist in communities of the control group;
Hypothesis 6: Better environmental awareness on the part of certified community producers, as indicated by a larger number of charges related to environmental crimes occurring in PAEs;

Hypothesis 7: Fewer occurrences of degradation factors in PAEs of certified associations;

Hypothesis 8: Smaller herds of cattle per unit area in PAEs of certified associations;

Hypothesis 9: Better knowledge on the part of certified community producers about the Forest Law (Forest Code), mainly with respect to Legal Reserve (LR) and Permanent Protection Area (PPA);

Hypothesis 10: Increased number of short courses and other training activities after certification;

Hypothesis 11: More regular use of Personal Protection Equipment (PPI) among certified community producers, and

Hypothesis 12: More value added and better acceptance of certified wood in comparison with conventional wood.

2.3. Previous studies

The literature review carried out to identify possible contributions to this study focused on the assessment of environmental, social and economic impacts of forest certification around the world on communities practicing forest management and also on plantations. No reference
was found about community forest certification impact assessment, but only case studies where specific social, environmental or marketing effects were analyzed, without any comparisons with control groups. Therefore, these case studies are quite limited in isolating the effect of certification from other effects that are outside the certification process.

One study carried out in the United States compared the changes required by certification (conditions and preconditions) of 80 FSC certified operations. The changes more frequently required, valid for 71% or more of the operation surveyed, were related to improvements in the management plan, monitoring and forest inventory, and also to the protection of high conservation value forests. Changes in social conditions required for obtaining or maintaining FSC certification, such as cultural enhancement of communities and safety at the work place, showed up with lower frequencies, 35% and 30% respectively (NEWSOM et al., 2006).

In the State of Acre, ROCKWELL et al. (2007) studied the impact on the forest in a FSC certified agroextractive community localized at the Projeto de Assentamento Agroextrativista Porto Dias, when compared with conventional logging operations, the disturbed areas in managed forests decreased from 26% - 75% to 15% of the logged area.

Two relevant studies addressing social aspects of FSC certified areas were found. The first one showed improvements in administration and enhancement of local
and indigenous communities in community forest management in Mexico (FERNANDES & GUZMAN, 2003). The other, a case study on forest enterprise located in the state of Minas Gerais, Brazil, found positive changes in aspects related to health, nutrition, safety, infrastructure, and to the type of contract for hiring employees (CASTRAL, 2004).

However, most of the studies describing changes that occurred in certified areas were concentrated on economic aspects and markets in various countries, such as Bolivia, Malaysia and the United States. By and large, in these countries certification provided a better market access and higher prices, mainly for more sophisticated articles made with high quality wood (KOLLERT E LAGAN, 2006; NEWSOM, et al. 2006; NEBEL et al., 2005).

The number of research papers dealing with changes that occurred in certified communities that practice community forest management was even scarcer. The University of Florida has recently published a study comparing the positive and negative perceptions of FSC certification of producers and institutions that are involved with two associations practicing CFM in the State of Acre, one operating at the Porto Dias Agroextractive Settlement Project and the other in the Peixoto Oriented Settlement Project.

In general, the more positive aspects mentioned were economic and social and the more negative referred to the certification process itself and its cost. According to the
authors, there are differences in weight and assessment of positive and negative aspects among the various actors, so that:

“...typically, community members put more value on positive aspects and less value on negative aspects as compared to support organizations. This probably happens due to the differences in roles and advantage position of these actors. In general, informants agree that the positive aspects of certification outweigh the negative ones. This is in contrast with some communities in other parts of Latin America that are now considering leaving certification.” (HUMPHRIES E KEINER, 2006, p. 1).

The study also describes the easiness shown by these communities in overcoming certain obstacles presented by forest certification, due to their previous experience in social organization and to the strong political, technical and financial support provided by the state government (HUMPHRIES E KEINER, 2006).

2.4. Research team

The members of the research team that carried out this study are listed in alphabetical order in Table 1.

Table 1 – Research team involved in the Socioenvironmental Forest Certification Impact Assessment project
3. History of Forest Certification in Brazil

The origin of forest certification may be traced back to the late 80’s, when some consumer countries of the northern hemisphere set up boycotts against tropical woods from areas being deforested. However, European and American consumers of tropical wood became worried about the long term perspective of their businesses and formed a partnership to protect tropical forests, the Woodworker’s Alliance for Rainforest Protection (WARP). They also published a “Good Wood List” to support wood producers and traders that dealt with wood from “good management”. In 1993, representatives of NGOs, academia, producers and traders met in Toronto, Canada, and founded the “Forest Stewardship Council” (FSC). In order to define what should be considered good forest management practices, three international councils, representing social, environmental and economic interests met a number of times and came up...
with ten principles and a rigorous set of supporting standards (AZEVEDO, 2001).

In Brazil, the movement toward establishing FSC representation is a more recent process that began in 1994 and was interrupted for a while, due to disputes on how it should be run. It started again in 1996 and since then it has shown a robust growth (AMARAL NETO & CARNEIRO, 2004).

In 1996, just as WWF Brazil (World Wildlife Fund – Brazil) was being created, an FSC working group was established following the logic of balanced representation prevailing at the FSC structure: six social NGOs, six environmental NGOs, and six private forest companies. The objective of this working group was to prepare detailed standards adequate to the particular conditions of the two most important activities of the forest sector in Brazil: utilization of natural forests in the Amazon Region and use of planted forests in the south and southeastern regions. This way, the FSC process in Brazil started with the objective of creating standards, a long consultation process that took two years. The group was created in 1996, the work was carried out from 1997 until 1999, and the final texts were submitted to FSC headquarters for approval in order to become official FSC standards. In 2001 FSC Brasil was founded, with the participation of more than 50 NGOs and forest companies. An interim council, headed by a president, was elected and charged with the task of organizing the FSC national initiative (IMAFLORA, 2005).
Today FSC Brazil has its own office in Brasília!! and by the end of 2005 there were approximately 1.2 million hectares of FSC certified forests in the Amazon Region. (IMAFLORA, 2005). According to data available at the FSC web page (www.fsc.org), in February 2008 the total area of certified forests in Brazil was 6,007,304 hectares, of which 2,579,492 (42.94%) were forests localized in the Amazon Region.

The area of certified forests in the Amazon Region has increased quite rapidly. Up to September 2007 there were 22 units of certified natural forests, of which 16 were industries and six involved local groups (FSC, 2007). This growth trend shall continue. The interest on certification shown by entrepreneurs is due to the increased demand for certified products, especially in foreign markets. With respect to communities, the growth of certified units is due to the strengthening of community forest management processes (AMARAL NETO & CARNEIRO, 2004).
4. Community forest management (CFM)

CFM may be distinguished from conventional forest management due to the fact that it is a process within a specific social context that involves a group of people (community). In the social context all life aspects that relate the human being with his natural environment must be considered (SMITH, 2005). Therefore, Community Forest Management presents itself with a more comprehensive context of situations than corporate forest management, since the means of life support and subsistence of community producers, their cultural links and their relationship with the forest are intrinsic factors that must be taken into account in the utilization of forest resources.

In March 2002, the Brazilian Ministry for the Environment (Ministério do Meio Ambiente do Brasil - MMA) published the Normative Instruction N. 4, dated April 4, 2002, recognizing and setting rules for three modalities of forest management: 1) sustainable forest management for multiple use at corporate scale; 2) sustainable forest management for multiple use at small scale, and 3) sustainable forest management for community multiple use. The same Normative Instruction also established the steps for obtaining approval of the management plan. Regarding specifically the sustainable forest management of multiple community use (modality 3) that document defines community management as the one that is under the
responsibility of an association or cooperative of “legitimate” owners of rural pieces of land (DRIGO, 2005).

Family community forest management has important differences in relation to lumber companies. The most significant is the marked presence of family labor in all phases of wood harvesting and processing. On the other hand, the main component of the cost of corporate forest management is hired labor (ARAÚJO-SOUZA, 2003).

Recent studies carried out in Latin America provide additional elements on how CFM systems operate (AMARAL et al., 2005). This type of information has led to an increased recognition of its feasibility and importance for the adequate functioning of many rural production systems. It must be realized that millions of people all over the world depend, and shall continue to depend, on forests for their survival in the near future. Therefore, the international interest of various organizations for the protection and conservation of natural resources keeps increasing. This interest is reinforced by local, regional and national initiatives at government or non-government levels, converging into actions (even if only isolated actions) that benefit the communities living in the forest. Such organizations play an important role as friends and managers of the forest resources (KENNY-JORDAN et al, 1999).

The presence of a myriad of social actors involved in the process of managing forests in the Amazon Region is well recognized (AMARAL E AMARAL NETO, 2005; VERÍSSIMO, 1996). These actors, who actively participate
in the forest management process, include loggers, farmers, owners and occupants of forest land, NGOs, representatives of academia and financing agencies. This diverse group of actors plays their own roles, offering different views and strategies in addressing forest management issues.

For most loggers, forest resources represent an opportunity for quick financial gains with no commitment regarding restoration of logged areas. They operate through a constant migration cycle, always moving on to new areas. This type of logging leads to the exhaustion of forest resources and has been called the “good collapse” cycle by specialists on the subject (SCHNEIDER, 2001).

However, when the relationship between the forest and small farmers and traditional forest dwellers is analyzed, it is found that this relationship not only ensures generation of income but also provides a continuous source of a variety of products, both timber and non-timber forest products (fruits and nuts, medicinal plants, oils and resins, small animals for trapping and hunting), which are closely related to the means of subsistence of those people.

In addition, environmental NGOs, government agencies, donors and financing agencies have their own way of addressing forest issues, usually with a definite conservationist vision in relation to forest resources. NGOs may work in the promotion and implementation of forest management pilot projects and also lobbying for the creation of Conservation Units. On the other hand, government and financing agencies have worked in the promotion of
research, pilot projects, and in enforcing measures regulating forest activities (AMARAL; AMARAL-NETO, 2005).

In order to consolidate community forest management in Brazil, so that it can make a significant contribution to the rural development of the country, it is necessary to bring together all different actors and integrate their particular interests. Only then, it will be possible to generate support for the execution of environmental policies and back up the command and control actions that, to this date, have been taken exclusively by the government.

There are many factors leading to predatory logging. Some of them are: (i) low value of the timber resource due to plentiful stocks; (ii) shortage of promising forest management initiatives; (iii) inadequate monitoring, and (iv) not enough production forests. In this situation, CMF is an important element in the strategies of the communities of the Amazon Region; furthermore, access to the forest resource depends on some structural issues that in recent times have become more favorable to the adoption of forest management. Some internal factors, such as their calendar of agricultural and extractivism activities, financial situation, and market pressures must be considered in the process of constructing and strengthening a mentality geared towards CMF in the communities (AMARAL; AMARAL-NETO, 2005).
5. History of Forest Activities in the State of Acre

The rubber tappers traditional activity in the State of Acre was consolidated after two massive migration movements, originated mostly from the northeastern region of Brazil, in the period 1870 - 1920, and again in 1942 – 1945. Due to political pressures of the industrial and economic elites of the south and southeastern regions, government incentives and financial support to rubber production in the Amazon Region continued well after the end of World War II, but in the end it could not compete with low prices of the rubber produced from plantations in Asia (KAINER ET AL., 2003).

Kainer et. al. (2003) also mention that in 1971, after government financing provided by the National Program for Rubber Production was suspended, rubber production in the State of Acre was drastically affected and rubber tapping activities in local Hevea forests (“seringais”) started to decline. This situation, together with low prices of land, led to the “paulistas’invasion”, i.e., an influx of people from the State of São Paulo that came to Acre looking for gains in land speculation and in cattle ranching, with consequent deforestation.

It was in this scenario that, beginning in 1975, some groups started initiatives in favor of Acre rubber tappers. These groups included Rural Workers Union in some municipalities, catholic movements (Ecclesiastic Communities), artists, students, intellectuals and workers. The two main leaders of these groups were Wilson Pinheiro
and Chico Mendes, who organized themselves in “empates”\textsuperscript{1} in order to stop deforestation and ensure land tenure rights for the rubber tappers, a way to fight the expulsion of local people living on extractivism activities (DRIGO, 2005).

The “empates” did not succeed in curbing deforestation, but had the merit of calling the attention of government agencies; around the mid 1980’s they obtained international projection and recognition. After a series of negotiations and agreements, sometimes only partial, this movement resulted in the creation of Extractive Reserves (RESEX) of the State of Acre and in the first Extractivism Settlement Projects (DRIGO, 2005).

\section*{5.1. Deforestation and current situation}

Some recent studies carried out by the Space Research National Institute [Instituto Nacional de Pesquisas Espaciais (INPE)] and by the Technology Foundation of State of Acre [Fundação de Tecnologia do Estado do Acre (FUNTAC)] on the expansion of deforested areas show that a deforestation peak occurred between 1994 and 1995. The forest area cleared in this period was more than double that of the previous year and the reasons why this happened are not clear. It is supposed that the economic stabilization brought

\footnotesize{\textsuperscript{1} “Empates” were resistance movements organized by rubber tappers in order to prevent farmers from taking over the areas where they lived and worked, and to stop deforestation caused by those farmers.}
by the Plano Real intensified logging and cattle raising activities in the region. However, an important fact reported in these studies is the marked expansion of cattle raising on the part of various types of producers of the State of Acre, such as settlers, rubber tappers, and owners of medium and large seize farms (ACRE, 2000).

Faced in the 90’s with this scenario of growing deforestation, local people subsisting on extractivism activities tried to stop other people and small farmers from destroying the forest. One of the strategies adopted was the incentive provided by NGOs and by the government towards multiple use forest management that included the production and commercialization of wood, rubber, Brazil nuts, and other forest resources that carried a socioenvironmental certification label (HUMPHRIES AND KAINER, 2006).

5.2. Community forest management support organizations

Community organizations whose members adopted forest management were created from the early 90’s on. Most of these organizations have their origin in the struggle to defend the rights of rubber tappers. In agroextractive settlement projects, rubber tappers were the pioneers in adopting CFM. However, some newly arrived settlers have also committed themselves to forest management, but in smaller numbers and with less intensity (DRIGO, 2005).
Extractive communities are monitored by and receive support from a series of external players, especially from national and international NGOs (WWF-Brazil, CTA, among others) that provide technical and financial assistance to their CMF projects. These organizations also receive governmental support for their activities.

In 2007 the government of the State of Acre established as one of its public policies the encouragement of timber and non timber forest activities, setting the goal of one million hectares of certified forests in the state. There are four state Secretariats and one state institute involved in this policy: State Secretariat for Forests (SEF), Rural Extension and Technical Assistance Secretariat (SEATER), Family Production and Extrativism Secretariat (SEPROF), Environment and Natural Resources Secretariat (SEMA), Acre Institute for the Environment (IMAC).

The State of Acre has reached the distinguished mark of five community forest management experiences that obtained FSC certification, with a total of 23,813,9 hectares certified in 2007 (FSC, 2007). However, there are different perceptions and some doubts remain as to the economic and environmental success of certification, given the fact that each community has its own economic, social and traditional history and started its projects with a strong support from non governmental organizations and international cooperation organizations (DRIGO, 2005).
6. Method

6.1. Sampling universe and sample size

Although there are five FSC-accredited certification organizations in Brazil, until 2007 only two of them had been involved in successful certification of community forest management projects: Instituto de Manejo e Certificação Florestal e Agrícola (Agricultural and Forest Management and Certification Institute - IMAFLORA) and Scientific Certification Systems (SCS). For this reason, the sampling universe considered in this study was based on FSC-certified community forest management operations certified by those two organizations. In order to ensure feasibility of the impact assessment study, two aspects of fundamental importance were utilized: degree of similarity among community forest management operations and the existence of similar operations that had not received certification.

Four criteria were used for evaluating similarity among the operations analyzed in this study: i) use of community forest management; ii) logging for wood production as the main objective of the forest management; iii) land rights/ownership structure as in Agroextractive Settlement Project (PAE), and iv) certification standard used: FSC Amazon Highland Natural Forest Management Standard.

Certified operations chosen on the basis of the above-mentioned criteria are presented in Table 2 in a gray background. Data presented in this table refer to 2007;
sample size was calculated on the basis of the number of community producers in each operation that practiced forest management (managers) for wood production in each association. Sample size was calculated for an estimated error of 10%, with 90% confidence level.

Table 2 – Sampling universe and sample size

<table>
<thead>
<tr>
<th>Questionnaires from</th>
<th>Association</th>
<th>Community producer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Universe</td>
</tr>
<tr>
<td>Certified Associations</td>
<td></td>
<td>Sample</td>
</tr>
<tr>
<td>AMPPAE C.M.</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>Seringal Equador</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>PAE Porto Dias</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>ASSER</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Total certified</td>
<td>4</td>
<td>50</td>
</tr>
</tbody>
</table>

36
A selection process similar to that used for certified operations was used for the operations of the control group, i.e., non certified organizations. Except for criterion iv), non certified operations were analyzed according to the same criteria used for certified producers. As listed in Table 2, only two of them met those criteria.

<table>
<thead>
<tr>
<th>Associations in the Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vicente de Melo</td>
</tr>
<tr>
<td>São José</td>
</tr>
<tr>
<td>Control total</td>
</tr>
</tbody>
</table>
Figure 1: Interviews carried out during the data collection phase of the Socioenvironmental Forest Certification Impact Assessment project 85
<table>
<thead>
<tr>
<th>Operation name</th>
<th>Product type</th>
<th>Products obtained from the forest</th>
<th>State</th>
<th>Land right/ownership structure</th>
<th>Certifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associação dos Produtores Rurais em Manejo Florestal e Agricultura – APRUMA</td>
<td>Timber</td>
<td>Amazon native species</td>
<td>AC</td>
<td>Colonization Project (PC)</td>
<td>Imaflora/SmartWood</td>
</tr>
<tr>
<td>Assoc. Moradores e Produtores do Projeto Agroextrativista Chico Mendes – AMPPACM</td>
<td>Timber</td>
<td>Logs and rough-sawn lumber</td>
<td>AC</td>
<td>Agroextractive Settlement Project (PAE)</td>
<td>Imaflora/SmartWood</td>
</tr>
<tr>
<td>Associação Comunitária Agrícola de Extratores de Produtos da Floresta - ACAF / Comunidade do Menino Deus do Curuçá</td>
<td>Timber</td>
<td>Amazon native species</td>
<td>AM</td>
<td>State Forest Concession</td>
<td>SCS</td>
</tr>
<tr>
<td>Associação dos Moradores e Produtores Rurais e Extrativistas Do</td>
<td>Non timber</td>
<td>Tucumã basketry</td>
<td>PA</td>
<td>Agroextractive Settlement Project (PAE) under</td>
<td>Imaflora/SmartWood</td>
</tr>
<tr>
<td>Operation name</td>
<td>Product type</td>
<td>Products obtained from the forest</td>
<td>State</td>
<td>Land right/ownership structure</td>
<td>Certifier</td>
</tr>
<tr>
<td>----------------</td>
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<td>-------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Urucureá – ASMOPREURA</td>
<td>Timber/Non timber</td>
<td>Copaiba oil, jarina seeds, logs/bark of trees felled.</td>
<td>AC</td>
<td>Agroextractive Settlement Project (PAE)</td>
<td>Imaflora/SmartWood</td>
</tr>
<tr>
<td>Associação dos Seringueiros da Reserva Extrativista São Luiz do Remanso – ASSER</td>
<td>Timber/Non timber</td>
<td>Logs and sawnwood (special orders), Copaiba oil</td>
<td>AC</td>
<td>Agroextractive Settlement Project (PAE)</td>
<td>Imaflora/SmartWood</td>
</tr>
<tr>
<td>Associação dos Seringueiros de PORTO DIAS</td>
<td>Timber/Non timber</td>
<td>Logs and sawnwood (special orders), Copaiba oil</td>
<td>AC</td>
<td>Agroextractive Settlement Project (PAE)</td>
<td>Imaflora/SmartWood</td>
</tr>
<tr>
<td>Comunidade Kayapó na Terra Indígena do Baú</td>
<td>Non timber</td>
<td>Raw Brazil nuts and Brazil nut oil</td>
<td>MT</td>
<td>Permanent land use rights Indigenous land</td>
<td>Imaflora/SmartWood</td>
</tr>
<tr>
<td>Cooperativa Mista Extrativistas do Rio Iratapuru - COMARU</td>
<td>Non timber</td>
<td>Brazil nuts, Copaiba oil, and breu (Protium spp.) resin.</td>
<td>AP</td>
<td>Sustainable Development Reserve</td>
<td>Imaflora/SmartWood</td>
</tr>
<tr>
<td>Cooperativa dos Produtores Agroextrativistas da Reserva Extrativista do Rio Cajari &quot;COOPER-CA&quot;</td>
<td>Non timber</td>
<td>Raw Açaí palm heart.</td>
<td>AP</td>
<td>Extractive Reserve</td>
<td>Imaflora/SmartWood</td>
</tr>
</tbody>
</table>

Source: Adapted from FSC Brasil, 2007
<table>
<thead>
<tr>
<th>Operation name</th>
<th>Product type</th>
<th>Products obtained from the forest</th>
<th>State</th>
<th>Land right/ownership structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associação Agroextrativista São José</td>
<td>Timber/Non timber</td>
<td>Logs, Brazil nuts, andiroba seeds and açaí</td>
<td>AC</td>
<td>Agroextractive Settlement Project (PAE)</td>
</tr>
<tr>
<td>Associação Vicente de Melo</td>
<td>Timber/Non timber</td>
<td>Logs, Brazil nuts, andiroba seeds, açaí and patuá.</td>
<td>AC</td>
<td>Agroextractive Settlement Project (PAE)</td>
</tr>
</tbody>
</table>

Obs.: Forest operations highlighted were visited by the project team in charge of the Socioenvironmental Forest Certification Impact Assessment study
6.2. Questionnaires for data collection

The questionnaires used to collect data were based on the analysis of available documentation and on the experience of consultants specialized on community forest management that work for the Instituto de Manejo e Certificação Florestal e Agrícola (Agricultural and Forest Management and Certification Institute - IMAFLORA), Centro de Trabalhadores da Amazônia (Amazon Workers’ Center - CTA), and Secretaria Estadual de Florestas (State Secretariat for Forests - SEF), among other institutions mentioned in item 6.

Due to the fact that local conditions of community forest operations in the State of Acre can be quite variable, the instruments used for collecting data were modified in the field to fit specific situations. Community forest operations are organized in associations within Agroextractive Settlement Projects (PAEs) and receive cooperation and support from different local organizations.

Factors linked to environmental degradation - such as wild fires, deforestation, trapping of wildlife, left garbage, overgrazing and illegal logging – were evaluated in Agroextractive Settlement Projects (PAEs), always trying to check if these impacts also occurred within the Certified Management Units (MUs). Therefore, the consequences of the impacts generated refer not only to areas within the Management Unity, but also to neighboring areas.
Five different questionnaires were prepared for collecting data: i) **certified association questionnaire** – for interviewing the president (or director) of the certified association, in order to obtain information on the history of the association, its administration, products obtained from the forest, perception of certification etc; ii) **questionnaire for the producers of certified communities** – for interviewing managers\(^2\) of the certified association, in order to obtain information on the characteristics before and after certification, plus information on environmental preservation, wildlife, training programs in certification, income etc.; iii) **control association questionnaire** – for interviewing the president (or director) of the non-certified association, in order to obtain information on the history of the association, its administration, products obtained from the forest, working conditions etc; iv) **questionnaire for community producers of control associations** – for interviewing the managers of the non-certified association in order to obtain information on characteristics of environmental preservation, wildlife, training programs in forest management, income, etc., and v) **technical assistance questionnaire** – for interviewing forest management technicians with a minimum of one year experience in working with the community under

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\(^2\) Managers are the community producers that are directly involved in Community Forest Management, i.e., those who have direct responsibilities with respect to logging activities. Usually, managers cut trees in forests of their own parcels (colocações) or in other parcels when management is carried out in partnership (collective management).
consideration. Perceptions of economic, environmental, and social changes in these communities were duly registered.

6.3. Field procedures

Data collection was carried out during the period of April 16 to May 28, 2007, by a team of two field researchers, who received logistic support from the Secretariat for Forests of the State of Acre (SEF) and from the Amazon Workers’ Center (CTA). Both of these researchers have college degrees in forestry and agriculture, having previous experience in applying questionnaires and in impact assessment.

In order to reduce seasonal effects - which are quite common in rural activities - on impact assessments, analyses were carried out in panels, i. e., the collection of field data was repeated at different times. This way, it is hoped that seasonal effects, which otherwise could compromise the interpretation of results, can be minimized. Therefore, at this moment, the Forest Certification Impact Assessment Study should be understood as a “photograph” of the context observed in the communities visited; it is recommended that this study be repeated a few more times, so that the influence of seasonality could be avoided.

Due to the cultural context of the communities studied, the communication and data collection process was quite slow. The initial contact with community producers was made by a letter, hand delivered by representatives of
support organizations, or by the participation of the researchers at association meetings, where they explained the objectives of the study and requested the cooperation of community members.

After the initial contact and the introduction of the researchers to community leaders, a date was set to begin the interviews. The average time spent in each community was one week. During this week the researchers were assisted by community leaders in order to organize individual interviews with each community producer, which lasted between one and one and half hour. Due to the poor transportation conditions in these communities, and also due to the long distances between dwellings, going from one place to another was quite difficult. Very often the researchers had to walk, use bicycles or motorcycles, or even ox carts, but they always counted with the assistance provided by community members.

This field experience allowed researchers to get a qualitative evaluation of the daily routine of these communities, of their community forest management, and of other extractivism activities that make up the local culture.

Another part of the data was collected from institutions involved with the communities under consideration. On such occasions, the researchers tried to interview people that had at least one year of experience in working with the communities and that could speak about the FSC certification in each one of them.
Data collection consisted basically in applying the questionnaires to community producers and to technicians representing organizations that provided support to the communities. There was no field checking for the majority of the issues addressed by the questionnaires. This means that the results of this study are based on the information gathered during the interviews and, therefore, besides what happens in the field, they may also represent the opinion and bias of the people interviewed.

6.4. Data input and consistency checking

The information gathered during the interviews was recorded on paper and also fed into the computer using software developed over an Access® 2003 data base that duplicated the questionnaire format. The information contained in this data base was submitted to procedures to ensure consistency, critical analysis, and transformation of data into variables used in statistical treatment according to the package “The SAS System”, version 9.1.3.
7. Players involved in community forest management in the State of Acre

The associations involved in community forest management in the State of Acre receive strong support from government, donors, and NGOs to carry out their forest management activities and achieve FSC certification. The associations depend on the support institutions for carrying out forest management activities for wood production. This dependency exists because such activities are complex and costly from a financial and operational point of view as well; it requires that the people involved have technical capability in many areas, such as forest inventory, felling techniques, harvesting and hauling planning, species identification etc. This type of expertise is not well developed or readily available in most communities. For this reason, plus the absence of past history on forest management for wood production on the part of agroextractive communities, the associations do not have technical structure and operational capability to back up their forest management activities on their own, without the help of supporting institutions.

Figure 2 shows the main institutions involved in community forest management activities, as observed during data collection. The gray arrow represents the institutions that provide training, financial and technical support. As already mentioned, the associations depend heavily on

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3 Historically, the main activity of the majority of PAEs’ community producers has been latex extraction and gathering of Brazil nuts. Forest management for wood production started less than ten years ago.
these institutions; however, some of them have offered training and capacity building programs for community forest management for wood production. These programs aim at enabling community producers to carry out forest management activities on their own, without the assistance of external technical and operational support. An example of such initiative is the training course offered by the Amazon Workers’ Center (CTA).

The institutions represented by the blue arrow are control agencies, which have a more sporadic role in connection with enforcement and regulations. The cooperatives, which are linked to the associations with blue arrows, represent social organizations of the members of the cooperatives themselves, sometimes with the presence of outside technicians with forestry background that are hired by the cooperative. Finally, the red arrow represents the FSC certification organization in Brazil that works directly with the certified communities.
Figure 2: Main players involved in Community Forest Management in the State of Acre

- WWF-Brasil (financial) support to certification
- SEF - technical assistance and promotion of forest management
- CTA training and technical assistance
- FUNTAC use of sustainable technologies
- SEATER - technical assistance and extension
- IMAC – technical assistance and support to forest management
- IBAMA - enforcement of environmental and other regulations
- INCRA - enforcement of land rights/ownership regulations and rural credit
- Community producers that practice CFM
- COOTAF cooperative of forest agents
- COOPERFLORESTA cooperative for the commercialization of timber products
- GPFC community forest producers’ group
Table 5 presents a list of the institutions involved in community forest management and a summary of their respective roles as they interact with the associations in this area.

**Table 5 – List of institutions involved in CFM in the State of Acre and their respective roles**

<table>
<thead>
<tr>
<th>Name</th>
<th>Acronym</th>
<th>Type</th>
<th>Role</th>
<th>Atuação principal nas comunidades</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Secretariat for Forests</td>
<td>SEF</td>
<td>Governmental</td>
<td>Helping community forest management to become viable through technical assistance and extension in forestry</td>
<td>Fomento ao manejo e certificação florestal</td>
</tr>
<tr>
<td>Amazon Workers’ Center</td>
<td>CTA</td>
<td>NGO</td>
<td>Capacity building and strengthening of community producers</td>
<td>Adoção de práticas de manejo sustentável</td>
</tr>
<tr>
<td>Name</td>
<td>Acronym</td>
<td>Type</td>
<td>Role</td>
<td>Atuação principal nas comunidades</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
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<td>---------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>State of Acre Foundation for Technology</td>
<td>FUNTAC</td>
<td>Governmental</td>
<td>Technology-based solutions with priority on the sustainable use of local natural resources for improving quality of life of the population</td>
<td>Capacitação no uso, processamento e tecnologia da madeira</td>
</tr>
<tr>
<td>State Secretariat for Technical Assistance and Extension</td>
<td>SEATER</td>
<td>Governmental</td>
<td>Work in partnership with other institutions dedicated to education activities that benefit managers, providing technical assistance in all phases of community forest management</td>
<td>Assistência técnica e extensão rural</td>
</tr>
<tr>
<td>Name</td>
<td>Acronym</td>
<td>Type</td>
<td>Role</td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
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<td>------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>World Wildlife Fund</td>
<td>WWF</td>
<td>NGO</td>
<td>Conserve nature, harmonizing human activities with the conservation of biodiversity and the rational use of natural resources</td>
<td></td>
</tr>
<tr>
<td>Agricultural and Forest Management and Certification Institute</td>
<td>IMAFLORA</td>
<td>NGO</td>
<td>Contribute to the adequate use of natural resources, attesting the respect to the economic, social and environmental aspects of forest operations</td>
<td></td>
</tr>
</tbody>
</table>

**Atuação principal nas comunidades**

- Apoio ao manejo e certificação florestal
- Certificação florestal socioambiental nas associações certificadas
<table>
<thead>
<tr>
<th>Name</th>
<th>Acronym</th>
<th>Type</th>
<th>Role</th>
<th>Atuação principal nas comunidades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazilian Institute for the Environment and Natural Renewable Resources</td>
<td>IBAMA</td>
<td>Governmental</td>
<td>Preservation, conservation rational use and promotion, enforcement and control of regulatory legislation related to renewable natural resources</td>
<td>Órgão fiscalizador</td>
</tr>
<tr>
<td>National Institute for Colonization and Agrarian Reform</td>
<td>INCRA</td>
<td>Governmental</td>
<td>Implement land reform policies and carry out the legalization of titles of land rights/ownership at national level, thus contributing to sustainable development</td>
<td>Atua na regulamentação dos assentados e nos problemas de conflitos rurais entre assentados</td>
</tr>
<tr>
<td>Name</td>
<td>Acronym</td>
<td>Type</td>
<td>Role</td>
<td>Atuação principal nas comunidades</td>
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<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Cooperative of Forest Workers of the Lower and Upper Acre Regions</td>
<td>COOTAF</td>
<td>Cooperative</td>
<td>-</td>
<td>Atuação dos comunitários capacitados para trabalhar no manejo florestal das diversas comunidades da região</td>
</tr>
<tr>
<td>Cooperative of Forest Producers of the State of Acre</td>
<td>COOPERFLOR ESTA</td>
<td>Cooperative</td>
<td>Facilitate and intermediate the wood commercialization process</td>
<td>Comercialização da madeira certificada</td>
</tr>
<tr>
<td>The State of Acre Community Forest Producers Group</td>
<td>GPFC</td>
<td>Producers’ group</td>
<td>To become an important link between community producers and the consumers of certified wood</td>
<td>Representar os produtores florestais comunitários</td>
</tr>
</tbody>
</table>
8. Characterization of extractive communities

Figure 3 below shows the location of Agroextractive Settlement Projects studied in this report.

Figure 3: Location of Agroextractive Settlement Projects studied in the Project “Impact Assessment of Socioenvironmental Forest Certification”
8.1. Association of Dwellers and Producers of the Chico Mendes Agroextractive Project (AMPPAE-CM)

The AMPPAE C.M. Association was founded on August 4, 1995, with the objective of creating the necessary conditions for the establishment of the Agroextractive Settlement Project (PAE) by INCRA, and settling the rubber tappers that historically had been working along the rubber tapping trails currently called “colocações” (land unit of the settlement). Most of these rubber tappers had migrated from the northeastern region of Brazil and had been living in the Stated of Acre since the beginning of the rubber cycle. The leader of this process was rubber tapper Chico Mendes, who is known around the world for his struggle to protect the Amazon forest and to keep rubber tappers and their families in their extractive communities\(^4\). In 2007, the total area of the Chico Mendes PAE was 24.098 ha; it included 86 colocações (land unit of the settlement) of various sizes according to the number of rubber tappers’ trails in them. Out of the 86 families settled by this project, only 18 were involved in forest management for wood production.

Figure 4 shows the location and distribution of land unit of the settlement in the Chico Mendes PAE.

\(^4\) Interview with Nilson Teixeira Silva, current president of the Association of Dwellers and Producers of the Chico Mendes Agroextractive Project.
Figure 4: Location and distribution of land unit of the settlement in the Chico Mendes PAE
8.2. Association of Producers of the Seringal Equador Agroextractive Settlement Project – ASSPAE-SE

The Seringal Equador Agroextractive Settlement Project is located in the municipality of Xapuri, State of Acre, and in 2007 covered an area of 7,752 hectares. There were 36 families in this settlement, of which 10 practiced forest management for wood production. The size of the land unit of the settlement also varied according to the number of rubber tappers’ trails originally owned by each family.

8.3. Association of Agroextractive Dwellers of the Remanso do Capixaba Acre - AMARCA

AMARCA was created in 1994 within the São Luiz do Remanso Agroextractive Settlement Project, with the objective of raising funds to finance production activities of the local population and to help settlers to legalize their land use and ownership rights. In the beginning there were 70 members but, after some decrease, in 2007 membership reached 175 participants. Only 10 of them were involved in forest management for wood production.

The São Luiz do Remanso PAE is located in the municipality of Capixaba, about 120 kilometers from the capital Rio Branco. According to INCRA, at the present time there are 170 families settled in 39,570 hectares.
8.4. Association of Rubber Tappers of Porto Dias

The Association of Rubber Tappers of Porto Dias was created in 2002 by dwellers of the Porto Dias PAE that believed that community producers should form a block to stop exploitation by “marreteiros” (middle men) in the commercialization of forest products produced by the community. The organization and leadership of the movement that established the association received assistance from the Rural Workers’ Union and from the Parish of the township of Plácido Castro.

In 2007, the Association of Rubber Tappers of Porto Dias had 19 members, seven of them involved with community forest management for wood production. The Porto Dias PAE (Figure 5), where the association is located, belongs to the municipality of Acrelândia, AC. In 2007 it covered a total area of 22,145 hectares and, according to INCRA, had 96 families settled. The field research team was not able to obtain more details on the PAE São José Association, due to lack of additional information sources.
Figure 5: Location and distribution of Porto Dias PAE
8.5. Vicente de Melo Association

The Vicente de Melo Association belongs to Santa Quitéria PAE and it was created in 1994, under the leadership of rural extension technicians of the government of the State of Acre. In 2007 the Vicente de Melo Association had a total membership of 35 associates.

The Santa Quitéria PAE was created by Government Order Nº 627, in the modality of “Agroextractive Settlement Project”, but only in 1996 its name became “Agroextractive Settlement Project.” The Santa Quitéria PAE is located in the municipality of Brasiléia, AC, 300 kilometers from the capital Rio Branco and 66 kilometers from Brasiléia; in 2007 it covered a total area of 44,205 hectares.

8.6. Association of Producers of the São José Agroextractive Settlement

The Association of Producers of the São José Agroextractive Settlement was created on March 19, 1999, with the objective of stopping deforestation caused by dwellers of the Porto Dias PAE. This association is located in the Porto Dias PAE, the same settlement project where the already mentioned Porto Dias Rubber Tappers’ Association is also located.

Since its beginning until the moment this study was being made, the presidents of the PAE São José producers’

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5 Declaration of Mr. João Batista da Silva Santiago, current president of the São José Agroextractive Association.
association had been threatened by persons involved in illegal activities within the PAE (sale of illegal wood and clearing of large areas), a fact that hindered the work of the association⁶.

In 2007, the Association had 21 members, of which not more than four carried out forest management activities for wood production, which began only in 2006. One of these settlers abandoned his land unit of the settlement in the PAE due to personal problems.

⁶ Declaration of Mrs. Albaniza Alencar, member of the São José Agroestractive Association.
9. Results and discussion

The results obtained in the Socioenvironmental Forest Certification Assessment Study were divided in three parts:

1. General Profile of Community Producers:
This item presents the analysis of some aspects related to the characteristics of the community operations under consideration, such as origin and relationship among producers, forest utilization activities before and after the creation of the PAE, and also at the time of this study, participation in social movements and government programs.

2. Impacts of Socioenvironmental Certification:
This item lists and discusses the environmental and social impacts identified by social players as being a direct consequence of certification.

3. Actions External to Socioenvironmental Certification:
This item is an attempt to clarify some issues where the certified group presented characteristics that were quite similar to those of the control group.

9.1. General profile of community and control group producers
**Origin of community producers**

Practically all certified community producers and control group producers were born and raised in State of Acre.

Only three of them had migrated from other regions: two producers of the control group came from Ibirapitã, RS, and Icó, CE, and one of the certified groups came from Jaciparana, RO.

**Relationship among community producers before the creation of PAEs**

Certified community producers and control group producers described how their relationship was before the creation of the PAEs (Table 6). The qualitative answers were classified in seven groups: i) kinship (community producers and/or relatives already lived in the project); ii) friendship (friendly relations among dwellers); iii) shorter acquaintance time among dwellers (between four and ten years); iv) longer acquaintance time among dwellers (between 10 and 40 years); v) just dwellers (they only lived in the same project); vi) organized dwellers (they became organized to create the PAE), and vii) no relationship (they did not have any form of relationship, since they did not live in the region).
Table 6 – Declaration about the relationship among community producers before the creation of PAE

<table>
<thead>
<tr>
<th>Categories of relationship among community producers</th>
<th>Kinship</th>
<th>Friendship</th>
<th>Longer time</th>
<th>Shorter time</th>
<th>Dwellers</th>
<th>Organized</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified Group</td>
<td>22%</td>
<td>19%</td>
<td>8%</td>
<td>11%</td>
<td>24%</td>
<td>11%</td>
<td>5%</td>
</tr>
<tr>
<td>Control Group</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10%</td>
<td>50%</td>
<td>0</td>
<td>40%</td>
</tr>
</tbody>
</table>

The results show that the certified community producers reported friendship, organization and kinship characteristics before the creation of PAE, while community producers of the control group did not mention any of these characteristics when asked about their relationship before the creation of PAE.
Among certified producers, half of them declared that they just lived in the same region before the implementation of the PAE and 40% did not have any type of relationship. The data show that members of the certified group had a more consistent relationship among themselves, probably due to the longer time – as compared to producers of the control group – that they were living in the same project and interacting with each other.

**Activities prior to CFM**

According to the information provided during the interviews, the main activities traditionally developed by community producers were related to Brazil nut and rubber extractivism, and to subsistence agriculture. (Table 7 and Figure 6). Other extractive activities, such as açaí and bacaba, were detected but at a much lower scale and without significant commercial importance. The activities developed by community producers before adopting CFM reveal traditional practices and give an idea on the survival history of these communities.
Table 7 – Declaration about activities developed by community producers prior to CFM

<table>
<thead>
<tr>
<th>Activities developed by community producers prior to CFM</th>
<th>Brazil nut</th>
<th>Rubber tapping</th>
<th>Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified group</td>
<td>93%</td>
<td>93%</td>
<td>79%</td>
</tr>
<tr>
<td>Control group</td>
<td>70%</td>
<td>40%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Table 7 shows that a larger number of certified community producers were involved in forest activities traditionally carried out in the region, such as Brazil nut gathering and rubber tapping, as compared to producers of the control group. However, when subsistence agriculture is considered, there is no significant difference between the two groups.
The fact that the group of certified community producers had a stronger history of extractivism may have some influence on certification. Certainly, this group looks at the forest with different eyes than those of the control group; it is more concerned with the conservation of natural resources, thus facilitating absorption of the concepts behind certification. On the other hand, these characteristics may originate from the certification process or, conversely, they be strengthened by certification.

This statement can be confirmed by observing the results of the assessment of some environmental impacts from socioenvironmental certification, such as more adequate disposal of residues, more careful use of fire, measures for the protection of wildlife, and a more positive
stance against environmental crimes, denouncing them to the proper authorities (pages 43 to 51).

**Forest utilization activities**

As previously mentioned, forest management for wood production is a complex activity that requires trained manpower. This need for skilled labor is a serious difficult faced by community producers in carrying out forest management activities. In order to practice good forest management, community producers need to undergo capacity building and training programs that could provide them with the specific skills required for this activity. Innumerable obstacles have to be overcome before community producers can attend such training programs: logistical difficulties to bring them to the capital city of Rio Branco, where most short courses take place; finding a time slot in their activities that coincides with the time the training program is offered; high cost and long duration of the majority of such programs etc. Except for some short duration training programs aimed at specific functions, such as compass readers, species identification technician, and forest agents the great majority of community producers have seldom performed activities that require a more specialized technical background.

In addition, forest management takes place only during a few months of the year, thus being a complementary activity to the traditional activities of Brazil nut gathering, rubber tapping, and subsistence agriculture. Therefore,
CMF represented an alternative source of income for the families of community producers.

Some differences can be observed between the certified community producers and those of the control group (Table 3). Among certified community producers, the main reported activities - besides forest management for wood production, were 1) Brazil nut gathering; 2) rubber tapping, and 3) açaí gathering, listed in decreasing order of economic importance. In contrast, for community producers of the control group, this sequence is the following: 1) Brazil nut gathering; 2) açaí gathering, and 3) seed collection.

Table 8 – Declaration about the main traditional activities of forest utilization

<table>
<thead>
<tr>
<th>Activity</th>
<th>Certified producers group (%)</th>
<th>Control group producers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil nut gathering</td>
<td>90</td>
<td>91</td>
</tr>
<tr>
<td>Rubber tapping</td>
<td>26</td>
<td>0</td>
</tr>
<tr>
<td>Seed collection</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Açaí gathering</td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td>Bacaba gathering</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

The data above show that, although Brazil nut gathering was an important source of subsistence and income for both groups, rubber tapping was found to be an exclusive activity of certified producers. The reason for this difference is due to the past history of certified communities, for whom rubber tapping had always been the main economic activity of the region during the first migration movements into the State of
Acre, until the decline of the rubber production in the Amazon Region. Recently the State of Acre, in partnership with FUNTAC, has tried to revive this traditional activity by establishing a condom manufacturing plant in the Xapuri region, near two of the certified communities surveyed in this study that were beginning to carry out again rubber tapping activities.

**Participation in Social Movements**

**Hypothesis 1:** More participation and involvement of certified communities with respect to social movements.

Community producers were asked about their participation in social movements at two different moments: during the implementation of PAE and now (Table 4). The question on the participation and involvement of communities in social movements had two objectives:

- compare the degree of involvement between certified producers and producers of the control group and determine whether this impact is generated by the certification process, and

- analyze the history of participation of communities, both certified and non certified, in order to assess whether there is any relation between interest in certification and the degree of mobilization and participation in social movements.
Table 9 – Declaration on the participation of community producers in social movements

<table>
<thead>
<tr>
<th>Participation</th>
<th>Before the creation of PAE</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified group</td>
<td>79%</td>
<td>93%</td>
</tr>
<tr>
<td>Control group</td>
<td>50%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Despite the fact that the percentage of participation of certified producers was higher than that of the producers of the control group in both occasions, this difference was not statistically significant. The main social movements mentioned for the period before the creation of PAE were the National Council of Rubber Tappers (Conselho Nacional dos Seringueiros – CNS) and the Rural Workers’ Union (Sindicato dos Trabalhadores Rurais), two strong institutions that took part in the rubber tappers resistance movements. In 2007 there was a larger number of institutions related to community associations and the main social movements mentioned as being active in PAEs were: the Rural Workers’ Union, cooperatives for the commercialization of wood and Brazil nuts, and the church.

**Participation in government programs**

**PRONAF**

7 The National Program for Strengthening Family Agriculture (PRONAF) is a federal program to promote sustainable rural development and encourage adequate nutrition by strengthening agriculture activities of rural families, offering them subsidized loans and providing financial assistance to their associations and cooperatives. Pronaf offers credit lines that are tailored to the specific needs of producers, thus ensuring that the conditions of the financing scheme are adequate to
In 2007, the State of Acre had one of the smallest numbers of contracts and financial volumes of PRONAF (National Program for Strengthening Family Agriculture) of the entire country, only ahead of the State of Amapá, Federal District (Brasília) and the State of Roraima (MDA, 2007). Among the 41 community producers interviewed, only four informed that they had received financial assistance from PRONAF. In comparison, three producers (33% of the total) of the control group had received funds from PRONAF, in amounts varying between R$1,800.00 (just over US$1,000) and R$3,500.00 (about US$2,000). With respect to certified producers, only one (4% of the total) received funds in the order of R$1,800.00.

“BOLSA FAMÍLIA”8 INCOME TRANSFER PROGRAM

Certified community producers and community producers from the control group had the same low level of participation in this program, about 10%.

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8 The “Bolsa Família” Income Transfer Program is a federal program based on family income to assist poor and extremely poor families. The beneficiaries of this program are families with per capita monthly income up to R$120.00 (about US$70) that are registered in the Unified Roster of Social Programs. This roster is an attempt to identify the poorest families in the country in order to learn about their potentials and weaknesses.
The official figures on the “Bolsa Família” Income Transfer Program of the Ministério do Desenvolvimento Social e Combate a Fome (Social Development and Hunger Eradication Ministry - MDS) for 2007 show that all families classified as poor, i.e. those receiving less than R$120,00 (~US$70) per month, had been covered by the program. When this statement is compared to that found during the interviews, which was only 10%, there is a clear disparity that could be explained by the following factors:

- difficulty faced by program agents in accessing communities, due to their geographic isolation;
- lack of information on the part of community families about the program and its benefits, and
- non compliance with the maximum income limits established by the program, or with other requirements.

The specific reasons for the low percentage of eligible families that had joined the program could not be identified in this study. However, an increased participation could certainly contribute to significantly improve the income of eligible families.

**Use of the income received from CFM wood sales**

Most of the community producers of one of the associations of the control group, Associação Vicente de Melo, involved with CFM did not know how much they would get from the sale of the wood obtained. Despite government assistance in all phases of the process, there was a problem in the commercialization of the wood. At the time when data
for this study was being collected, this problem was being discussed by government representatives and community producers.

Therefore, for the control group, there was not much information on how producers would spend the money from their sales of CFM wood. Only three producers of the control group supplied this type of information: buying food for their families (40%), paying debts (20%) and constructing small dams (20%).

Wood commercialization problems were not restricted to producers of the control group only. For instance, AMARCA, a certified association, could not sell high-grade wood obtained from CFM; for this reason, the income used in the economic analysis was that from the sale of lower quality wood, known as “white wood”, in contrast with dark colored heartwood of durable species. Some associations organized their sales scheme through a cooperative organization called COOPERFLORESTA. This cooperative, formed by the community producers themselves, keeps part of the CFM income of their member associations to finance its operation. In 2007, AMARCA, the only certified association of the region that did not belong to this cooperative, became a member of the cooperative in order to promote the sale of its CFM wood.

The intended use by community producers of the income generated by CFM wood sales, with the already mentioned exceptions, varies significantly (Table 10). The activities financed with this income were classified in
different groups, according to their similarities: food purchase, debt payment, basic necessities (purchase of shoes and clothing, medical expenses and visits to family members), infrastructure (purchase of generator, motors, pipes, and construction of sheds and small dams), electrical appliances, purchase of cattle, and other expenses (bicycle and motorcycle repair, tires, and obtaining a drivers’ license).

**Table 10 – Declaration about the use, by certified community producers, of income from CFM wood sales**

<table>
<thead>
<tr>
<th>Activities financed by income from CFM wood sales</th>
<th>Percentage of certified community producers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food purchase</td>
<td>31%</td>
</tr>
<tr>
<td>Debt payment</td>
<td>24%</td>
</tr>
<tr>
<td>Basic necessities</td>
<td>13%</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>9%</td>
</tr>
<tr>
<td>Electric appliances</td>
<td>7%</td>
</tr>
<tr>
<td>Cattle</td>
<td>5%</td>
</tr>
<tr>
<td>Others</td>
<td>7%</td>
</tr>
<tr>
<td>Housing</td>
<td>4%</td>
</tr>
</tbody>
</table>

This table shows that the main activities financed with the income from CFM wood sales were: food purchase, debt payment, and basic necessities, such as buying clothes, shoes, and medicine. The fact that the financial resources from wood sales were spent in consumer goods and in basic necessities is a result of the low economic return of CMF to the communities. In other words, there was no surplus cash...
left for capital investments. The reason for this low return was related to problems in wood commercialization, lack of organization and administration of the activity, product of low quality and low aggregate value, and lack of formal contracts and documentation for wood purchases.

These data, based on the declarations from certified community producers, are in complete opposition to the theory that CMF indirectly encourages purchase of cattle and the opening of new grazing areas (increasing deforestation), since only a small percentage of community producers informed that they used the income to finance this activity.

Specific characteristics of the certified group and the control group

Certified Group

Differentiation between activities of the association and those of the certified group

Activities of a given association may be different from those carried out by a group of people that practice community forest management. Hereafter, this group of certified managers will be called “certified group.”

Half of the certified community producers stated that there was no difference between the certified group activities and those of the association; this is particularly true for the associations in which CFM is carried out separately in each
area owned by the managers. The other half declared that, yes, there is a difference between the activities of the association and those of the certified group. Such declaration came mainly from community producers that had opted for collective management, whereby an area is selected to be collectively logged and the respective income and expenses are divided among managers.

Independently of advantages and disadvantages of collective management or individual management, collective management requires a higher degree of organization on the part of the persons involved, which means the need for meetings and specific activities among managers. Therefore, communities that carried out forest management for wood production in a collective way had to put more efforts to improve the group’s communication and organization, since this was a need present in this type of management. On the other hand, when meetings were organized with the presence of all community producers, managers or not, this practice was able to raise the interest and encourage the involvement of other community producers in CFM who, due to lack of information or isolation (those living far away from the association headquarters), until then had not had a direct contact with this subject. For this reason, both practices may be beneficial to the community; the community itself must evaluate which practice is the most interesting, which could bring better practical results to its members.
Certification expenses

Although most of the cost of the certification process was covered by support organizations, some associations also paid some of this cost. When asked about how much they had spent on certification, 76% of the certified community producers replied that they had not paid any money towards this process. The remaining 24% informed that they had paid some of the certification costs, but half of them did not know how much.

Control group

Perceptions about certification

The questionnaire used in the interviews included some issues of qualitative nature, one of them being a request made to members of the control group to consider the possible interest of their association in certification. Half of replies showed that the community producers of the control group had an interest in certification for the following reasons: products of higher aggregate value, environmental preservation, improved commercialization, and higher income from selling certified wood. The other half of the respondents were divided in two subgroups: those that mentioned they would like to reflect some more on the subject, in order to evaluate pros and cons, and those that expressed critical comments about certification, saying it did not aggregate value to wood products.
9.2. Impacts of Socioenvironmental Certification

The following paragraphs list the economic, social and environmental impacts of the socioenvironmental certification in associations included in this study. The data presented show the differences observed between certified community producers and community producers of the control group. These differences are attributed to the socioenvironmental forest certification due to the fact that, despite the strong external support, some of the specific changes are probably the result of certification.

Environmental impacts

Management plan

Hypothesis 2: Better knowledge on the part of certified community producers about the Management Plan.

In order for anybody to carry out logging activities in the Amazon Region, it is necessary to submit a Management Plan to IBAMA and get it approved. In the State of Acre, this process has been decentralized and this procedure has been delegated to the State Secretariat for the Environment (IMAC). Communities are able to submit a collective plan, called Simplified Community Forest Management Plan, under the responsibility of the association. In this case, the Management Plan does not have an expiration date but must be updated whenever necessary, as community managers leave or join the association, or when new activities or techniques are adopted.
In the associations studied, most of the certified producers (77%) and of the control group (78%) recognized that the Management Plan had been prepared and duly complied with when the CFM was carried out. However, among community producers, there was a larger percentage of producers that were aware that the Management Plan was collective, as compared to producers from the control group. Figure 7 shows this difference.

**Figure 7: Declarations (%) by certified community producers and producers of the control group as to the recognition of the Management Plan as being collective**

![Graph showing the percentage of certified and control group producers recognizing the Management Plan as collective, individual, or not knowing.]

**Annual Operational Plan (AOP)**

In addition to the Management Plan, it is necessary that each association involved in CFM submit every year to IMAC an Annual Operational Plan (AOP) describing the specific activities to be carried out during the execution of the Management Plan.
When asked about compliance in the management unities with the activities prescribed by the AOP, 77% of the certified community producers replied that they followed the AOP, while only 44% of the community producers of the control group gave a positive answer. Thus, there was a larger proportion of certified community producers, as compared to producers of the control group, that realized that the Management Plan was collective. This difference, which is presented in Figure 8, was found to be statistically significant.

Better compliance with obligations imposed by the Annual Operational Plan (AOP) on the part of certified community producers underscores the importance of certification to policy makers, since this is an action to be enforced by official environmental agencies.

Figure 8: Declarations (%) by certified community producers and producers of the control group about compliance with prescriptions of the AOP.
**PAE Utilization Plan**

The Utilization Plans for Agroextractive Settlement Projects (PAEs) were prepared by the respective communities and approved by INCRA in order to establish rules and regulations for the utilization of the settlement, with the purpose of organizing all activities and defining their limitations and restrictions.

This utilization plan is of a collective nature and covers all settlers. Therefore, there was a significant difference between certified producers and producers of the control group when they were asked about the Utilization Plan, both at the collective and at the individual level. As shown in Figure 6, the majority of the certified producers (84%) replied that the Utilization Plan is collective, while producers of the control group’s answers were divided between “collective” (50%) and “I don’t know” (50%).

When asked about the Utilization Plan, most of the certified producers (61%) replied that they knew about it and followed it. In contrast, half of the producers of the control group replied “I don’t know anything about it and this is the reason I don’t follow it”; the other half gave a positive answer: “I know about it and I comply with it”.

These data show that certified community producers had a deeper knowledge about the Utilization Plan and, consequently, they were more aware of the social and environmental rules that are necessary for establishing good relations with each other, and also for protecting nature.
Other information that reinforces this interpretation is that 27% of the certified producers replied that there was an improvement in the preservation of the forest after certification (qualitative question).

Figure 9: Declarations (%) about knowledge of the PAE Utilization Plan

![Bar chart showing knowledge of PAE Utilization Plan]

**Disposal of residues in the PAE**

**Hypothesis 3:** Better care on the part of certified community producers with respect to garbage and sewer disposal.

The adequate disposal of residues in rural areas is a quite complex problem in Brazil. This situation is not different in the State of Acre, where there is great difficulty in getting to rural areas.

After the certification of the association, there was a marked improvement on how garbage is disposed of; there was a decrease in the amounts of garbage disposed of in
the outdoors, with the gradual adoption of alternatives less aggressive to the environment, such as burying and composting. In replying to one of the qualitative questions, 30% of the certified producers declared that, after certification, they were being more careful about the ways garbage was disposed of.

The most probable explanation for this improved behavior is certification requirements and standards. Figure 7 shows data on this change.

**Figure 10: Declaration (%) on improved disposal of home garbage after certification**

After certification, a decrease in the amount of effluents disposed of outdoors and an increase in the construction of rudimentary septic tanks were also observed (Figure 11).
**Utilization of fire**

**Hypothesis 4:** Better control on the use of fire by certified community producers.

The use of fire to clear forest land for agriculture (locally known as “brocar” = to bore) was found to be practiced by all community producers of the PAEs studied (Figure 9). However, the results showed that impacts from this practice are less serious in certified communities as compared to control communities. While most of the community producers of the control group informed that they used this practice for “mata bruta” (primary forests) and for secondary forest (capoeira), at the same ratio, i.e. 50:50 for each of forest, certified producers tend to use this practice more often (70%) with secondary forests (capoeira). It is worth mentioning that the use of fire was not identified by certified producers.

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9 “Mata bruta”: Forest in a primary stage of conservation
“Capoeira”: Forest in a secondary stage of conservation
producers as a normal practice in the Management Unities (MUs). During the interviews they declared that fire occurrence was limited to other areas of the PAE.

This result shows that certified community producers have a better awareness of the importance of preserving forests that are in a better state of conservation.

**Figure 12: Declaration on the use of fire by certified producers and producers of the control group**

![Bar chart showing use of fire in certified and non-certified communities.]

**Figure 13: Use of fires in primary forest and secondary forest**

![Images showing primary and secondary forest with and without fire.]  

**Measures to protect wildlife**

**Hypothesis 5:** Measures to protect wildlife are enforced in certified communities, while they do not exist in communities of the control group.
As already mentioned, hunting is part of food culture of communities in the State of Acre. Therefore, hunting is a common habit and it is practiced by certified and non-certified associations. However, a statistically significant difference was found between the certified group and the control group when special measures to protect wildlife during hunting activities were considered.

Among certified producers, 87% declared that they use measures to protect wildlife, as compared to only 44% of the control group (Figure 14). Measures cited by members of the control group were: i) only hunt what is necessary for feeding their families, and ii) never hunt with the help of dogs. Certified producers declared that, in addition to these two measures, they had others that were more comprehensive, such as following a hunting calendar, not killing animals with babies, and preserving trees that supply food to the animals.

**Figure 14: Declaration (%) on the use of measures to protect wildlife**
**Charges related to environmental crimes**

**Hypothesis 6:** Better environmental awareness on the part of certified community producers, as indicated by a larger number of charges related to environmental crimes occurring in PAEs.

The certified producers declared that they expose environmental crimes much more often than producers of the control group (Figure 15). This statistically significant difference may be interpreted as a greater concern and interest on the part of certified producers in preserving the forest.

**Figure 15: Declaration (%) on the exposure of environmental crimes among certified and control group producers**

Social Impacts

**Negotiation and Participation**
Community producers were asked whether they agreed or not with decisions made by the association on various issues, such as assignment of tasks and positions within the association, and purchasing of materials and equipment. Data presented in Table 11 show the percentage of producers that did not agree with any decision, agreed with only one, with two or with three (full agreement) decisions of the association. The data are segregated between certified community producers and producers of the control group; there is no statistically significant difference between the results of the two groups.

Table 11 – Declaration from certified and non certified producers on agreement with association decisions

<table>
<thead>
<tr>
<th></th>
<th>Agrees with zero item</th>
<th>Agrees with one item</th>
<th>Agrees with two items</th>
<th>Agrees with three items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified group</td>
<td>6%</td>
<td>7%</td>
<td>29%</td>
<td>58%</td>
</tr>
<tr>
<td>Control group</td>
<td>10%</td>
<td>20%</td>
<td>40%</td>
<td>30%</td>
</tr>
</tbody>
</table>

The results show that both, certified community producers as well as producers of the control group, equally agree with the decisions of the association on issues related to assignment of tasks and positions, and purchasing of materials and equipment.
It is interesting to note the participation of the association members in these decisions. This participation is quite expressive in all activities for both groups, certified and non-certified producers. For example, the percentage of certified community producers that declared that the majority of the association members takes part in these decisions was 100% in two items and 70% in another, whereas producers of the control group the percentages were 100% in one of the items and 83% in the other two.

For activities related to certification, Table 12 shows the percentage of certified community producers that declared to agree with the decisions taken by the association. This table also shows their participation in the decision making process, as expressed by the percentage of those declaring that the majority of members participated in each decision of the association. The observation on agreement/disagreement and participation aspects of community producers, with respect to decisions and suggestions made during association meetings, had the objective of evaluating not only their participation level, but also the participative nature of the decisions made by the association.
Table 12 – Declaration on agreement and participation on activities related to certification

<table>
<thead>
<tr>
<th>Activities related to certification</th>
<th>Members’ agreement</th>
<th>Participation in the decision making process</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agrees</td>
<td>Disagrees</td>
</tr>
<tr>
<td>Proposals from outside institutions</td>
<td>71%</td>
<td>26%</td>
</tr>
<tr>
<td>Acceptance of new members</td>
<td>71%</td>
<td>3%</td>
</tr>
<tr>
<td>Resignation of members from the certified group</td>
<td>55%</td>
<td>3%</td>
</tr>
<tr>
<td>Commercialization of certified products</td>
<td>77%</td>
<td>13%</td>
</tr>
<tr>
<td>Penalties for not complying with certification standards and rules</td>
<td>84%</td>
<td>0</td>
</tr>
<tr>
<td>How to comply with corrective actions imposed by certification</td>
<td>84%</td>
<td>0</td>
</tr>
<tr>
<td>Assignment of tasks within the certified group</td>
<td>77%</td>
<td>13%</td>
</tr>
</tbody>
</table>
The data presented by this table show that there were discussion on subjects related to certification. More than half of the community producers agreed with the decision made in all items. However, producers were able to confirm that they had agreed or not with some of those decisions. The data also show that the participation of association members is quite expressive in issues related to certification and less expressive in decisions about resignation of members from the certified group, with 94.12% declaring that the decision was made by the majority of the producers.

**Training and Capacity Building on Safety at the Workplace:**

The topics addressed by the questions related to training and capacity building on safety at the workplace of community producers were the following: accident prevention, first aid, health and safety, and use of Personal Protection Equipment (PPE). Producers were asked whether they had attended a course in one of these subjects, the organizing institution, total duration of the course (hours), and when it was taught, whether before or after the association certification. There was a significant difference between the numbers of members of the two groups, certified and control, that had attended some course or training program on safety at the workplace: 35.48% of the certified producers had already participated in this kind of event, as compared with only 9.09% of the control group.
This remarkable difference is probably due to the fact that certification strongly supports this type of training program as a consequence of the requirements of FSC standards, which impose compliance with laws and regulations related to health and work safety.

As for the time when these courses were carried out, 16.13% declared that they happened at the beginning of the certification process, 12.9% after certification and the remaining (6.4%) informed that these courses were offered before and after certification.
9.3. Actions External to Socioenvironmental Certification

Table 13 shows the results of changes (economic, environmental and social) that occurred as a consequence of the socioenvironmental certification and it also shows items that remained unchanged after certification of the associations. In addition, it presents the expectations held by community producers before the certification process.

Table 13 – Declaration on the changes, similarities, and expectations of community producers about certification

<table>
<thead>
<tr>
<th>Environmental</th>
<th>What changed</th>
<th>What did not change</th>
<th>Changes expected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Knowledge about the Management Plan</td>
<td>Awareness about the importance of the forest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge about the Utilization Plan</td>
<td>Occurrence of degradation factors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compliance with AOP prescriptions</td>
<td>Number of heads of cattle in the PAEs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Better care in the disposal of garbage and sewer</td>
<td>Instructions about areas protected by law</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Awareness about the use of fire</td>
<td></td>
<td>Technical assistance for the CFM</td>
</tr>
<tr>
<td></td>
<td>Measures to protect wildlife (hunting)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposing environmental crimes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The environmental data presented in the following paragraphs address issues that had similar characteristics for the certified group and for the control group. Probably the main reason for these similarities is the strong support received by CFM in the State of Acre from government, NGOs and international institutions, or maybe, the history of the struggle sustained by rubber tappers in search of a better life, which often converged into social movements and community-based organizations with strong representation and effective performance. This support, either from outside organizations or from the community itself, in a way neutralizes the potential effects of certification.
There was no statistically significant difference between the two groups with respect to environmental issues, such as awareness of the importance of forest resources, occurrence of degradation factors (deforestation, fire, left garbage, lack of trees around water springs, and illegal logging), number of cattle in the PAEs, degree of instruction about areas protected by law, and CFM technical assistance. Therefore, these aspects were considered outside the environmental impacts brought about by certification.

For social aspects, the results appeared in the following items: participation in association meetings, work in the management unity, production records, training and capacity building, utilization of Personal Protection Equipment (PPE), and existence of land rights conflicts.

The following paragraphs present the social and environmental aspects for which there was no difference in the results obtained for the certified group and for the control group.

Environmental Aspects

*Issues related to environmental preservation*

**Hypothesis 7:** Fewer occurrences of degradation factors in PAEs of certified associations.

Most of the community producers of the certified group (90%) and of the control group (87%) declared that they do
not want to replace the forest in order to practice any other type of activity different than their current ones. However, it was possible to observe the occurrence of many degradation factors that affect the forests within the PAEs, not only in the areas controlled by the association, but also outside these areas.

When asked about these degradation factors, such as deforestation, fire, lack of trees around streams and water springs, and illegal logging, community producers of the certified group and of the control group informed that these factors are present in the PAE (Table 14), but emphasized that they are not found inside the Management Units.

In reply to a qualitative question, only 3% of certified community producers declared that there was a decrease in forest fires after certification.
Table 14 - Declaration about the occurrence of some degradation factors in the PAEs

<table>
<thead>
<tr>
<th>(%)</th>
<th>Deforestation</th>
<th>Fire</th>
<th>Garbage</th>
<th>Riverside without trees</th>
<th>Illegal Logging</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>NC</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Yes</td>
<td>77</td>
<td>90</td>
<td>77</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>No</td>
<td>16</td>
<td>0</td>
<td>23</td>
<td>21</td>
<td>28</td>
</tr>
<tr>
<td>Doesn’t know</td>
<td>7</td>
<td>10</td>
<td>3</td>
<td>7</td>
<td>21</td>
</tr>
</tbody>
</table>

*C: Certified Community Producer
** NC: Control Community Producer
Although most of community producers of the certified and of the control group declared that there were degradation factors inside the PAEs, with the exception of Management Unities, the negative answers appeared only among certified producers (the exception being “riverside without trees”). This fact may indicate that, when interviewed, the certified producers were induced to give the “right answer”, i. e., they gave the answer that was more adequate according to the environmental requirement or restriction implicit in the question put to them. This being the case, it shows that the certified producers had a better knowledge about environmental legislation and about the PAE Utilization Plan, as compared to producers from the control group. Another hypothesis is that certified producers were following the environmental standards established by the FSC certification in order to consolidate the certification process, therefore contributing to improve the knowledge of members of the association bout environmental issues and the impacts generated by certification. So, this was a positive influence of certification, with certified producers becoming more aware of environmental issues.

It is worth mentioning that the PAEs areas are quite large and that only a few settlers practiced CFM, which made enforcement of environmental regulations by IBAMA quite deficient. Another important fact is that in one of the PAEs there were two associations, one certified and the other one belonging to the control group.
**Number of heads of cattle owned by community producers**

**Hypothesis 8:** Smaller herds of cattle per unit area in PAEs of certified associations.

The number of heads of cattle per community producer may be related to the presence of grazing areas in the land unit of the settlement, since these animals are raised in the open field. The data presented in Table 10 show that there was no significant difference between the number of cows owned by certified and control community producers.

This result does not indicate a decrease or increase in ranching activities as a consequence of certification. Therefore, once more, it negates the theory that CFM indirectly encourages cattle purchases and clearing of new areas (increase in deforestation) to turn them into pasture.

A significant percentage of community producers had more than 30 heads of cattle (31% for certified producers and 25% for producers of the control group). This finding indicates that ranching is a well consolidated activity within the PAEs, which can lead to further losses of the natural resources of those settlement areas.

**Table 15 – Declaration about the number of heads of cattle owned by certified producers and producers of the control group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Zero</th>
<th>1-10</th>
<th>11-20</th>
<th>21-30</th>
<th>More than 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified</td>
<td>0</td>
<td>34%</td>
<td>21%</td>
<td>14%</td>
<td>31%</td>
</tr>
</tbody>
</table>
**Hunting**

The Brazilian Wildlife Protection Law prohibits hunting in the entire national territory, considering hunting an environmental crime with no possibility of posting bail. However, in case of necessity, killing wildlife for subsistence purposes is tolerated. This is the case of the communities living in the Agroextractive Settlement Projects (PAEs).

Hunting became a generalized practice in the PAEs, within the Management Unities (MUs) and also outside them. Practically all certified community producers (92%) and producers of the control group (100%) declared that they hunted wildlife, since this is part of their subsistence and food culture.

**Areas protected by law**

**Hypothesis 9:** Better knowledge on the part of certified community producers about the Forest Law (Forest Code), mainly with respect to Legal Reserves (RL) and Permanent Protection Areas (PPA).

In this study, areas protected by law mean Permanent Protection Areas (PPAs) and the Legal Reserves (LRs) that exist in the settlements surveyed. Most of the certified producers (58%) and producers of the control group (60%) declared that they knew about the existence of areas protected by law within the PAEs; there was no statistically significant difference between the two groups. When asked
about the names given to these areas, both certified and control group producers mentioned a wide range of names, including PPA, management area, clay mines (“barreiro”), margins of water courses (“igarapés), water springs etc., which means that they did not have a clear idea of the nomenclature of these environmental protection areas.

**Technical assistance in CFM**

Forest management for wood production is an activity that requires professional qualification of those practicing it. Differently from other rural activities in Brazil, where no significant technical assistance is provided to the farm laborer and his family, the agroextractive communities surveyed in this study received ample technical assistance coverage.

All certified producers and all producers of the control group declared that their associations received technical assistance in CFM. In addition, all certified producers declared that they had received technical assistance before and after the socioenvironmental certification of their operations.

However, when the issue of incentives for producing a wider range of forest products was discussed, 90% of the certified producers declared that such incentives were part of the technical assistance provided, as compared with only 60% of the producers of the control group. This difference is statistically significant.
Despite the fact that incentives to diversify the use of other products from the forest were not seen as a significant economic gain, in the future they may bring additional income to community producers. This reason for this statement is that there many companies and research institutions have invested in the exploitation of non-timber forest products and many of them have already used local manpower to carry out management of these potential species. Therefore, this may be an economic impact to evolve in the long run.

With regard to this issue, 94% of the certified producers declared that before certification there was incentive on the part of the technical assistance towards the production of a wider range of products and, after the socioenvironmental certification, 100% expressed the same opinion.

When asked about the quality of the technical assistance – good, average or bad, before and after certification, the majority of the certified producers said they had technical assistance of good quality both before (82%) and after (69%). On the other hand, there was no statistically significant difference between the quality of the technical assistance received by certified community producers as compared to that received by producers of the control group (Table 16).

Table 16 – Declaration about the quality of the technical assistance provided to certified producers and producers of the control group
## Social aspects

**Participation in association meetings**

Certified producers and producers of the control group took part in the meetings of their respective associations. The percentage of certified producers declaring that they participated in meetings was 97%; for the control group this percentage was 90%.

**Work in the Management Unity**

There was 100% participation of certified producers and producers of the control group in management activities. However, it is important to know the degree of specialization of this type of work. Activities such as “trail opening”, i.e., clearing the access for carrying out inventory of areas under management, were not considered specialized work. In contrast, botanical identification of species, use of compass and directional felling were considered specialized work.

Figure 13 shows that the proportion of specialized work within the certified communities as compared to that of non certified communities is quite similar. There are no statistically significant difference between certified and non certified producers; in both groups half of the manpower was considered specialized and half not.
It is important to note that CFM requires the constant participation of many other types of specialized work - such as the preparation of the Annual Operational Plan (AOP) and recording productivity and tracking, that are still performed by outside agents. By law, some of these activities are required to have the assistance of forestry professionals.

**Production records**

The involvement of community producers in recording productivity, production costs and tracking (numbering the trees in the various stands) was very low. Despite the fact that 100% of the community producers were aware that
these activities were taking place, they were not responsible for their organization or for registering them (Table 12). This was true for certified producers and producers of the control group as well.

Table 17 – Declaration about production organization and registering on the part of community producers

<table>
<thead>
<tr>
<th>Activity</th>
<th>Organization and registering carried out by the community producer himself</th>
<th>Organization and registering carried out by other agents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Certified</td>
<td>Control</td>
</tr>
<tr>
<td>Harvesting productivity (%)</td>
<td>11%</td>
<td>0%</td>
</tr>
<tr>
<td>Production costs (%)</td>
<td>12%</td>
<td>25%</td>
</tr>
<tr>
<td>Tracking (%)</td>
<td>12%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Training and capacity building**

Hypothesis 10: Increased number of short courses and other training activities after certification.

Among certified producers, there was no statistically significant difference between their participation in short courses and training programs before (56%) and after certification (44%). The research team in charge of this study came to the conclusion that this fact is due to the strong role played by government agents and NGOs representatives in providing training and capacity building to
communities before the certification process. On the other hand, the data gathered during the interviews show that 45% of the certified producers never received any training, either before or after certification occurred. For the remaining 55%, there was an increase for 16% of the certified producers, which represented those that had already received some type of training before. For 39% of the community producers there was a decrease in participation in training courses.

**Figure 17: Workshop on forest inventory organized by CTA in Porto Dias PAE**

![Workshop Images]

**Safety at the work place:**

According to the report “Social aspects in agriculture and forest certification standards” (“Aspectos sociais nos padrões de certificação florestal e agrícola” - IMAFLORA, 2005):

“...for FSC standards, what guides the assessment of health and safety aspects is the declaration that ‘forest
management must meet or exceed all applicable laws and/or regulations related to the health and safety of workers and their family members”.

This criterion is presented with a series of indicators related to health programs, availability of health and nutrition professionals, medical exams, housing/camp conditions, potable water, hygiene conditions, PPE utilization, records of work accidents, training programs and others.

In this study two aspects related to work safety were analyzed by collecting data on training and capacity building in safety at the work place and in the utilization of Personal Protection Equipment (PPE).

The item “training and capacity building in work safety” was addressed in the results related to “Impact of Socioenvironmental Certification”, since they showed statistically significant differences between certified producers and control group producers with respect to this subject.

**Utilization of Personal Protection Equipment (PPE)**

**Hypothesis 11:** More regular use of Personal Protection Equipment (PPE) among certified community producers.

According to the Regulatory Standard 06 (NR 06) approved by Administrative Decree Nº 25/2001, “Personal Protection Equipment (PPE) is any product or instrument to be used individually by the worker in order to protect him
from risks that could threaten health and safety at the work place".

All (100%) certified producers and producers of the control group declared that they used PPE in management activities. Most of the certified producers (71%) informed that they started using PPE before the association underwent the certification process. In a question of qualitative nature, only 3% of the certified producers indicated that workers benefited from increased safety in areas under management after certification. These data show once more the importance of outside agents, before certification took place, on the adoption of management practices and on the behavior of community producers.

**Presence of land rights conflicts**

Conflicts in land use and property rights occurred in certified producers’ associations and associations of producers of the control group as well. The percentage of certified producers that informed about the existence of land rights conflicts was 51.6% and for the control group this figure was 60%. Conflicts were mainly related to disputes within families, between neighbors, and also to the sale of land parcels.

The history of the occupation of PAEs probably offers a partial explanation for the existence of such conflicts. Before the creation of PAEs, the areas or were divided by rubber tapping trails, as rubber was the main product obtained from the forest at that time. There was no need for establishing
exact limits for these areas, since the owner was only interested in the production of latex. As conditions changed, the number of rubber trees became less important and the size of the land parcels became a factor in setting their monetary value. That is when the lack of definite property limits became a source of conflicts.

9.4. Economic Impacts

**Hypothesis 12:** More value added and better acceptance of certified wood in comparison with conventional wood.

For the majority of producers interviewed, there was not a clear perception of data related to CFM, such as volume of the wood harvested, cost and income from wood sales. In the associations that were part of COOPERFLORESTA (all of them certified, except for AMARCA), a percentage of the income was invested in the cooperative, but not all associates had a clear understanding of the amount and reasons for such an investment.

Due to difficulties in the contract with a local timber company, the AMARCA association was not able to sell all the wood it had produced; therefore, the community producers did not know how much money they would receive for the logs they had harvested.

As already mentioned, the control group associations also faced problems in the commercialization of the wood coming from CFM. For example, the producers of the São José Association informed about the volumes produced and
about the money from wood sales, but did not have any knowledge about production costs.

At the Vicente de Melo Association, the timber company that had bought the wood did not fulfill its contract obligations and only a few producers received part of the funds. At the time this study was being made, the community producers were negotiating with the timber company.

Due to administration problems and difficulties in wood commercialization described in the previous paragraphs, data collection for the analysis of the economic impacts of certification was quite unsatisfactory. However, it was possible to sense a high degree of discontentment among certified producers with respect to the commercialization of the wood and the financial return of CFM.

In a qualitative analysis, 50% of the certified community producers declared that they were unhappy with the difficulties in accessing the market for certified products and 33% declared that there was no price differential for certified wood. On the other hand, 36% declared that, although there was no difference in price, there was a better acceptance of certified wood on the part of consumers.

The comparison between the certified group and the control group becomes even more difficult when further processing of the wood is considered. In some associations the wood was sold as logs, whereas in others the logs were sawn into lumber and then sold at better prices than in the log form.
The NGOs and government agencies involved were not able to come up with detailed data on the economic aspects of CFM. Table 13 shows average data for the 2005/2006 harvest of the certified associations that were part of COOPERFLORESTA (AMPPAE CM, Seringal Equador e Porto Dias).

**Table 18 – Statistics for the 2005/2006 log harvest by members of the COOPERFLORESTA cooperative**

<table>
<thead>
<tr>
<th>Figures for the 2005/2006 log harvest</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total volume produced</td>
<td>1789.9 m$^3$</td>
</tr>
<tr>
<td>Average volume removed /manager</td>
<td>57 m$^3$</td>
</tr>
<tr>
<td>Government subsidized cost /m$^3$</td>
<td>R$ 34,59</td>
</tr>
<tr>
<td>Cost paid by managers / m$^3$</td>
<td>R$ 5,00</td>
</tr>
<tr>
<td>Loss</td>
<td>16.1%</td>
</tr>
<tr>
<td>Average price/ m$^3$</td>
<td>R$ 168,68</td>
</tr>
<tr>
<td>Average income /manager</td>
<td>R$ 7827,67</td>
</tr>
</tbody>
</table>

Table 18 does not include environmental licensing costs, since COOPERFLORESTA did not have access to them.

According to COOPERFLORESTA, the 2006/2007 harvest was affected by operational flaws and administration problems in activities related to zoning, forest inventory and AOP subcontracted to COOTAF. This cooperative was not able to comply with its obligations specified in the contract signed with COOPERFLORESTA, due to serious structural and technical problems described in the report entitled “COOTAF Situation Diagnostic” (LOPES, 2007).
In addition to the problems of the work subcontracted with COOTAF, according to COOPERFLORESTA the 2006/2007 harvest had innumerous other difficulties. The yields obtained in the conversion of logs into lumber by FUNTAC were lower than expected and the real sawing cost reached more than 100% of what had been expected. Similarly, administrative costs soared due to fact that they had been estimated for a much larger production. The data provided by COOPERFLORESTA for the 2006/2007 harvest are presented in Table 19.

Table 19 – Cost figures for the 2005/2006 log harvest and sawnwood produced by members of the COOPERFLORESTA cooperative

<table>
<thead>
<tr>
<th>Figures for the 2006/2007 harvest</th>
<th>Logs</th>
<th>Sawnwood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total volume produced</td>
<td>1158,1 m³</td>
<td></td>
</tr>
<tr>
<td>Freight cost/m³</td>
<td>R$ 25,00</td>
<td>R$ 61,50</td>
</tr>
<tr>
<td>Sawing cost /m³</td>
<td>-</td>
<td>R$ 122,50</td>
</tr>
<tr>
<td>Taxes /m³</td>
<td>R$ 42,17</td>
<td>R$ 68,21</td>
</tr>
<tr>
<td>Administrative costs /m³</td>
<td>R$ 295,49</td>
<td>R$ 295,49</td>
</tr>
<tr>
<td>Total cost /m³</td>
<td>R$ 362,66</td>
<td>R$ 547,70</td>
</tr>
<tr>
<td>Sales’ price /m³</td>
<td>R$ 168,68</td>
<td>R$ 341,06</td>
</tr>
<tr>
<td>Economic result /m³</td>
<td>R$ (193,98)</td>
<td>R$ (206,64)</td>
</tr>
</tbody>
</table>

Table 19 shows an average loss of R$ 193.98 per cubic meter of log and of R$ 206.64 for Sawnwood. However, 100% of the administrative costs and 75% of the cost of converting logs into lumber were subsidized by a contract
signed with WWF. As a result of this financial cooperation, the average amount received by each community producer was R$101,51 per cubic meter of wood sold in log form, and R$180.72 per cubic meter of sawnwood.

The data presented above underline again the strong presence and support, including financial support, of outside organizations. In this specific case, the comment is valid for the certified associations that were members of the COOPERFLORESTA.
10. Conclusions

Forest management for wood production turned out to be quite costly, from a financial and operational point of view. In addition, they require a high degree of technical capability of the professionals involved in various activities, such as forest inventory, felling techniques, harvest and skidding planning, botanical identification of species, and many others. The associations surveyed did not have the operational capacity and the technical structure to provide assistance on their own to forest management activities, without the help of outside institutions.

The results of this Socioenvironmental Forest Certification Impact Assessment Study show that the impact generated by FSC certification actions in the agroextractive communities of the State of Acre was low. This reduced impact of certification is due to the pool of institutions, government agencies, and public policies influencing CFM in the state, very often carrying out activities that produce effects similar to those that are the objective of certification. The global result of these actions reduced the direct effects of certification when analyzed in a study of Impact Assessment, since they produced similar effects to those expected on the certified group and on population outside certification, i.e., on the control population. However, it is assumed that it is probable that certification may have had a positive effect on the duplication of initiatives and institutions involving support and promotion of community forest
management. The reason for this statement is that the effect of certification was not restricted to a local, isolated action with certified communities, but certification also resulted in a chain effect that stirred up discussions and offered suggestions on new guidelines for the sustainability of community forest management in many other fora.

Despite the weak expression of the direct effects of certification vis-à-vis the hypotheses related to the FSC principles and criteria mentioned in this study, some positive changes with respect to environmental issues could be observed, such as: the degree of instruction in relation to the Management Plan and to the PAE Utilization Plan, compliance with the activities prescribed in the Annual Operational Plan, disposal of residues (garbage and sewer), awareness of the use of fire, measures to protect wildlife (hunting) and degree of involvement in exposing environmental crimes.

With respect to economic impacts, the quantitative analysis of the income received from wood sales was affected by the lack of data, on the part of the associations visited during the field survey, on wood sales and on the cost of forest management for wood production. Certified community producers showed a high degree of discontentment regarding commercialization activities and the economic returns of CFM. The main reasons for this dissatisfaction were the difficult access to markets for certified wood and the lack of value aggregation for certified wood. On the other hand, a significant number of
community producers declared that, despite the fact the certified wood did not fetch higher prices, consumers showed better acceptance of certified as compared to non certified.

At the time this research was carried out, the certified communities were experiencing an adaptation phase to new procedures related to the commercialization of wood, due to the centralization of sales activities by COOPERFLORESTA, a cooperative organization. Therefore, we believe that part of the discontentment of community producers in relation to forest management for wood production were caused by this transition period, which was characterized by operational flaws and deficient administration of CFM work. In addition, the cooperative was using financial and human resources to implement structural changes to better carry out its tasks related to the commercialization of certified wood.

Finally, it is recognized that the results of this study could have been influenced by seasonal effects, since there was no repetition in data collection. In impact assessment studies such as this, it is usual to adopt panels whereby the collection of field data is carried out in three different moments in order to minimize transitional effects. Therefore further data collection is recommended to ensure the results.
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