Project Report

“Commercialization of Non-Timber Forest Products (NTFP) at the lower Rio Madeira”

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Executive Summary

The dramatic deforestation of the Amazon rainforest is a threat to the existing biodiversity and the global climate. The international demand for soy, beef, and timber, as well as land speculations in Brazil and local politics are drivers of this process. NTFP commercialization is seen as an opportunity for local development which does not threaten the environment. In fact, making NTFP more valuable in terms of trade can help to preserve the rainforest and reduce poverty within the local communities.

There are many obstacles for a community's producer to take part in NTFP trade. The main barrier is the missing information about potential markets and the capacity to act upon them. The task of the team was to support a group of producers in the state of Rondônia, Brazil, to overcome these barriers by researching the relevant market and developing skills on the community level. Both activities together were expected to help closing the gap between the community's producer and markets.

The team researched potential NTFP for commercialization and developed a tool to identify the most promising products in terms of economic value, compatibility with the environment, and the traditional life in the communities. Focusing on four products, market research was conducted on the local, national and international level to learn about barriers and business opportunities. Relevant topics such as certification and funding for future capacity building were addressed as well. Information was compiled to perform a value chain analysis of these products to assess potential business partners in different markets.

The team travelled to the producers in Rondônia to identify entrepreneurs who would support the commercialization process as well as to familiarize with the reality in the communities. Workshops about production, organization, financial planning, and business structure were conducted to develop skills. The production process was commenced, as was trade on the local level. Throughout the project the producers were put in contact to companies trading with NTFP in order to give them first hand experience.

With a clear image of NTFP markets and the capabilities of the producers, the team summarized this information in a step-by-step guideline for successful commercialization. This guideline provides direction for future development work by the partner NGO in targeting issues crucial for a continuous process of commercialization. Throughout the project, all research and decision making was documented, keeping in mind the fact that markets are dynamic, requiring continuous updating. The methodology of value chain

analysis as it is used in this project can be transferred to future projects which involve NTFP commercialization. Today the communities trade independently with feasible business partners on local, national, and international markets. The team was able to remove some constraints, thereby empowering producers to take their first steps toward successful commercialization. Remaining obstacles are addressed in this report, indicating challenges for future development work.

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Contents

1 Introduction

This first chapter provides some basic information about the team that carried out this project as well as the project partners. For more general information about the organization of Global Engineering Teams (GET), the course within the project was conducted, please visit the homepage[1]. Furthermore this chapter provides an overview of the situation in the Amazon rainforest in general and the communities where the project's partner-organisation focuses its activities on.

1.1 Team

As all GET teams, the team consists out of international students. The partner of this project was a Brazilian non-governmental organization which works in the field of local development in the Amazon rainforest.

1.1.1 GET-Team and supervisors

The team for this project was composed of four students of industrial engineering, two of whom were from Germany and two from Brazil. Although the students have similar academic backgrounds, their different skills and interests led to the development of main competencies and responsibilities in the project.

Eiko van Hettinga
Technical University Berlin
Main competency:
Controlling of market research

Peter Asmussen
Technical University Berlin
Main Competency:
Project management

Rodrigo M. K. Tomiyasu
University of São Paulo
Main Competency:
Negotiations with potential business partners

Silvio E. A. Candido
Federal University of São Carlos
Main Competency:
Relations to community's producer

[1] www.global-engineering-teams.org

Figure 1.11: Participating students

Language skills played a major role in the distribution of work packages. In particular, the market research, along with the primary data gathering, had to be carried out by native language speakers. This led to a shift of responsibilities during the project depending on the specific project phase. Therefore it was necessary to exchange experience and knowledge. The team worked together on a daily basis, which made all activities more or less transparent to the rest of the group. The team planned a weekly meeting with its supervisor o present the progress of work and to give feedback to the team. Each team member gave feedback to the others to prevent conflicts from occurring and to encourage the improvement of performance.

Two supervisors who are members of the project partner NAPRA (see below) supported the team's work by providing information about the producer's situation, the rainforest context and previously conducted projects. Both supervisors are working in the field of community development, a valuable asset when choosing how to approach community members to promote their participation in the project.

Jeferson Straatmann
Master in Industrial Engineering
NAPRA member

Marcelo Salazar
Master in Industrial Engineering
NAPRA Vice President

Figure 1.22: The project’s supervisor and partner

1.1.2 Project Partner

Napra (Núcleo de Apoio à População Ribeirinha da Amazônia), an organization for the support of riverside communities in the Amazon rainforest, began its activities in 1995 and became an independent non-profit organization in 2003.

Figure 1.33: Logo of Napra

Napra's mission is to support and strengthen riverside communities situated in isolated areas of the Amazon rainforest, surrounded by legal conservation units. The organization is currently composed of 120 volunteers: professionals, undergraduate and post-graduate students of dentistry, medicine, pharmacy, physiotherapy, nursing, psychology, nutrition, biology, law, industrial engineering, environmental engineering, civil engineering, ecology and environmental management from more than 10 different Brazilian universities. The volunteers involved in the project learn about the needs of local communities and have the opportunity to apply their knowledge and skills in real-life situations.

Napra's main activities are in the field of education, health services, and income generation based on sustainable forestry management.

Some results obtained:

- More than 30 workshops were held in 15 different communities benefiting about 400 participants.
- Participation in the Management Council of the three conservation units in the region.
- Starting to install a mini-factory to process Brazil nut and handcrafts in São Carlos do Jamari in 2007.
- Community's members were always involved in the conception and prototype assembling so that they can disseminate the knowledge obtained.
- Installation of telemedicine centres in São Carlos do Jamari and Santa Catarina in 2005 and 2006.
- Partnerships with IBAMA (Brazilian Environmental Agency) and Porto Velho Departments of Education and Health.

Figure 1.44: Workshop in the communities; prototype nut cracker; telemedicine equipment

1.2 Situation in the communities along the lower Madeira River

Considering the increasing awareness of the necessity to preserve the environment while promoting the socioeconomic development of the poor regions worldwide, the attentions are focused on the Amazon rainforest more than ever before. According to INPA (Instituto de Pesquisas da Amazônia), approximately 16% of its area in Brazil is already deforested [13]. Greenpeace estimates that every eight seconds an area as big as a football field is deforested [8]. Deforestation has a complex dynamic in what soy beans, cattle, logging, mineral extraction and land speculation are considered to be the main causes in the Amazon rainforest. On the other hand, according to the United Nations about 44% of the population of the region was living in poverty in 2001 [23].

Forest communities are recognized by many academics and specialists as potential preservation agents. Their traditional knowledge allowed them to use the forest in a sustainable way for more than hundred years and they depend on the preservation of natural resources for surviving [2]. Many areas that were populated by these communities for centuries concentrate very high levels of biodiversity indeed [15].

1.2.1 History

The riverside communities at the lower Madeira River in Rondônia were founded in the first half of the 19th century during the rubber exploitation cycle and the construction of the Madeira-Marmoré railway to Porto Velho. Immigrants from other parts of Brazil who came to work were the first settlers. After Brazilian rubber was no longer competitive to synthetic rubber, rubber from other producing countries and the construction of the railway failed, these villages remained in the jungle since people had no money and no place to go.

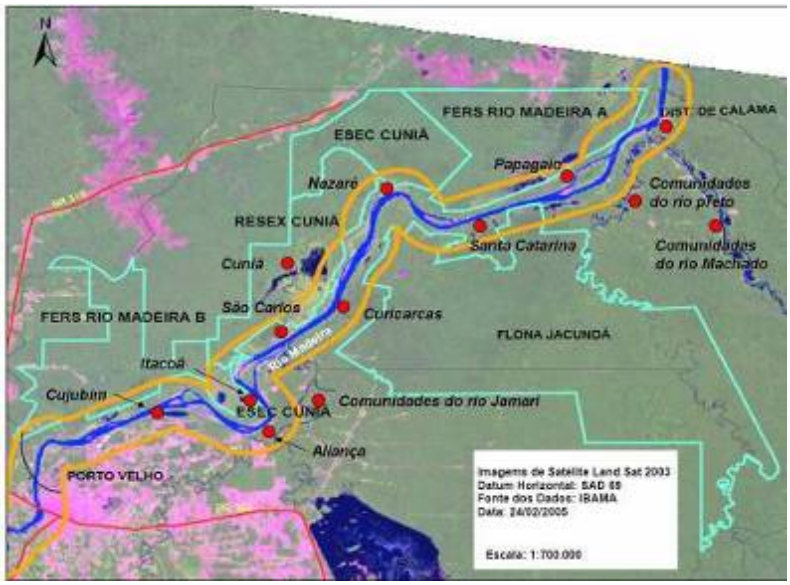


Figure 1.55: Main communities in the region and the conservation units.

The communities are spread along the Madeira River on a distance of about 200 kilometers as can be seen in Figure 1.55. They are considered to be the rural area of the states capital city, Porto Velho. The three main communities directly belong to the administration unit of Porto Velho: São Carlos do Jamari, Nazaré and Calama. The number of inhabitants in the communities varies among approximately 2,500 in Calama and 20 in the smallest communities. There are three environment conservation units in the area. Two of them are of sustainable use and the law allows communities to extract natural resources in a controlled way. The other one is classified as whole protection, and no one is allowed to reside there or to make use of the assets.

1.2.2 Public services

Infrastructure, health and education conditions differ enormously between the communities. São Carlos do Jamari (see Figure 1.66) and Calama are the ones that offer the best conditions of living in general. In both communities there is electricity 24 hours a day, water distribution system, drainage system in most of the houses, a health unit with doctors and dentists during three weekends of every month and public education up to high school. At other communities, like Curicacas and those at small feeder rivers to the Madeira, there is no electricity, water is taken straight from the river, no drainage system and no public services for health and education are available.

Figure 1.66: Panoramic view of São Carlos do Jamari.

Transportation and communication in the region are also important factors of the local context. To travel the 100 kilometers between Porto Velho and São Carlos do Jamari takes about seven to eight hours in a regular commercial boat. The boat schedules are very unreliable and there is a limited number of routes. To reach some more remote communities or to go harvesting forest products, it is necessary to walk inside of the forest, which is very risky because of the wildness of the environment and the difficulties to orientate. Walking in the jungle is also time-consuming because of the density of vegetation. Communication is difficult locally since only inhabitants of São Carlos do Jamari and Calama may have private telephones at home and frequently the land lines are out of order. Some of the other smaller communities have a public phone which are not reliable and sometimes spend weeks inoperative. In the case of the smaller communities, the only way to send a message for someone along the river or Porto Velho is via a commercial boat. An example for these boats and an example of a typical school in the region can be seen in Figure 1.77.

Figure 1.77: School at Cunia; typical commercial boat.

1.2.3 Economy

The communities' economy still depends a lot on subsistence activities. Agriculture and fishing are the most important sources to assure survival. In order to generate income, surplus production is commercialized. The main agricultural products in the region are manioc, banana, watermelon, beans and corn. Manioc is processed to flour, a basic ingredient for the riverside population's diet. Other important components of communities' livelihoods are NTFP. These function as a safety net for producers when crops fail to supply basic needs. Brazil nuts and açaí are today the main NTFP for the communities. Their commercialization is pulled by the huge demand in the surrounding urban areas. As well as fishing and agricultural products, NTFP are traded with local intermediates, which make the connection with the city markets. Due to the atomic market structure and almost no access to market information for the producers they obtain bad conditions for commercialization and low earnings out of it.

Main causes for these problems in commercialization can be identified. The lack of access to the market information and opportunities in the cities and at national and international level make it difficult to producers to go beyond the intermediaries at the harbor in Porto Velho. Also because of the limited information about the market demands, producers may not realize the opportunities to deal with products other than the commodities demanded by the local intermediates. As a result, despite of the vast availability of forest products with good market potential, the mass of producers limit themselves to deal with basically the same products. That makes the supply for these products very high and turns the price down. Another critical point is that the buyers are organized and cooperating with each other while the producers act

independently. In the harbor in Porto Velho it was identified that intermediates meet sometimes several times a day to set the price they are going to pay for the products. This makes them act like one big buyer and provides them the power to make negotiations with producer unnecessary. Producers' organization deficiencies also have an impact on the access of processing technology, since funding possibilities are limited for single producers. As a consequence, communities' products have a low level of value added, what impacts on the earning possibilities.

The problems with commercialization are one of the factors that lead to a lack of perspectives in the communities. This makes the communities more vulnerable to attempts from outside to use the forest for industrial agriculture and logging. Commercialization of NTFP is considered by specialists to be an efficient strategy to promote local development and conservation, since they can be explored in a sustainable way using the traditional knowledge from the communities [21]. This project intends to define the best way to make this happen at the lower Madeira River, analyzing market demands and communities' situation. It is also of great importance in the context of the region and corresponds to the first step for the establishment of a cycle of local development which is going to be supported by NAPRA.

In Figure 1.88 some pictures can be found that illustrate the current situation of producers of NTFP and subsistence agriculture at the region.

Figure 1.88: Harvest of Brazil Nuts; water melons being sold to an intermediary

2 Project

In the first week during the south phase the team, together with its supervisor, had a meeting to develop the scope of the project. The results of two previous academic projects – the design of a mini fabric for

processing NTFP on community level and the analysis of actor adaptations to constraints in informal NTFP-markets – were discussed and the team got an introduction into the work of NAPRA and its main competencies. One of the main topics addressed was the situation and the reality of the communities.

2.1 Scope of the Project

The customer and the team agreed on the following project scope:

Sustainable Commercialization of Non-Timber Forest Products at the Lower Rio Madeira

The main goal of the previous GET Project in 2006 was to upgrade the production possibilities by developing a mini-factory for the processing of Non-timber Forest Products for the communities at the lower Madeira River. As the successor project the goal of GET 2007 was to commercialize the harvested products. Like the first project in 2006 this was part of NAPRA's activities seeking new earning possibilities for the community members as well. The overall goal of this activity was to offer the community members new perspectives to improve their livelihoods and especially to show alternatives to conventional forest usages which oftentimes lead to deforestation or forest degrading.

Even if this project was clearly dealing with the communities at the lower Madeira River, the results can be transformed to other parts of the rainforest, not only in Brazil.

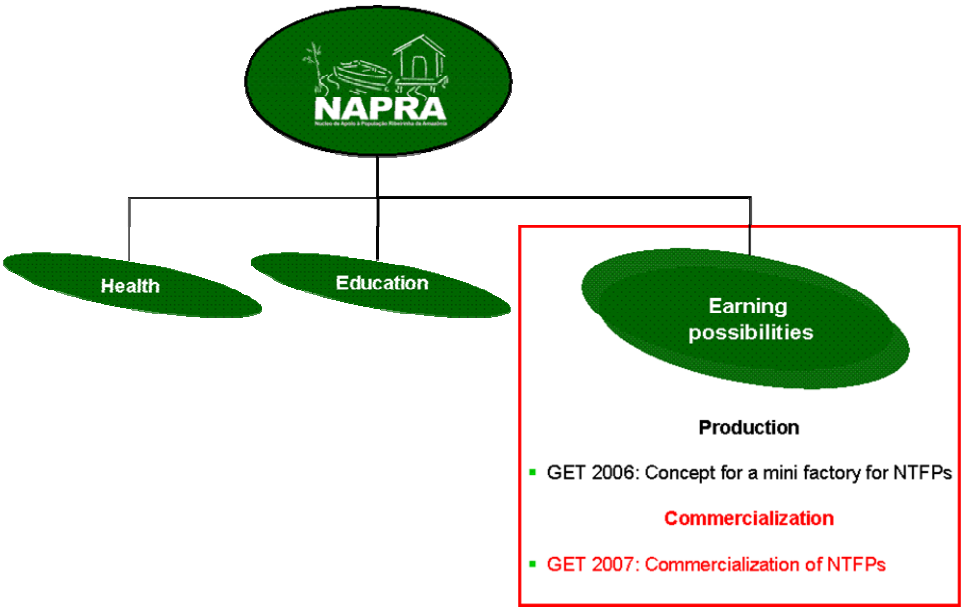


Figure 2.11: Global Engineering Teams role in the strategy of NAPRA

2.2 Commercialization of Non-Timber Forest Products (NTFP)

The use of NTFP as a sustainable harvest practice is proposed as a way to protect the environment and address the poverty issues that lead to conflicts in the area of tropical forests since many years [28]. The following chapter provides an overview over the aims of the attempts to commercialize NTFP and the obstacles that have to be faced.

2.2.1 Definition and significance of NTFP

Currently there are a number of definitions of NTFP discussed in literature. The Forest Stewardship Council currently defines NTFP as:

“All forest products except timber, including other materials obtained from trees such as resins and leaves, as well as any other plant and animal products.” [6]

This definition includes a wide range of products. At present there are about 150 NTFP which are significant in terms of international trade. While most are traded in rather small quantities, some products do reach substantial levels, such as honey, gum arabic, rattan, cork, forest nuts and mushrooms, essential oils, and pharmaceutical products [31].

These products have been used by communities living near or in forest areas before they were commercialized in other markets and the well-being of about 1.2 billion people who live in poverty depend on them. The main usage of NTFP has been summarized by recent research [18]:

- to meet daily subsistence needs
- to be a significant contribution to food security
- to be a source of building materials and medicine
- to be a source of cash income
- The main incentive of adding value to NTFP activities is making it an alternative to income activities like cattle breeding or growing soy beans which are considered to be the main drivers for deforestation in Brazil. Even though damage to the forest through overexploitation of NTFP can not be precluded and should be considered in the decision making for the commercialization process, it offers

substantial opportunities for sustainable usage of the forest. Making products from a healthy forest more valuable to the local stakeholders leads to effective protection for the forest itself.

Figure 2.22: NTFP Commercialization as starting point for sustainable development

2.2.2 Obstacles of NTFP trade

NTFP trade has a certain potential for poverty reduction which has not yet been fully realized. There are many obstacles that keep local harvesters, processors, and traders from getting a fair market price for their products. The riverside inhabitants have to overcome a variety of market barriers for successful commercialization. To overcome these barriers certain capacities have to be built in the communities. These include, but are not limited to transportation utilities, production facilities and business know-how.

Another aspect influencing successful commercialization is the local governance and policy environment in which participants in the market have to interact. Uncertainty about land tenure and environmental policy lead to great uncertainty for entrepreneurs and make long term investments exposed to a variety of threads.

A key barrier to successful commercialization is the lack of market information in the local communities. Missing market contacts and poor infrastructure are main constraints for harvesters, processors and traders to enhance their market position. Market information is also necessary to target external support and local investments effectively [18].

2.2.3 Successful commercialization

Most research in the field of NTFP development work is targeted at successful commercialization. To do so there has to be a clear idea of how success can be measured in this case. Successful commercialization cannot be summarized by a single variable and the community's perception has to be taken into account. Besides generating higher profits,the topics that have to be addressed are sustainability, legislation and the perspective of the local stakeholders.

The results of the CEPFOR project (Commercialization of NTFP in Mexico and Bolivia: Factors Influencing Success), a multidisciplinary research initiative involving partners from the UK, Mexico and Bolivia analyzing 16 NTFP value chains, indicate [18]:

- Success should not just be defined on the product level, but be defined taking into account the needs of the local people.
- Some traders of NTFP are mainly interested in high profits while others find compatibility with livelihood activities plays a major role.
- Single measures of success are not useful and there should be a variety of criteria taking into account social, environmental, and economic aspects at the same time
- Measures of success should be of both qualitative and quantitative nature

2.3 Project deliverables

The team together with the customer discussed the deliverables of the project. The customer pointed out that the main challenge for commercialization of products from riverside communities and non-timber forest products in specific is the lack of knowledge of the producers about the market. Closing this information gap was identified as one of the main goals of the project. Following these suggestions and taking the scope into account, the following deliverables were agreed upon:

- accumulate and structure information about NTFP markets
- make an approach of commercialization in practice
- generate a step-by-step guideline for the commercialization of NTFP
- Discuss key elements and requirements to specify the scope of the single deliverables.

2.3.1 Structured information about NTFP markets

The structured market information should include actors who deal on the local, national, and international market. The team should research both opportunities for and threats to local producers in these markets. Other key elements agreed upon include finding out about funding possibilities to finance future projects for capacity building, researching the relevance of new developments in the field of carbon credit trade, and structuring information about certification of products and production facilities. Other examples of commercialization should be analysed and documented. Initially there was no focus on certain products given. The request of the customer was to identify NTFP which have the biggest potential for successful commercialization.

2.3.2 Approach of commercialization in practice

One of the concerns of the customer was that the project should make a noticeable difference for the communities in terms of starting commercialization activities. The different actors, specified as processors, intermediaries, and other producers in the market should not just be an object of research but at the same time be treated like possible business partners. Opportunities discovered during the market research should be put into practice.

2.3.3 Step-by-Step Guideline for the commercialization

The key deliverable of the project agreed upon was a step-by-step guideline for successful commercialization. The customer made clear that this document should address the communities and should be simple to comprehend. The purpose is clearly to make commercialization happen in the communities.

2.4 Project planning

The rough planning of the project was done by the organization team of GET in cooperation with NAPRA. According to this planning, the team started to work in the first week of May in Sao Carlos, Brazil for nine weeks. On the fourth of July it travelled together with NAPRA's team to Rondônia, where it worked for four weeks ending on the second of August.

2.4.1 South Phase

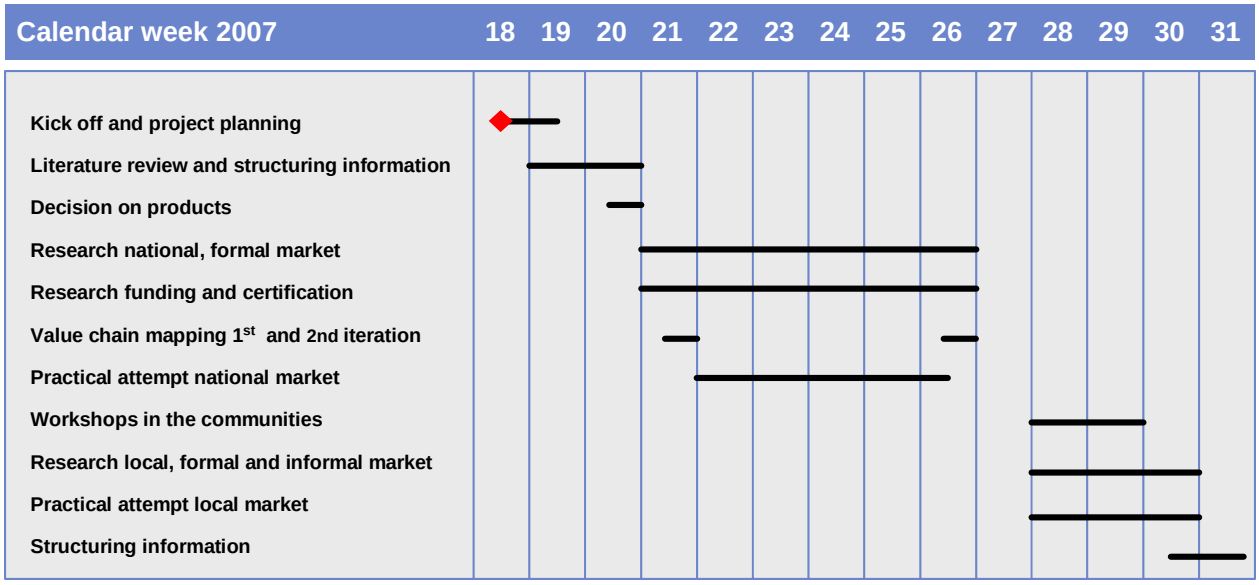


Figure 2.33: Project planning South Phase

After that the North Phase started on the thirteenth of August.

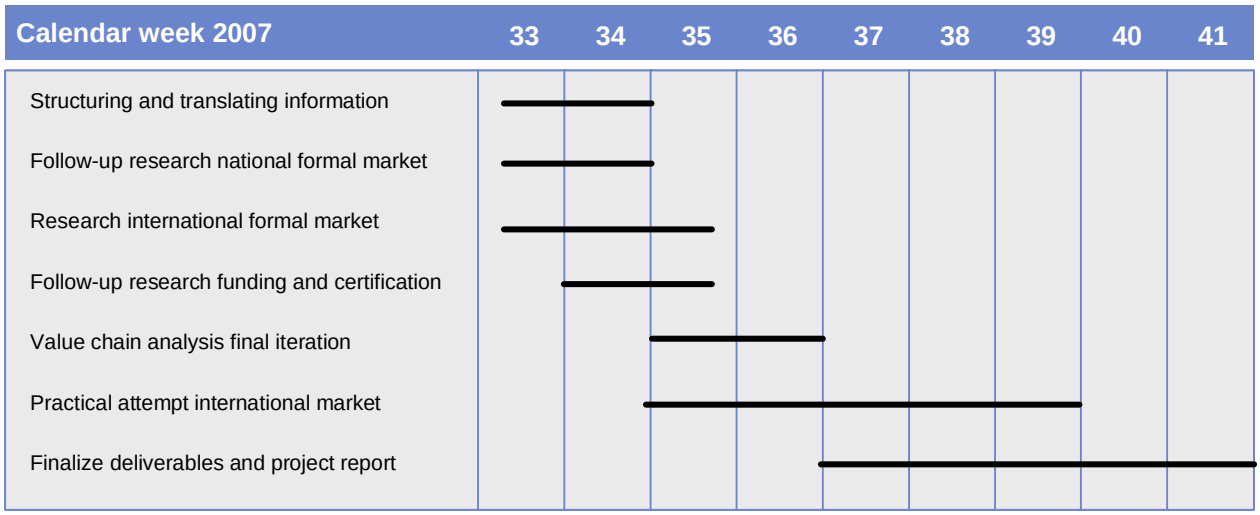


Figure 2.44: Project planning North Phase

The detailed steps accomplished during these phases can be found in Figure 2.33 and Figure 2.44.

Being constrained to these conditions the team had to plan its activities according to them. The project plan was defined after the decision on the methodology was carried out. More information about the chosen approach and the necessity of the single steps can be found in chapter 4.

3 Literature Review

The field of commercialization of Non Timber Forest Products and the Amazon Rainforest in general is very complex and the circumstances cannot be compared to those in any developed country or formalized market. As the team members were not experienced in this field, it was a problem to be able to get familiar with the reality. Due to the fact that the work during the first two months would be done from the southern part of Brazil, namely the campus of the University of Sao Paulo in São Carlos which is about 3000 kilometres away from the area where the NTFP are harvested, the first phase of familiarization had to be done by literature review. At the same time, the team had to state right after the definition of the scope and the deliverables how it would obtain them. Therefore, the methodology for the whole project had to be defined which required a more detailed and structured overview of the problems.

Starting point for this step was a variety of papers, submitted by NAPRA. This contained about 70 documents, both in English and Portuguese or even in Spanish. Many of those documents were research papers or project reports, but also included newspaper articles.

3.1 Methodology

Because the content of the submitted documents could be roughly estimated by reading the title, they were clustered according to two variables, the language and the field of study. By doing so certain research topics, e.g. certification or carbon credit, which were agreed to research on and to be summarized as a deliverable, could be allocated to the team members. According to these responsibilities the topics had to be summarized and presented to the other team members after the literature research. By doing so the knowledge could be spread within the team and points of intersection were identified. Furthermore, a first version of a spreadsheet was developed which should contain all relevant information. Every team member was responsible for transferring relevant information into this spreadsheet which was maintained by one team member during the whole project. More information about this spreadsheet and the way it can be used is provided in chapter 5.2.

In order to gather more information than that in the submitted documents, an internet research on all relevant topics was carried out simultaneously to the readings, trying to fill the gaps that were discovered. The inexperience of the team led to the situation that in the beginning the research could not be managed in a focused way. Instead everything concerning rainforest and NTFP was assessed. A focus was laid

only on case studies concerning NTFP commercialization since these papers cover most of the problems already identified and lead to other fields that should be investigated. Also they provide useful contacts in order to build a basis for a data base with market players in this branch.

3.2 Results

During the first phase of research it became obvious that the information provided by NAPRA would have a higher value if it was structured. Therefore, a folder system was established for sorting the documents into certain subjects and re-naming them in a way that allows the researcher to estimate the relevance of a document roughly without opening it. All relevant documents found during the literature review and during the other steps of the projects were added to this system. Below in Figure 3.11 a screenshot of the folder structure and the system of naming documents can be seen. This was delivered and explained to the customer.

Figure 3.11: New organization of documents

Even though the relevant information from these documents was transferred into the spreadsheet, this data forms a broad basis for a research on specific topics and further details for following teams. Besides the organization of information, an overview of what NTFP are, and how they are seen in the literature,

the team had to focus on methods of commercialization of these products. Comparing the different case studies and papers, certain points could be worked out that mark the special features of this market.

The overall goal of all projects taken into consideration was to establish successful commercialization of NTFP. Although first attempts at commercializing NTFP happened about 25 years ago, all projects researched by the team were either initialized by Non-Governmental Organizations (NGOs) or by external financial partners. In no case were there only community members in charge and the dominating opinion in literature is that this initial support is still crucial for the success of the projects. But success cannot be summarized by one single variable like return on investment or shareholder value as it would be done in other projects. Rather, community perceptions of success need to be assessed and incorporated in project planning and evaluation [18]. Furthermore, success can be considered on other levels including individuals, households, families, or even on national level. Taking economical, social and environmental aspects into account for each of them leads to a complex and sometimes conflicting definition of success. Although most of the project managers were aware of this holistic approach to the problem, the focus was always on the improvement of the market position of communities. As Sharon Flynn pointed out in 1995 in a paper describing her experience of commercialization, NTFP markets may vary in many points from other markets, but they are still markets. That means the rules are those of capitalism and community members usually understand that, only NGO staff does not always want to accept this fact [1].

A lack of market information was identified in the majority of projects as the key barrier to evaluating the market position and defining a strategy to improve it. Mainly this is due to the remote geographic situation of communities, but also to the low standard of education that could be observed. Another obstacle for commercialization often observed was the low level of organization within the communities. This general problem was especially for the development of sufficient supply, a hurdle since the participation in some markets required certain amounts that could only be provided by a group of organized producers. Once being organized and having identified opportunities to improve their own position and to establish a competitive position, producers need to invest in order to obtain better production facilities and to improve marketing, product quality, and the reliability of supply. Investing money is always related to risk since there is no such thing as a risk- free investment opportunity. Most of the first projects and some of the present ones consider this risk to be inappropriate for communities to take. Therefore, they funded these investments and provided the ready-designed production facilities to the producers. Often these projects

aimed to organize supply networks that link producers to markets and built up the production facilities at the same time. More than that, the project managers and their staff, mainly members of NGOs or academics from the United States or Europe, realized the whole preparatory work without communities taking part in it. By doing so the preparedness and the commitment of the producers was often overestimated. The case of CAEX, a producer's cooperative in Xapuri, Acre, is a good example of this. Even though the intention of the project was to improve their position by improving production and the quality of unshelled Brazil nuts, the result was exactly the opposite. The lack of managerial skills and fraud led to the situation today in which they are almost bankrupt and the supplying producers as well as former buyers lost the confidence in the cooperative. More information about this case can be found in annex 8.10 , and very similar experience occurred throughout the Amazon. Therefore, today most NGOs dealing with the commercialization of NTFP take the view that projects can only be successful in terms of improving the market position of communities if their members initialize them themselves and support them from the beginning. That led to the conclusion that community entrepreneurs should be targeted and together with them the planning and realization of such projects should be carried out. From that conclusion another implication aroused. Given that commitment to the project is a main characteristic for entrepreneurs and that project partners in the communities are chosen with this in mind, the size of the project has to be adjusted to their risk adversity. Only if these entrepreneurs are involved with their own property will theyl put ample effort into the project and not reduce their commitment to it as soon as problems arise. Usually community members neither have access to financial means nor are willing to take a high risk. Without involving high amounts of lost funds therefore an initial investment is reduced to what is possible on community level.

Another approach to solving the problem of risk without losing many possibilities due to insufficient funds is to involve companies that are willing to deal with communities and seem to not only understand their problems but also be willing to help solving them [1]. Naturally this includes other risks since companies automatically have a stake in the project and gain lots of power over the producers. The concentration on partners who support communities mainly because of their own financial interests can lead to a captive situation for the producers if they are not aware of this and try to develop strategies to defend their independency. Especially if horizontal diversification is not possible due to exclusive buying options for the partner company, vertical diversification is crucial for success in the long run. There are many examples in which communities focused their whole production capacity in order to meet the demand of one com-

pany for one product and, as soon as the market was decreasing, the company did not meet its responsibility to support them in the development of new products but rather gave up the partnership [19].

Three out of the four papers which best described the problems faced in this project refer to the concept of Value Chains. Scherr, White and Kaimowitz state that a producer needs to analyze the value chain in the market and to establish a competitive position [23]. This paper offers a framework for action since it contains a checklist with all fields of interest identified during their research. Marshall, Schreckenberg and Newton carried out value chain analysis for all the products they commercialized during the project they worked on for five years in Middle and South America [18]. This group of researchers even published a guideline for researching successful NTFP commercialization that includes a decision tool for the decision on which products should be commercialized. Sharon Flynn suggest that in order to improve the earning possibilities of community members their position in the value chain of existing products should be improved [1].

4 Methodology

The similarity of the problems as they were pointed out by the papers taken as references in the literature review and those the communities at the lower Rio Madeira face led to the conclusion that the recommended approach of value chain analysis should be followed in this project as well. As written above, some of the papers address researchers and community based organizations and contain user manuals for successful NTFP commercialization. Even though they provided a good basis for the work the concept could not just be adopted due to the dissimilar conditions, mainly the short period of time the team would spend in the communities. The major disadvantage of spending the first two months in Sao Carlos, Sao Paulo at a great distance from the communities was that the whole planning had to be done without contribution of the targeted community members and could not be communicated in advance due to a lack of sufficient infrastructure in the communities.

After the literature review and some research on the community's reality, the aim as it is pointed out in 2.1, namely to offer the community members new perspectives to improve their livelihoods, could be specified. In order to create new income possibilities, the market position of the producers had to be improved. To reach this aim, producers needed to be aware of their current situation and had to recognize possibilities to develop into better positions. That meant the value chains for the products in question had

to be analyzed. Additionally, those community members that were interested in taking the role as entrepreneurs had to be empowered in order to be up to managing the task.

One of the main deliverables agreed on with NAPRA was to make commercialization happen. That includes at least on attempt at commercialization. As stated in chapter 2.1, this practical approach is justified by the necessity to spread experience within the community and to get things started. Since the time spent in Rondônia was very short compared to the tasks, the team planned with the community members the practical approach as as the preparation for it could not be done completely together with them. Additionally, this required that decision-making begin in a very early stage of the project, even before the value chain analysis could be finished and the results presented to the community entrepreneurs. Due to that an iterative process was chosen, splitting up the necessary market research into three levels, local, national and international. After having gathered enough information for one of these markets, the mapping of the value chains should take place so that, in total, three iterations were done. That guaranteed that the decision on which route in the value chain should be penetrated for the practical approach was at least based on an assessment of all available data at the time it was carried out. Nevertheless, the decision was made to make at least one practical attempt in each of the three market levels in order to increase the chance of establishing successful commercialization and to obtain valuable experience in as many markets as possible. By applying this approach the team could improve its picture of the market after every level of the market research. Furthermore it was possible to obtain expertise in the technique of value chain mapping and apply the gained knowledge directly by using the information for the practical attempt which was rolled out in parallel. According to Marshall, Rushton, and Schreckenberg , the process of the market research and market trends can not involve the communities at all stages but information generated obviously needs to be returned and used by them. They also should not only be involved in the decision making but carrying it out by themselves [17]. This could not be incorporated into the project for the reasons already stated, but during the stay in Rondônia all steps taken so far were explicitly explained to the community members. The guideline for the project implementation delivered to NAPRA is based on this concept. At the same time the knowledge that was identified to be crucial to manage a business like that was researched and material was prepared in order to hold workshops during the stay in Rondônia and to provide material that could be used by the community members. The whole approach can be seen in the following figure:

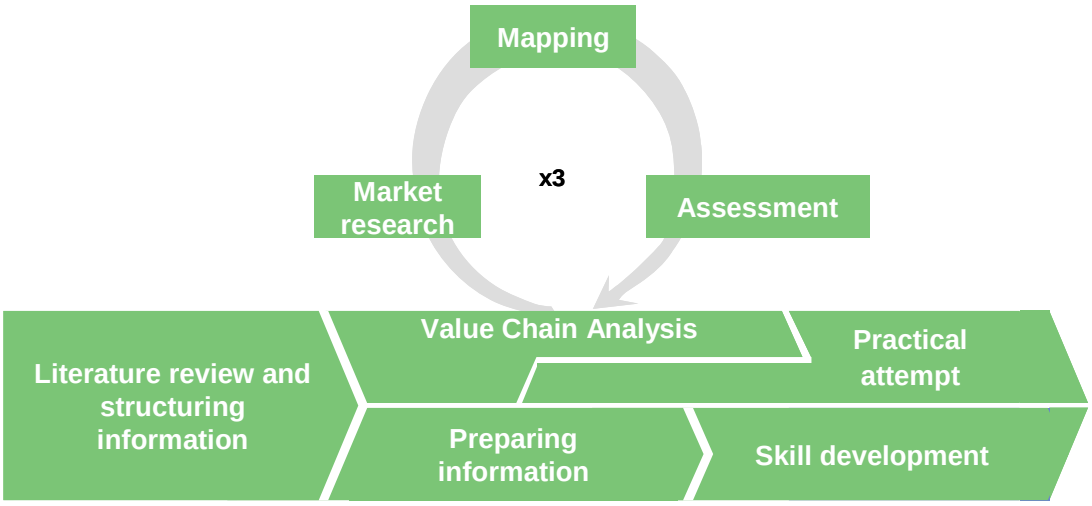


Figure 4.11: Chosen methodology

These two activities, the value chain analysis and the skill development of the community members, are described in greater detail in the following chapters.

4.1 Value Chain Analysis

The value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use [14]. This definition is very general and allows the researcher to define the boundaries of the value chain that shall be examined. Strictly speaking, there is an endless range of activities that could be taken into account. For example, in the case of Brazil nuts, the equipment for the cracking is supplied by the machinery sector, raw materials for packaging are produced by the chemical industry and the lumber for the mini fabric comes from the local logging business. To purchase each of these factors would be single activities, and they are all needed in order to make the final product available. They do not necessarily add value to the products, but they might. Therefore, it is the responsibility of the researcher to decide whether they should be investigated or not.

4.1.1 Importance of Value Chain Analysis

There are three main sets of reasons why value chain analysis is important, especially considering of globalization [14]:

- With the growing division of labour and the global dispersion of the production of components, systemic competitiveness has become increasingly important
- Efficiency in production is only a necessary condition for successfully penetrating global markets
- Entry into global markets which allows for sustained income growth – that is, making the best of globalization - requires an understanding of dynamic factors within the whole value chain.

Even though these reasons concur better with market players in the industry than to small producers of NTFP in the Amazon rainforest, much of the concept can be derived from them. The latter two reasons especially make sense in the context of NTFP commercialization.

Efficiency in production is a precondition for success; therefore it can be seen as an order qualifying requirement for the communities. As many of the products are specific to the region or at least for the Amazon rainforest, the competition is not as global as for other goods. But older cases, like rubber for example, have shown that bio piracy, in combination with domestication of certain products, can break this monopoly and put enormous pressure on the market in a short time. More than that, for those products where markets already exist, the competition within the region is at hand and unique selling propositions together with a competitive production are inevitable.

Particularly for new producers, value chain analysis is useful in order to obtain a basis for decisions. That includes poor producers and poor countries who are trying to enter global markets. For providing sustainable income growth the first decisions have to be based on consolidated knowledge. Since they often do not have an imagination of the market and do not know anything about the provisions of state or even local law, applying the methodology on communities' reality will provide them an orientation.

4.1.2 Key elements of Value Chain Analysis

Although the boundaries of the value chain in question have to be appointed by the researcher, its elements do not change from case to case. The three key elements of them are:

- Barriers to entry and rent
- Governance

- Different types of value chains

Rent arises from the possession of scarce attributes and involves barriers to entry. These scarce attributes can be the raw materials as well as the entrepreneurship, or the combination of both. Furthermore, marketing can support the image of scarcity as well as purposeful activities along the value chain can.. To identify the current role a company plays in a value chain and particularly upgrading possibilities, one has to be aware of these attributes and to understand their origin.

The element of governance transforms the concept of value chains from a heuristic to an analytical one. According to Gereffi, Humphrey and Sturgeon, the theory of governance in value chains can be based on three different factors [7]:

- **Complexity of information and knowledge transfer** required to sustain a particular transaction, particularly with respect to product and process specification.
- **Extent to which this information and knowledge can be codified** and, therefore, transmitted efficiently and without transaction-specific investment between the parties to the transaction.
- **Capabilities of actual and potential supplies** in relation to the requirements of the transaction.

These three factors can have two characteristics, either high or low. Putting these two dimensions together, a matrix results with eight possible kinds of governance, but the authors could only identify five of them in practice. They are listed in the table below.

Governance type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base	Degree of explicit coordination and power asymmetry
Market	Low	High	High	Low
Modular	High	High	High	
Relational	High	Low	High	
Captive	High	High	Low	

Hierarchy	High	Low	Low	High

Table 4.11: Key determinants of global value chain governance

Each of the five types of governance is characterized by the combination of a high or low degree of explicit coordination and power asymmetry in the single factors. For example, if the ability to codify – in the form of detailed instructions – and the complexity of product specifications are both high but suppliers capabilities are low, value chain governance will tend toward the captive type. This is because low supplier competence in the face of complex products and specifications require a great deal of intervention and control on the part of the lead company. As a consequence, transactional dependence are encouraged as lead firms seek to lock-in suppliers in order to exclude others from reaping the benefits of their efforts [7].

As a result, captive suppliers are frequently confined to a narrow range of tasks and are dependent on the lead company for complementary activities. More definitions of types of governance can be found in the quoted paper located in the organized readings as well.

The last of the three bullet points refers to two different kinds of value chains, those which are buyer-driven and those which are producer-driven. The latter one is observed mainly in the context of large, mostly multi-national manufacturers that coordinate production networks, for example in the case of consumer electronics. In the case of NTFP the concept of buyer-driven value chains is more appropriate since they are characterized by large retailers and marketers, often with production sites in the third world.

4.1.3 Upgrading in Value Chains

To point out opportunities to improve the situation for a certain market player is the overall aim of the value chain analysis. In this case the achievement of a position that offers higher rent, a higher degree of self-determination, or other intended characteristics is called upgrading. In the literature four different types of upgrading are named:

- **Process upgrading** can be achieved by increasing efficiency of internal processes in order to make them considerably better than those of competitors. This can be in regard to one single activity as described in chapter 4.3, for example by reducing scrap in production or obtaining

higher product quantities, or in between these activities of one chain like on-time delivery through better flow of information

- **Product upgrading** means new products are introduced or old ones are improved. This must always be seen in comparison to rivals and competitors and affects the product development process.
- **Functional upgrading** stands for increasing the value added by changing the assortment of activities that are accomplished within the responsibility of one market player's organization. Both directions, either outsourcing or integration, can imply value adding.
- **Chain upgrading** covers the full range of moving into new value chains.

4.1.4 Value Chain Analysis in this project

The theoretical background depicted above helped the team to develop a methodology that could be applied to the project. By doing so the team tried not only to focus on this project but also to create tools that could be used in the long or at least in the medium run. This was done because the value chain analysis could provide a description of the situation only for a certain point in time. Because many factors influence the value chain, e.g. changes in the legislation or changes in the markets, this analysis has to be carried out regularly or at least as frequentlyt as something changes which has an influence on the value chain. Figure 4.22 describes this continuous approach as well.

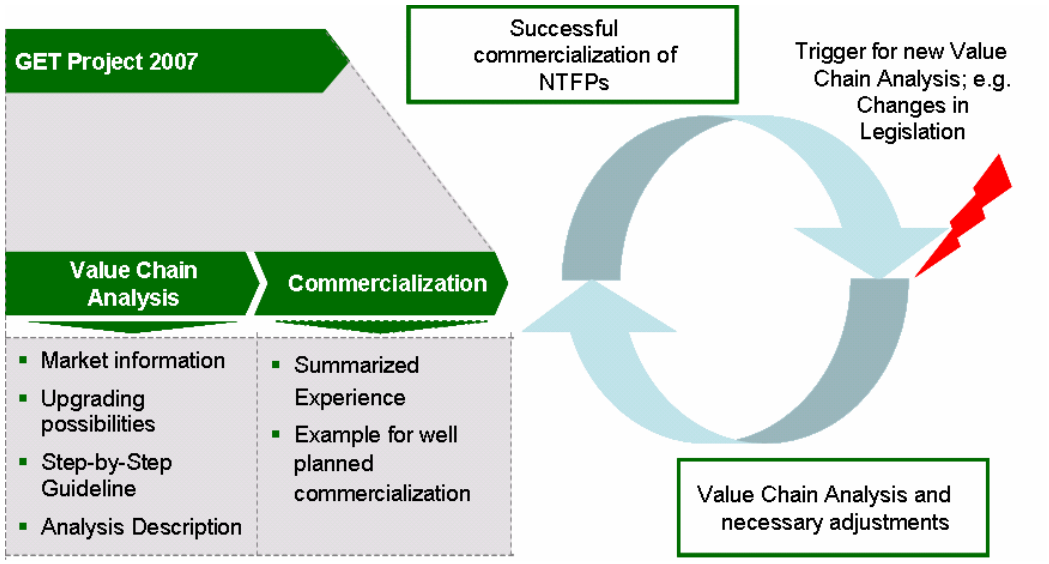


Figure 4.22: Coherence between value chain analysis and success of commercialization in the long term

The value chain analysis itself just brings together the information – quantitative and qualitative as well – generated during the research on the different levels. The objectives of this were to identify the main actors in the chain, their specific activities, to identify the different routes for commercialization, not only existing ones but also those which could work potentially and to assess how well these chains were working for the communities and their products.

Before being able to identify the main actors in the chain, the starting point for the research has to be defined. Since the subject of inquiry is one or more small scale producers of natural products, in other words, the communities, they represent the point of entry as well. The fields of mapping had to include the intermediaries, processors, and the final consumer forward in the chain and the input suppliers backwards. Having appointed this focus, the decision on how the information required should be obtained had to be made. The information that should be gathered about the input suppliers consisted mainly of their supply capacity for the products that were appointed before. This results from different factors like the constraints that nature defines, the time they were willing to spend in collecting them or their organization. All this information could only be gathered in interviews at the community level after the focus group was appointed. Going forward in the value chain, the critical success factors and requirements for the single actors in the market were most crucial. For this step a more detailed market research was chosen to be the most appropriate tool. More details about the approach to this can be found in section 4.2. By gathering information about the intermediaries and the processors, which are often the same entity, and already evaluating the possibility and the terms and conditions of cooperation, information about the governance in the value chain could be obtained as well. Furthermore, the efficiency of existing or planned production should be assessed. This was ensured by visiting production facilities and taking notes about their output date as well as the production process. In addition to this, case studies were compiled, providing an overview of the state of the art for certain ways of commercialization.

After having obtained this necessary information for one of the three levels of markets, national, local, and international, the value chain maps were compiled as described in section 4.3. By doing so the gap between the present capabilities in the communities and the markets was identified and the upgrading possibilities could be assessed. In practice this included three steps. First of all, for the four products the critical success factors or market requirements related to each intermediary or processor were written down.

This can be seen in the maps. The second step was composed of knocking out those routes in the value chains that could not be reached by producers in the short term. This was done because of the goal of the project. Making commercialization happen meant to the team that the steps to reach a certain position in the value chain had to be feasible with the resources available right now. Therefore, cross checking the critical success factors with the communities' reality was a precondition for assessing the value chains. In the third step a benefit analysis was conducted. This was the main step of the decision since all remaining routes in the value chains were tested for a variety of criteria, more precisely for eight criteria which were identified to be most important for the communities as well as assessable for the team. After having set up the list of criteria, each of the four team members gave weights to them in between the range of zero to nine. A high value was given if this criterion is thought to be more important, a low value if it was thought to be less important, compared to the others. For each criterion the average of these four values was calculated. Subsequently, the l sum of all eight criteria was computed and each of them was expressed as a percentage of this sum, so that the total weights add up to a hundred percent. Table 4.22 gives an overview of the criteria and the weights.

Criteria	Description	Weight
Quality Requirements	Main order qualifying and order winning success factors, e.g. harmful substances, product condition, certifications	12%
Demand	Volatility, Volume, Liability of customers	14%
Price	Price level and volatility, Possibilities of Contracting	11%
Transportation	Cost, Flexibility	7%
Support	Financial, Technical, Knowledge, Attitude towards communities	17%
Governance	According to the model described in 4.1.2	15%
Short-/Medium-Term Development possibilities	Product Development, Upgrading in the Value Chain	14%
Client Diversification	Number of clients in the Value Chain	10%

Table 4.22: Criteria for the Benefit Analysis and their Weights

After having obtained the weight the eight criteria were applied to the remaining routes in the value chains for the four products. Again each team member allocated a value between zero and nine, this time in a matrix of the criteria on the one axis and the routes for one value chain on the other axis. The higher the achieved value, the higher the degree of compatibility with the communities' situation is estimated. The

following step to complete was to calculate the average value of the four ratings for each criterion and each route, multiplying it with the weight as shown in Table 4.22. After tha,t the obtained values were added up for each route and compared. The one that achieved the highest value was chosen to be the most promising in regard of future commercialization in the short term. Based on this decision the practical attempt on the international market and the step-by-step guideline were made.

Since Value Chain Analysis should be conducted at regular intervals, the tool for carrying out the decision was created in a way that allows using it for further attempts as well. It is a spreadsheet in MS Excel© that can easily be expanded or adjusted to new opportunities. Together with the other deliverables it was handed out and explained to NAPRA. In Annex 8.4 the decision tool filled in with the values for Copaiba Oil can be found.

4.2 Market research

Having been able to map value chains required a great diversity of information. In this project the main tool to gather it was clearly the market research on the three different levels. Since it was by far the most time consuming activity during the project, the methods to conduct it were researched in advance and the most suitable approach was chosen.

4.2.1 Fundamentals of market research methods

To obtain the theoretical background about market research methods the team reviewed fundamental marketing literature. This literature defines market research to be a process of gathering, preparing, analyzing and interpreting of information about markets to make substantiated business decisions.

Depending on the goal of the research, literature distinguishes between two types of research:

- Quantitative market research: Finding information about numeric values of markets
- Qualitative market research: Finding information about basic market characteristics, motives and attitudes in the markets

Every market research follows a generic process:

- Defining the research problem
- Establishing the research design

- Collecting and analyzing data
- Formulating findings

The following sections describe the phases of market research for this specific project.

4.2.2 Defining the research problem

The goal of this phase was to formulate a research problem and derive questions to be answered by the market research. Another objective was to determine the objects of the market research.

The customer wanted to set up a business to commercialize Non-Timber Forest Products. At this point in time, the producers in the communities had only very low commercialization experience from the local market and almost no knowledge about other NTFP markets. The customer wanted to know which channels of distribution would be the best to start commercialization.

The team derived the following questions directing the market research:

- What are the possible channels of distribution?
- Who are possible clients for the chosen products?
- What are the prices paid by these clients?
- What do clients require to start business with them?
- What are the legal constraints and requirements for the single channel of distribution?
- Who are the competitors in the markets and how did they set up their business?
- Are there possibilities for supporting NTFP producers in the rainforest?
- What are other potential products and by-products?

After setting up these research questions the objects of the research were determined. In this case were all companies dealing with the products the team identified to be the most promising ones, all institutions supporting projects and producers in the Brazilian rainforest, and institutions which set requirements in certain market niches, like certification associations.

4.2.3 Establishing the research design

In this phase the team had to determine which research design would best fit the research problem. There are three different kinds of research designs: exploratory, descriptive and casual.

- **Exploratory market research** is defined as a way of gathering basic information about the research subject and structuring this information. Relations between different variables can be examined but there are no hypotheses stated before starting data analysis.
- A **descriptive market research** is conducted to detail the objects of the market research. This type of research can describe the behaviour of different actors in the market, the number of clients, or general characteristics of the market environment. No relations between different variables will be examined.
- **Casual research** examines the causes of specific phenomena in the market. The focal point of the research lies in variables which are examined under a certain hypotheses. This research is usually conducted having already a good idea of the research objects.

The customer required a clear description of the market and its actors and there were no hypotheses stated in the beginning of the research. Regarding the research problem and the questions derived, the team decided to conduct a descriptive market research.

4.2.4 Collecting and analyzing data

There are two types of information in market research theory: secondary and primary data. Secondary data is information from already existing publications or researches whereas primary data is information obtained by one's own surveys.

Most NTFP markets are marginal. The products are predominately being sold on the local market [27]. Furthermore, most of the trading activity is happening in the informal market. These characteristics have been observed in the local market of Porto Velho as well. Numbers obtained from surveys conducted by NAPRA in the region exceed the trading volume stated in official statistics by far as shown in chapter 5.1 using Copaiba Oil as an example. During the Literature Review, the team was not able to find suitable publications about NTFP markets that could have supported the market research. With no secondary data bases existing the team decided to collect primary data.

4.2.4.1 Survey methods

Literature about primary data collecting offers a great variety of different survey methods [9]. Because the information to be gathered was of qualitative and quantitative nature, the team decided to use a mix of different methods.

At first, actors in the NTFP markets had to be identified. The team conducted an internet research to find companies which are dealing with the chosen NTFP products. The internet research started with identifying platforms that function as multipliers providing information or links to companies of interest. Also key informants from NAPRA were asked about possible business partners. Some information could already be taken from the official websites of the single companies.

The next step was to contact the company via telephone. To make the information gathering as convenient as possible for the contact person, we offered to either make a semi-structured interview over the telephone or to send a short questionnaire, which can be found in the annex 8.2, to be filled out by the contact person. The semi-structured interviews seemed to be the most effective method since often times questionnaires get ignored or forgotten which leads to a low rate of return.

In the local market the team chose the approach of direct, personal interviews with the traders. As most trade is done in the informal market, there was no official contact information found in the local telephone book or other multipliers, making this approach the only choice to receive the wanted information. The same approach was chosen for the informal market in Sao Paulo city. Parallel to the information-gathering by interviews and questionnaires, the team initialized trade with companies, offering business to the community producers. This testing of the market offered first hand information for the market research and it complied with the customers request to start commercialization during the project.

4.2.4.2 Data analysis

For the data analysis the team used the value chain analysis as described in chapter 4.1 with the goal of identifying most successful ways of commercialization. The analysis was conducted in an iterative process after researching local, national and international markets. It also helped to structure the information gathering itself because it showed gaps in the value adding process.

4.2.5 Formulating findings

In that the market research design was descriptive, the main objective was to quantify the data gathered in a way that would suit the practical usage of the customer. The team maintained during the whole research a database with contacts in the NTFP markets, more information about the way the information has been structured in chapter 5.2.

After conducting the value chain analysis, the findings were formulated in the step-by-step guidelines for successful commercialization.

4.3 Value Chain Mapping

The team agreed on mapping the value chains in a standardized way for the following purposes:

- to structure the market research by identifying gaps and links of significance
- to identify different routes in the value chain for the assessment process
- to draw a model of the complex market environment which can be easily comprehended

For the processing in the communities and trade in the local market, only the situation of the specific communities supported by NAPRA has been considered. Other communities and producers may have different production facilities and a different local market environment with other characteristics as well. The model shows the flow of the product along the routes to the final customer. Along the routes, activities are indicated and their inputs and outputs are described. Trade as a generic activity along the routes is indicated with a specific icon. To trade on a certain market, requirements have to be met and specific prices obtained. These elements are also linked to the trade icon. The market player conducting the activity can be found on the right site of the activity icons.

4.3.1 Symbols

In general for the activities the symbols as seen in Figure 4.33 were used in order to visualize them.

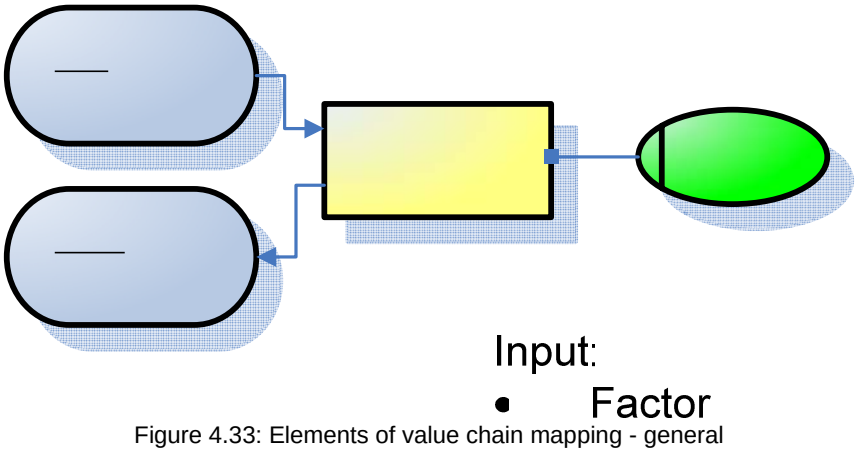


Figure 4.33: Elements of value chain mapping - general

Elements:

Activi

- Input factors needed for the activity
- Output of the activity (e.g.: a certain product)
- entity conducting the activity

Output:
Factor

- To visualize a trade in the value chains, this shape was modified. As the following figure shows, the focus was laid on the requirements of this trade, which point out the order qualifying and order winning factors of a trade. The most important factor, price, is shown in its own symbol.

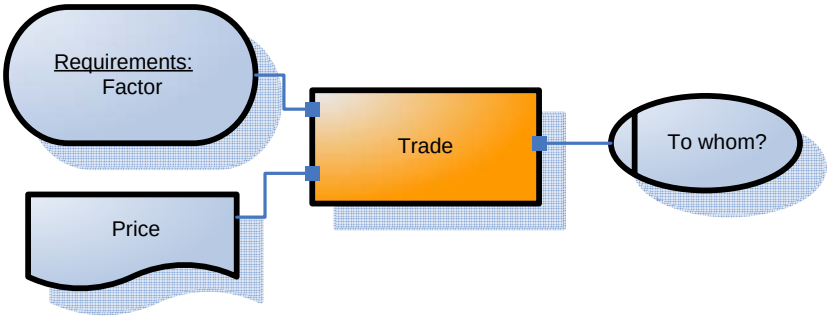


Figure 4.44: Elements of value chain mapping - trade

Elements:

- Requirements that have to be met to qualify for order (e.g.: certification, quality)
- Purchase price on this market
- Market participant buying the product

4.3.2 Routes in the Value Chains

At a certain point in the Value Chain different routes were followed to enter different markets or market segments. Reasons for splitting at certain points can be geographical, difference in end-products, and difference in market requirements.

Geographically, the team differentiated in local, national, and international. From the communities' perspective, distance to the market can be a major constraint. This is caused not only by lack of communication, equipment, and knowledge about usage but also because of rising complexity of the transportation process. The difference in end-product can be due to different processes along the chain. These lead to specific requirements and to major differences in value adding. The final customer belongs to a different segment and has a different perception towards the product.

Major difference in market requirements can make it difficult for producers from the communities to access the route. To be able to make a decision on certain routes, the requirements in the route have to be homogeneous. In some cases this can even lead to drawing a new route for a single company. Most requirements like certification also refer to certain niche markets.

4.4 Commercialization

4.4.1 Theoretical Knowledge

After finishing the market research on national level, the 2nd iteration of the Value Chain Analysis was conducted. Facing the visit of the local communities and producers in July this iteration set the basis for the decision on how the practical approach of commercialization should be conducted. Although no final assessment of all Value Chains was possible due to missing information of local and international markets, the team identified first steps which are crucial to enable the community members to start successful commercialization.

4.4.1.1 Commercialization experience in the communities

During the Literature review, the team gathered information on the community's situation and the current maturity in terms of commercialization experience. In this phase this information was being used to identify the gap between the known national market and the communities.

Previous research had shown that a lack of market information, together with the failure to act,were the key barriers to NTFP trade [18]. In Table 4.33 the results of the research on communities' level can be seen.

Subject of research	Current situation in the community/ Community's reality
Production capacity	▪ the exact amount of NTFP products available was unclear ▪ no existing production facility up to this point ▪ just about 5-8 producer will be the target group of the commercialization project
Market distance and transportation capacity	▪ the closest market is in Porto Velho about 6 hours away by boat from Sao Carlos do Jamari ▪ there are commercial boats going everyday to Porto Velho ▪ the transport capacity is sufficient and esti-mated to be several tons a week
Existing organization and legal constraints	▪ there is no organizational body of the local producers ▪ lack of knowledge about possible legal forms in the community ▪ minimal knowledge about legal restrictions to harvesting outside of the reserves
Trade experience	▪ sporadic contact to travelling middleman and to traders at Porto Velho harbour ▪ no information about other trading possibilities

	in Porto Velho or elsewhere ▪ experience only in informal trade which is the most common way on the local market

Table 4.33: Results of the research on community's commercialization experience

4.4.1.2 Market requirements - first Value Chain iteration

The national market research provided the needed information to identify key players in the Value Chain and the requirements and opportunities of the single channels discovered. Having those obtained, the team was able to point out needed development goals to access these markets.

Main findings of the 2nd Value Chain Iteration (national market) can be found in the following table.

Subject to research	Findings of the market research

Quality requirements	▪ Brazil nut: ▪ Aflotoxin check ▪ Cracked and dried ▪ Whole nut without the peel ▪ Copaiba Oil: ▪ Single coloured ▪ Not exposed to air ▪ No mix with other materials ▪ Storing in clean container ▪ Acai: ▪ Highly concentrated ▪ Correct ripeness
Volumes	▪ national buyers require certain minimum amounts
Legal requirements	▪ to deal in the formal market a tax receipt is needed ▪ companies feel more comfortable dealing with a legal organization
Certification	▪ some markets require organic and fair trade certification ▪ an existing entity as subject of certification has to exist (like a company or an other legal institution)

Prices	▪ for the products investigated the price on the national market and in its different channels was usually significantly higher ▪ better quality and value adding thru certification is appreciated by the market

Table 4.44: Results of the research on the national market

4.4.1.3 First steps to successful commercialization

The gathered information shows the low development of the communities in terms of business experience. Almost all the products considered by the research are traded in larger quantities and are to some extent comparable to commodities. They also require fulfilling quality standards given by possible business partners. Many small independent producers will suffer due to these requirements from disadvantages in this market.

An important input to the evaluation of the practical approach was also given by recent research conducted in the field of NTFP commercialization. Here organization of NTFP producers was pointed out to contribute to improved product quality and quantity, more cost-effective transportation, and increased negotiating ability. These are incentives not only for the formal market in which organization can be an order qualifying factor but also on the informal market [18].

The situation of the target group was the same as it is for every entrepreneur who wants to start a business. Having the idea to commercialize NTFP is the first step of business activity. The following step would be to write a business plan. One of the main purposes of the business plan is to think about the goals of the business and how they can be achieved. Topics addressed by a business plan include the following:

- Financial planning
- Marketing and production
- Quality management
- Organization

- Legal form of the business

The results of the market research, suggestions from recent research, and general knowledge about initiating business activity led to the goal to promote organization in the communities. The team decided its two main activities to reach this goal:

- Confronting interested entrepreneurs and producers with market information, showing requirements and opportunities of dealing in the formal national market
- Holding workshops addressing topics included in a general business plan with the focal point on organizational matters

4.4.2 Practical approach

After finishing the Literature Review and researching the market of the focused products at the national level, the second stage of the South Phase of the project started with the development of activities in Rondônia. The goals for these activities were:

- Understanding communities' reality
- Covering information gaps identified in the Literature Review and Market research
- Starting development of sustainable commercialization in practice

The strategy to achieve these goals was defined considering the knowledge about the context of the communities from the Literature Review and the Value Chain Analysis. Another important aspect was to consider other activities NAPRA was carrying out within the month the team spent for field work in order to create synergies. With those points in mind, the approach for the month was planned and some activities scheduled. In the communities it was necessary to adapt the strategy as it was defined in chapter 4.4 since there were so many restrictions that were not identified for its implementation.

In order to obtain the appointed goal of practical commercialization, the results were already started to be implemented during this phase of the project. The general information of the market that was gathered during the market research and the results of the first and the second value chain iteration were inputs to this rollout. The activities in the communities were linked with the implementation of results from the GET project in 2006. During the period the team was in the Amazon Rainforest, the equipment to process Brazil nuts, seeds and handcrafts were built in co-operation with community members and it was possible to

develop some products according to the general requirements of the market. The strategy adopted was to promote activities in which the information that was prepared during first two month of the south phase should be communicated to community members. This theoretical background as it is described in chapter 4.1 was needed in order to prepare entrepreneurs in the communities for the following steps of commercialization. During all activities, the necessary information was discussed and at the same time the team aimed to conduct real practical activities related to it. This approach was chosen in order to link theory and practice and to empower and motivate the persons involved.

NAPRA decided to install the mini-factory in Sao Carlos do Jamari, the biggest community in the area, with about 1,800 inhabitants, and relatively good infrastructure. To develop the planned activities for the month, it was decided to focus on the same producers involved in the mini-factory activities. Two specific producers from São Carlos do Jamari were chosen by NAPRA, according to their performance in previous NAPRA activities, previous experiences in production and commercialization of NTFP and their potential to lead the development of commercialization process. It was expected that working closer to a smaller group which already has experience and some theoretical background was the best strategy to obtain good results.

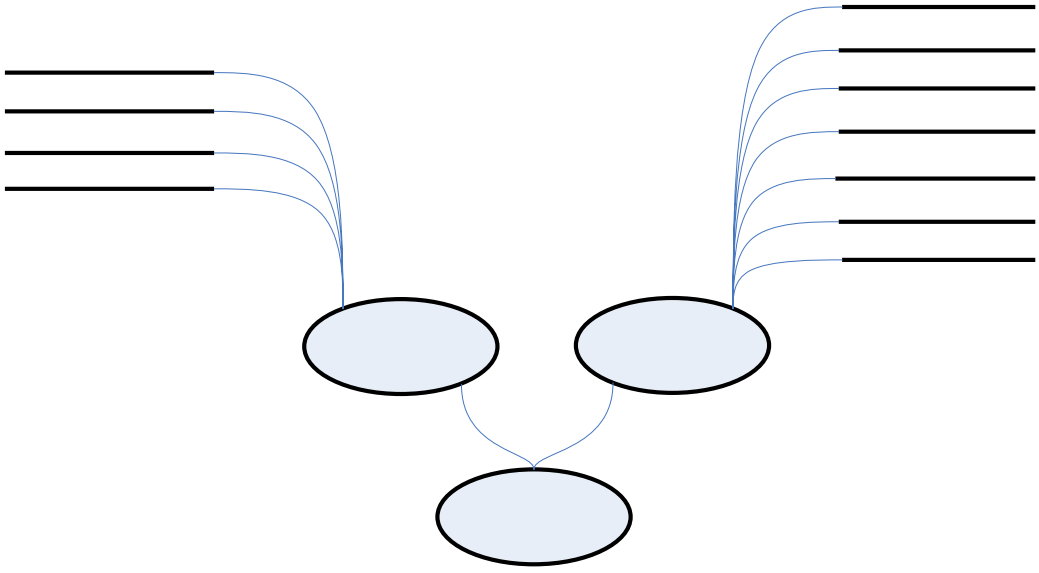


Figure 4.55: Adopted factors for commercialization in Rondônia

The focus in all training activities was on these producers. They were trained in order to be able to multiply the obtained knowledge further in the community and to lead a steady development of production and commercialization even for the time NAPRA is not in the field. Other actions were taken to start involving producers from other communities. The idea was to assess different levels of experience and knowledge and to start a producers' network in a more integrated development strategy covering the whole region. During the past three years, NAPRA made several workshops in the region. About 60 producers from different communities had already taken part in these activities. The aim of this next step of connecting these people was to create the opportunity of organizing them. Even if the focus was on only a few producers, the starting commercialization should create the need of a better communication between the producers in order to fulfil the growing demand.

5 Results

5.1 Decision on Products

After the Literature Review and the first steps of the Market research, the enormous diversity of possibilities had to be narrowed down. The most important decision to make at this stage was the focus on certain products. This decision was carried out by taking into account as many aspects concerning the communities' reality as possible. The first issue that had to be illuminated was the determination of how many products would be the optimum from the perspective of the communities. Two different aspects were taken into account for that, the risk of a commitment to a confined number of products and therewith lower product diversity and the workload the producers in the communities could manage. The second issue was to compare this optimum with the maximum amount of market research the team could conduct in the predetermined time. After these preliminary thoughts, the ultimate goal of deciding on the products could be undertaken. This decision was split up into two stages as well, taking first into account only existing products and secondly all potential products.

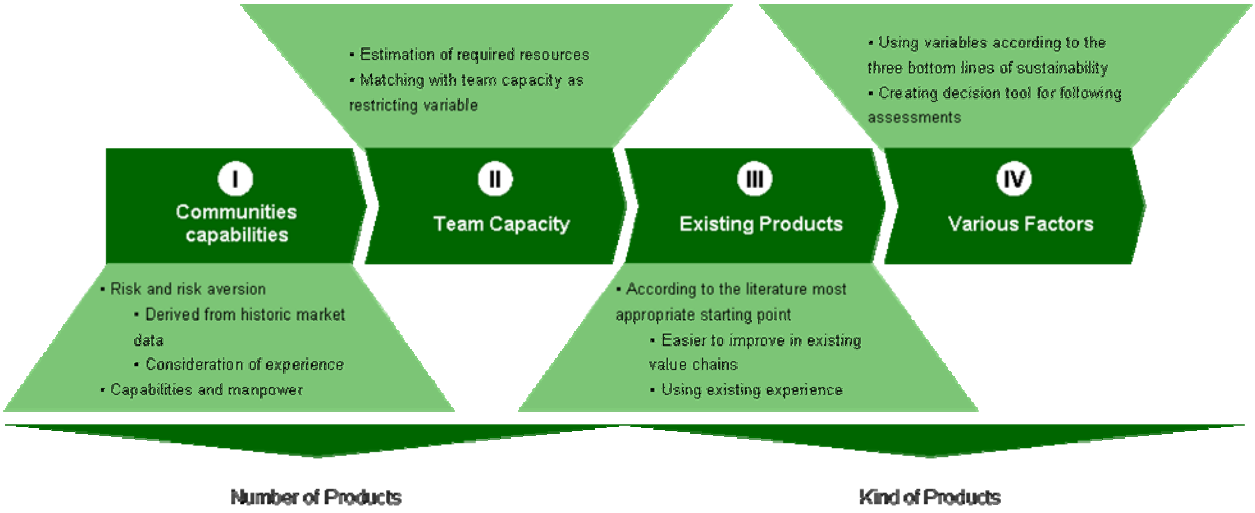


Figure 5.11: Steps towards a decision on products that should be commercialized

5.1.1 Decision on number of products

The markets for NTFP in general are mainly informal. That means the biggest part of its turnover and its development is not statistically documented. This can be shown for example by comparing the official statistic of the production of copaiba oil and a market research conducted by NAPRA in 2006. The official

number for copaiba oil produced in the region of the city of Porto Velho is one ton in 2005 [11] and the market research, that includes informal channels as well, reports of only one buyer in Porto Velho who buys and sells between 1,500 and 1,700 kilos of copaiba oil per month [6]. Due to this lack of reliable data for any markets for NTFP and the inexperience of the producers in the communities in commercializing, no estimation of risk in the form of volatility in price and demand and no estimation for revenue could be obtained. Therefore, no portfolio with an optimal number of products, not to mention the kind of NTFP, could be determined by appointing the risk adversity of the communities and comparing it to the risk-revenue share of different portfolios. Only the bottom line of any portfolio theory, that as long as the different positions in the portfolio are not perfectly correlated, more items lead to lower risk, can be applied [16]. The same reason, namely the inexperience of any of the involved persons in the project, made a conclusion about the expected workload impossible. Therefore, the point of view of the communities could not provide information about the number of products that should be investigated.

The second issue to address was the maximum amount of value chains that could be analyzed by the team. In that none of the team members was experienced and a model had to be developed, identifying the necessary resources for a proper value chain analysis that covered all needs of the project. A list of requirements was set up, including all planned steps of the methodology and estimated time needed as well as resources available to contain the maximum number of value chains that could be investigated:

Step	Work packages	Time required*	Resources available*	Maximum possible number
Mapping 1st round	- Preparation - Explanation - Mapping	4	20	5
Gathering information	- Design questionnaire - Internet research - Contact 10 market players - Structure information	6	30	5
Mapping 2nd round	- Preparation - Mapping - Developing strategy	2	10	5
Gathering information	- Refine questionnaire - Internet research - Contact 10 market players - Visit market site in Sao Paulo - Structure information	5	26	5
Mapping 3rd	- Preparation	2	10	5

round	- Mapping			
Gathering information (on-site)	- refine questionnaire - Interviews at community level - Interviews at local level	14	n.a.	-
Mapping 4th round	- final mapping - Discussion and conclusions	4	20	5

* Man-days

Table 5.11: List of requirements and planned time for value chain analysis

According to this estimation five value chains could be investigated during the time the project was scheduled. Simply because this was the only lead for the number that could be investigated it was taken to plan the following steps in detail.

5.1.2 Decision on type of product

As shown in Figure 5.11, the decision on which products the producers in the communities should commercialize was carried out in two steps as well. The products that were taken into account were divided into two categories, those which are already commercialized by the communities and those which are not commercialized yet but formed a choice of potential products. Because this project aimed to initiate the process of professional commercialization, the chosen approach had to pick up the community members at the current state of commercialization to make real progress in the short term possible. Additionally, it had to establish a decision process based on sustainability factors in order to make sure to have success in the long run. According to the circumstances of the project and the state of the art of science, there are several aspects why commercialization has to start with already existing products.

Successful commercialization always starts with the identification of real value for communities. Even though products might be ecologically very interesting and there is the chance of a potential use that does not necessarily mean they can really create value on the community level. There must be a real market in order to commercialize them, and particularly in regard to the time constraints the team faced to make commercialization happen, existing structures had to be used. Furthermore for many products the harvest, production, and marketing in general are not done in an efficient way. This leads to opportunities for enhancing efficiency and cost reduction and entering a better position within the value chain. In addition to that, by-products and co-products can be developed and integrated [1].

Because of these arguments the first step of the decision on which products should be commercialized was to find out which products had already been commercialized in the past. A previous work conducted in 2006 in cooperation with NAPRA, provided a basis for this decision. At that time socio-diagnostic analysis indicated rates of households' extraction for several communities in the region pointed out that between 70% and 100% of all males of sufficient age collected Acaí, about 20% of the households derive income from Brazil Nut collecting and about 10% from Copaiba oil [6]. Therefore these three products were chosen as the first three to which value chain analysis should be applied. In Table 5.22, a short fact sheet of these products can be found.

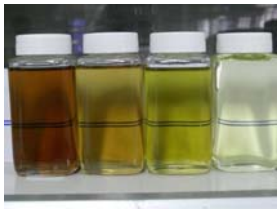
Name	Picture	Harvesting Season	Purpose of Use
Acai		January – May	Food - mainly frozen pulp
Brazil Nut		December – April	Food – solid or as oil
Copaiba Oil		All year	Cosmetics, Pharma-ceutics – mainly for cortical application

Table 5.22: Characteristics of the three existing main products Acai, Brazil Nut and Copaiba Oil

After that the second step of the decision on products was done. As said before a huge amount of potential products was identified during the Literature Review. A hurdle for the following decision was to find out which of those products are really available in the region where the communities are located. Since the communication with the community members directly could not be established in an efficient way due to an insufficient infrastructure in the communities, the only source of information that could be used was NAPRA. In a team meeting with the vice president of NAPRA, the list of potential products was shortened by deleting those where knock out criteria made any further effort a waste of time. At the end this list contained twelve products.

These products were rated by applying the triple bottom lines of sustainability on the communities' reality. This addresses the following three topics: economic, social, and environmental. First the team gathered criteria from several papers that dealt with the problems communities face in reality. Furthermore, individual concerns were added to this list as well as comments from the customer. This first list was refined by deleting those points that referred to the same issues. Where necessary, the phrasing was changed in order to make clear what should be addressed. The remaining points were sorted according to whether they belonged to the field of economic, ecologic, or social issues. After that the team discussed the completeness of the list since a trade off between the completeness and the complexity had to be solved. The confined experience and information of the team made a high complexity counterproductive since many criteria in question would have had to be guessed. At the end of this discussion a list of 17 criteria was set up. Taking into account the varying importance of the criteria, especially in view of the aim of the project, the criteria were weighted differently. First of all they were not distributed equally on the three topics. Ten of them were concerning economic issues, six of them social issues and one environmental issue. This imbalance occurred mainly because of the aim of the project. During the Literature Review and the Market research, the focus was clearly on economic facts in order to obtain a clear picture of the market of NTFP. A more detailed investigation of social or environmental circumstances was not possible in the constellation of the team and the predetermined time. Another factor that constrained a more detailed consideration was the enormous biodiversity and with it the enormous diversity of products from the rainforest. Together with the low level of knowledge about NTFP, the team started its research from, it lead to a situation where a deeper understanding of the context of each product was not possible. Especially for the ecological issues the fact that the commercialization of NTFP only can take place as long as a forest exists has a high impact. Compared to other forms of land use, it is by far more ecological since they usually are related to deforestation.

Making allowance for the better understanding of economic issues and the aim of the project, the decision was made to rate the criteria of this field in general higher than those of the other two fields.

Having ten out of 17 criteria in the field of economic issues, this would lead to a fraction of almost 59% under the assumption of equal distribution. The team chose to give it the weight of 70% to the detriment of ecological and social issues. In Table 5.33 the theoretical values under the assumption of equal distribution and the chosen values for the three fields are listed.

Field	Number of criteria	Theoretical weighting*	Chosen weighting
Economic	10	58.82%	70%
Social	6	35.29%	25%
Environmental	1	5.88%	5%

*Under the assumption of equal distribution

Table 5.33: Weighting of criteria according to team knowledge and aim of the project

The different importance continued within the single fields as well. Therefore weights in a range of one to three were attached to the criteria, according to their expected impact on the communities' reality. This weight was divided by the sum of all weight within one field so that it could be expressed as a percentage of this field (adding up all weights in one field gives 100%). Having created this two-stage weighting of the criteria requires one to multiply the rates that are attached to the single products with the calculated percentage, add these values up for each of the three fields, multiply these values again, this time with the chosen weighting as seen in Table 5.33 and add the three resulting values up in order to contain the final value that represents the rate the decision is based on. The higher the value, the better the product can be used to improve the livelihood of community members in a sustainable way.

After these preliminary considerations a tool was designed using MS Excel© in which the final assessment of the products could take place. The team strongly recommends using this as a basis for any following assessment of products that shall be commercialized. It was deliberately designed in a way that makes it easy to expand it in that subsequent teams might start from a higher level of knowledge of the rainforest context. This tool can be found in Annex 8.3, the original version in MS Excel© was explained and delivered to the customer as well. On the left hand the potential products were listed vertically, on the top the criteria, sorted by the three bottom lines of sustainability and the weights for each of them are listed horizontally. The resulting matrix was filled with values between one and five where in a low value signals a rather negative impact and a high value a positive impact.

As a result of the decision process the team obtained a list of five products. Three of them were derived from the first step of the decision and were commercialized before, but on a low level. Since in chapter 5.1.1 it was determined to analyze the value chains of five products, the two potential products that

achieved the highest value in the second step of the decision were added to this list. Namely these are Handcrafts with a total value of 3.65 and Cupuacu with a total value of 3.46.

Name	Picture	Harvesting Season	Purpose of Use
Handcrafts		All year	Decoration, practical application
Cupuacu		December – May	Food – fruit or butter (similar to chocolate)

Table 5.44: Characteristics of the two most promising potential products; Handcrafts and Cupuacu

5.1.3 Iterative process and adjustments to the reality

As described in the beginning of this chapter, the decision on which products should be commercialized was one of the main obstacles in the beginning of the project. The team therefore decided to split this decision up into the two steps as demonstrated. The first step was accomplished right after the Literature Review In order to obtain some more details about the potential products, the second step was accomplished two weeks later. By doing so the market research on national level as described in chapter 4.2 could be started for the first three products while researching simultaneously on more details of the market for NTFP in general and having some time left after the second step in order to research the two chosen products in detail as well before the team travelled to the rainforest.

Nevertheless this decision was carried out without participation of community members as said before. After having arrived in the communities and having identified partners there, the decision was reconsidered. It was not possible to convince community members to work with Cupuacu. Due to its bad experience and a declining market in general, which was not clear to the team before, it was decided not to work with this product any longer. Instead the definition of handcrafts was enlarged by putting them together with bio jewels. Several reasons led to this decision. First of all, the team figured out during the market research for handcrafts that both products have, at least at the national level, almost the same channels of distribution. Second of all, those community members who work with handcrafts work with bio

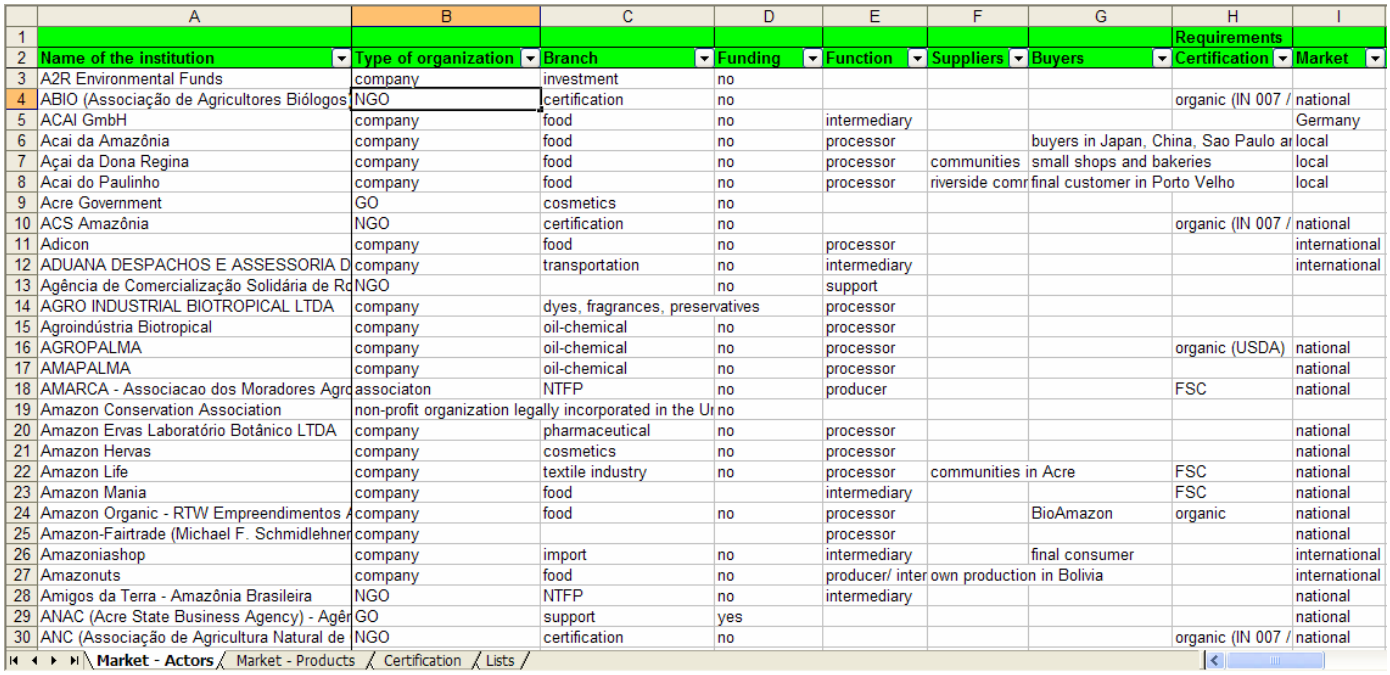
jewels as well, hence a clear cut between those two was not feasible in practice. More than that, the community members had a strong desire to work with these products. The third reason was simply that after having pushed Cupuacu out of the portfolio spare resources could be allocated newly. Since Babacu, the next product to have been focussed upon according to the decision tool, was rejected by the communities as well, bio jewels was chosen because it achieved almost the same value as Babacu. This can be found in annex 8.3.

5.2 Structured information

One of the requests of the customers was to structure the information gathered during the market research. By doing this the information could be used for future projects in the field of NTFP trade. The customer also made the observation that previous attempts at sporadic market research were not documented in a reasonable way, leading to information kept by people rather than NAPRA itself. As a main tool for information gathering, the team worked with a database. This tool and the possibilities of usage will be the content of this chapter. Furthermore the team gathered information in short abstracts, tables, and the value chain mapping process. This way the report itself can be seen as a structured display of gathered information which is relevant to NTFP commercialization.

5.2.1 Research database

The main motivation to developing a database for the research was to give detailed information about possible customers for the NTFP business to the producer's organization. A customer database is necessary to have an efficient working sales department. The information was also input for the further analysis of different market segments and for the assessment of the routes in the value chain. The software Microsoft Excel was chosen because the usage was familiar to the customer and the team involved in the research. Also the data to be gathered was not expected to demand more powerful software. A small section of the database can be seen in Figure 5.22.



	A	B	C	D	E	F	G	H	I
1								Requirements	
2	Name of the institution	Type of organization	Branch	Funding	Function	Suppliers	Buyers	Certification	Market
3	A2R Environmental Funds	company	investment	no					
4	ABIO (Associação de Agricultores Biólogos	NGO	certification	no				organic (IN 007 /	national
5	ACAI GmbH	company	food	no	intermediary				Germany
6	Acai da Amazônia	company	food	no	processor		buyers in Japan, China, Sao Paulo a		local
7	Açai da Dona Regina	company	food	no	processor	communities	small shops and bakeries		local
8	Acai do Paulinho	company	food	no	processor	riverside comr	final customer in Porto Velho		local
9	Acre Government	GO	cosmetics	no					
10	ACS Amazônia	NGO	certification	no				organic (IN 007 /	national
11	Adicon	company	food	no	processor				international
12	ADUANA DESPACHOS E ASSESSORIA D	company	transportation	no	intermediary				international
13	Agência de Comercialização Solidária de Rc	NGO		no	support				
14	AGRO INDUSTRIAL BIOTROPICAL LTDA	company	dyes, fragrances, preservatives		processor				
15	Agroindústria Biotropical	company	oil-chemical	no	processor				
16	AGROPALMA	company	oil-chemical	no	processor			organic (USDA)	national
17	AMAPALMA	company	oil-chemical	no	processor				national
18	AMARCA - Associacao dos Moradores Agrc	associaton	NTFP	no	producer			FSC	national
19	Amazon Conservation Association	non-profit organization legally incorporated in the Ur		no					
20	Amazon Ervas Laboratório Botânico LTDA	company	pharmaceutical	no	processor				national
21	Amazon Hervas	company	cosmetics	no	processor				national
22	Amazon Life	company	textile industry	no	processor	communities in Acre		FSC	national
23	Amazon Mania	company	food		intermediary			FSC	national
24	Amazon Organic - RTW Empreendimentos A	company	food	no	processor		BioAmazon	organic	national
25	Amazon-Fairtrade (Michael F. Schmidlehner	company			processor				national
26	Amazoniashop	company	import	no	intermediary		final consumer		international
27	Amazonuts	company	food	no	producer/ inter	own production in Bolivia			international
28	Amigos da Terra - Amazônia Brasileira	NGO	NTFP	no	intermediary				national
29	ANAC (Acre State Business Agency) - Agêr	GO	support	yes					national
30	ANC (Associação de Agricultura Natural de	NGO	certification	no				organic (IN 007 /	national

Market - Actors | Market - Products | Certification | Lists

Figure 5.22: Small section of research database

The research database is at the same time the documentation of the market research. To obtain a better idea of the final results of this research, some facts and figures about the database have been summarized:

- about 335 entries in the market actor table with information from websites, secondary data sources, and primary data collecting
- personal contact with 120 companies on the national and international market via telephone and e-mail to gather information about the market and to initialize business with community's producers
- input from 45 questionnaires that have been answered from contacted market actors on these markets
- interviews of 21 market actors on the local market
- visit of 4 açai factories in Rondônia state
- research of 22 certification initiatives and their relevance to NTFP markets
- list of 113 different products that use NTFP as raw material

5.2.1.1 Structure of research database

The following section describes the contents of the tables and columns found in the database.

Table - Market Actors

This table consists out of the different market actors or institutions which are relevant to NTFP commercialization. Focal group were companies in the NTFP business, funding institutions, governmental agencies responsible for legal framework and non-governmental organizations which influence the governance of the markets. A further description of the columns can be found in Table 5.55.

Name of column	Content	Intention/ usage
Name of institution	name of company, funding institution, or governmental agency	contact for commercialization, further information gathering, or application for funding
Type of organization	legal form of organization; differentiation into governmental and non-governmental organizations	information about possible business partner, benchmarking, general classification
Branch	branch of organization's business activity	general classification
Funding	"yes" when organization offers funding, "no" if not	assessment of funding possibilities
Function	▪ producer: first actor in the value chain and direct competitor of riverside producers in the market ▪ processor: adds value to the product	refers to function in the value chain; complementary to value chain map - sorting after function and market in the database reveals all actors that are part of a certain value chain link

	through processing ▪ intermediary: no processing of product just trade	
Suppliers	names of companies that supply this market actor	reveals information about the previous link in the value chain and possible business partners
Buyers	names of companies that are being supplied by the market actor	reveals information about next link in the value chain and possible business partners
Certification	name of label	certification labels are requirements to penetrate certain market segments; further information about the specific label can be found in the certification table
Market	▪ local: community market, Rondônia state and bordering states ▪ national: market actor is located in Brazil (not including local actors) ▪ international: market actor is located outside of	provides information about the distance between possible business partner and community producers which defines effort of transportation and communication; can be used complementary with the value chain map (see function column)

	Brazil	
Market volume	actor's turnover and revenue (two columns)	indicator for size and volume of trade
Products	name of NTFP or other product that is subject to business activity of the market actor	general classification
Comments	information of any kind	possibility to add information which is not covered by other columns
Source of information	name of a file, publication or any other source that led to entry	possible source for further information
Website	website of the organization	possible source for further information
Contact information	consists out of four columns for e-mail address, address, telephone and contact person	information needed to contact the organization
Personal contact	consists out of five columns for team member, content of interview, next step or status of personal contact, the time for the next step and the history	tracking of the market research and input for future research
Trading information	conditions and requirements of the possible trading partner	assessment of business partner and identification of market barriers
Main products	one column for each product that has been chosen for the research - market actors that deal	easy sorting of the market actors according to the products they deal with

	with the product are marked with a "x"	

Table 5.55: Description of columns in the market actor table

Table - Certification

This table was used to structure the information gathered about the labelling initiatives relevant to the NTFP market. A further description of the columns can be found in Table 5.66.

Name of column	Content	Intention/ usage
Name of certificate	name of the certificate provided by the labelling organization	Identification of label in the market
Name of labelling initiative	name of organization that sets standards for certification	general classification; the organization and further information can be found in the market actor table
Certifier	company or organization that certifies in Brazil	possible source for further information and identification of potential certifiers for producers
Certification benefits	short summary of benefits acquired through certification	assessment of certification possibilities
Costs	expenses to receive the certificate	identification of monetary barriers
Requirements	short summary of the requirements that have to be met in order to get certified	identification of general barriers for certification
Type of organization	legal form of labelling organization; differentiation into govern-	general classification

	mental and non-governmental organizations	
Supported products	list of products that can be certified under this label	assessment of certification possibilities
Number of countries	number of countries in which this label is being used	indicator of size and significance of certificate
Area	geographical relevance	significance in markets
Example	source of an example where certificate has been used or small description of example	Benchmarking
Comments	information of any kind	possibility to add information which is not covered by other columns
Source of information	name of a file, publication or any other source that led to entry	possible source for further information

Table 5.66: Description of columns in the Certification table

Table - Products

This table was used in the orientation phase to gather information about potential NTFP. Some of these products are related to commercialization experience of other community producers from the rainforest. These examples were documented in small abstracts and given to the customer. A further description of the columns can be found in Table 5.77.

Name of column	Content	Intention/ usage
Final product	name of the final product	general classification
Raw material (NTFP)	used NTFP for the final product	provide information about proc-

		essing possibilities
Product family	name of product family	general classification
Process	description of the value adding process	benchmarking
Branch	name of the branch where the product is being sold	general classification
Example	name of the file with the description of the commercialization example	Benchmarking
Source of information	name of a file, publication or any other source that led to entry	possible source for further information
Comments	information of any kind	possibility to add information which is not covered by other columns

Table 5.77: Description of columns in the product table

5.3 Value Chain Analysis

While conducting the value chain analysis and deriving results for commercialization from it, experience from former cases as they were described in literature were taken into consideration. For the assessment of different strategies that could be applied to commercialize the products, the current situation was considered to be the starting point. That meant that all recommended steps must be feasible for community members with only little support from NAPRA and an extremely low financial budget. Applying this automatically let to steps that might seem to be marginal compared to the effort the team put into the analysis, but a realistic assessment should be made of the market's needs, the producer's existing production capacity, and the economic and ecological time pressures. With most products, as one travels along the value chain, processing, marketing, and distribution strategies become more complex. Trying to transfer

too many of those complexities to the producer level at too rapid a rate will only increase the chances for failure [1].

5.3.1 Acaí

5.3.1.1 Value Chain description

The map of the acaí value chain can be found in annex 8.6. The chain follows the regular pattern from value adding procedures in the communities to markets outside of the communities. This section will give a rough description of the value adding activities along the chain.

Acaí is known in Brazil mostly as a basis for smoothies or power drinks and is usually mixed with components like guaraná or other fruits and served half frozen. The acaí palm is growing in certain areas all over the Amazon rainforest, mostly close to water. Therefore, a boat is required for harvesting it, at least if higher volumes are to be extracted. Harvesting starts usually in January and ends in May, which is considered to be the wet season in the Amazon. Another characteristic of the fruit is the fast rate of spoilage. Once it is extracted from the tree it has to be processed within 48 hours, otherwise it cannot be used for food purposes. Community members who harvest acaí usually sell it either to the commercial boats that travel on a regular basis along the Madeira River or to intermediaries in the port of Porto Velho. Since the price that can be obtained for both of them is the same (boat owners offer the same price as the intermediaries minus the costs of transportation and a small fee) they are considered to be the same link in the value chain. After conducting the market research on the local level the further way of the acaí could be mapped. The intermediaries in the harbour, who so far control the whole supply in Porto Velho, sell the fruit with a premium of about two Reais per Lata to the local processors. All transactions are informal, which means no tax receipt is required and no fixed contracts have to be implemented. The small time window that occurs from the high rate of spoilage puts a high pressure on all market participants. That together with the high volatility in supply which arises due to the seasonality of acaí leads to price fluctuations of several hundred percent during the harvesting season. According to interviews with producers and intermediaries prices between R$ 0.2 and R$ 1.8 per kilogram of unprocessed fruit can be achieved. Quality requirements are limited to the colour of the fruit, which should be dark violet, and its fresh smell.

Local processors that could be considered as business partners for the communities are all in Porto Velho. They are differing in the amount they process but very similar in the processing itself. The whole fruit is stirred together with crushed ice to release the pulp from the seed. This pulp is then squeezed with a rotating rubber lip through a sieve to separate it from the solid parts like the seed and fibres. For a more detailed description of the process see the project report of the GET 2006 [29]. Due to the purpose of the product as a foodstuff, highest quality standards have to be met during this step. The water used for the crushed ice has to be food-safe as well as the surfaces of the machines used and the following packaging facilities. Because the pulp spoils even faster than the whole fruit, it has to be frozen or at least chilled immediately after the extraction. That requires food-safe storage facilities and a very stable power supply.

The smaller acaí processors, whose production sites can be found close to the harbour, usually pack their products in simple plastic bags of one kilogram without any labelling. They sell either to walk-in customers or to ice cream bars and restaurants in Porto Velho. The price for a kilogram of acaí pulp in the local market is about R$ 2.75 to R$ 4, depending on the amount purchased. Those processors that work with larger amounts usually pack their products in sealed plastic bags and label it. They form the intersection between the informal and the formal market. The largest of them reported to process about 14,000 kilogram per day during the harvesting season. That leads to a daily output of about 5,000 kilogram of processed acaí pulp. Demand on the national market usually exceeds his production capacity. He ships his product in a refrigerated truck by land to business partners in Rio de Janeiro. The price is set taking into account the percentage of solid parts in the pulp on a scale between eight to fourteen percent. In general frozen pulp is available on the national market for a price between R$ 5 to R$ 6, but prices up to R$ 10 can be obtained if the product is certified. Unprocessed fruit could be sold to other processors for R$ 10 per lata on contract, but the minimum amount would be one fully loaded truck which is about 20 tons.

From Rio de Janeiro or other ports along the coastline of Brazil, frozen pulp can be purchased for shipments in refrigerated containers on a dollar based price. During the market research, the price was about US$ 4.3 per kilogram with a minimum amount of 20 tons.

5.3.1.2 Quantitative market information

The section will describe further market characteristics taking into account the gathered quantitative information.

As can be seen in Figure 5.77 the supply of acaí on the Brazilian market in the last years was increasing although it experienced a sharp drop in 2004. The price for the fruit was increasing in parallel to this but dropped in the year when the supply peaked. This could be due to an over-saturation of the market with a subsequent consolidation. During the market research, some of the largest suppliers of acaí pulp reported they had recently established big production facilities in the last years. This could have led to an over saturation in the short term but would not explain why the production level in 2004 fell under the level of the previous years. Beyond that this chart is in contradiction to information gathered during the interviews in Porto Velho upon which the demand was increasing unbowed during the last years.

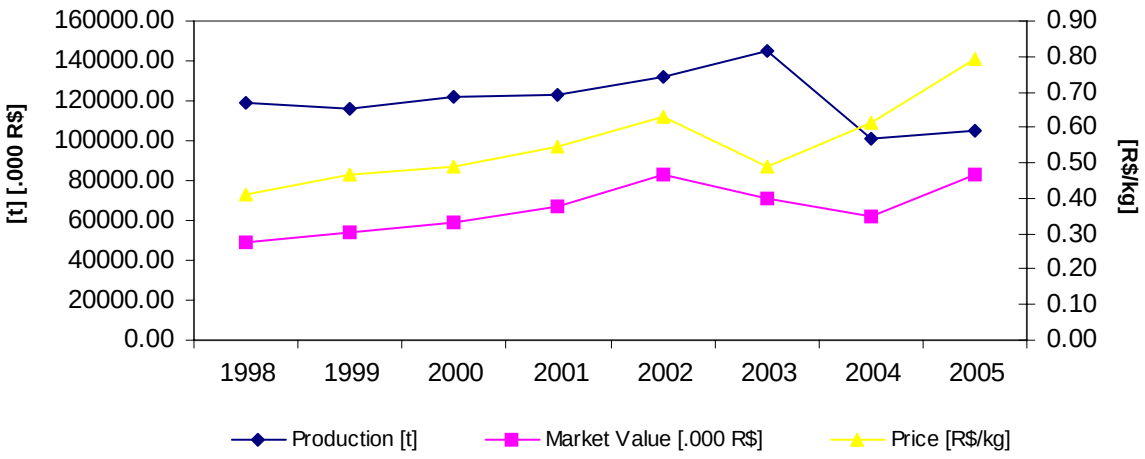


Figure 5.33: Development of production and market value for acai between 1998 and 2005 (Source: IBGE)

The comparison of some prices which are in the reach of producers at the lower Madeira River on local and national level can be seen in Figure 5.88. The national market price exceeds the local price by far. The national market also has much higher quality requirements and offers premium prices for organic certified products.

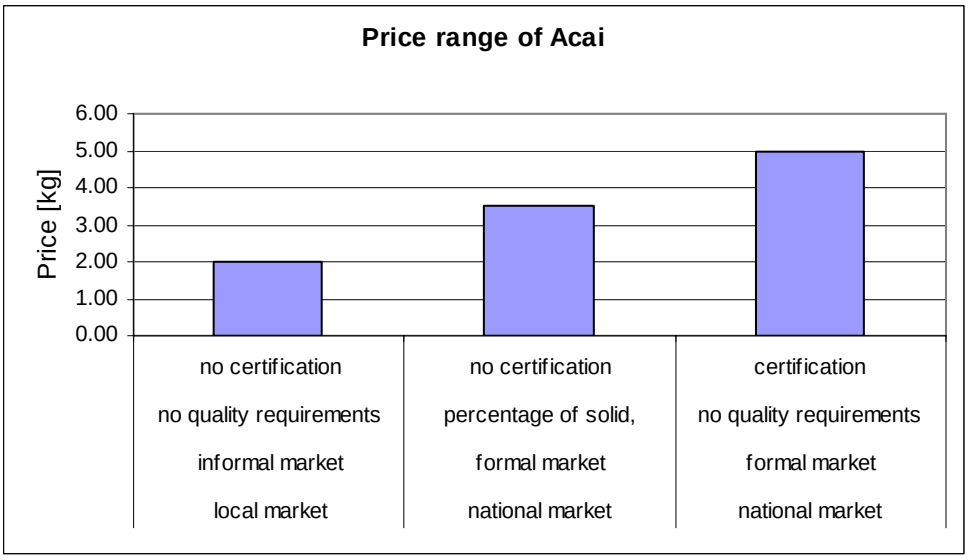


Figure 5.44: Price range on local and national markets for acai

5.3.1.3 Value Chain Assessment

For the assessment of the value chain to identify most reasonable business partners for successful commercialization, all possible trading links were analyzed. At first, the critical success factors which are order qualifying for the single links of the value chain were gathered and compared with community's capabilities leading to a knock out process which can be seen in Table 5.88. The detailed description of the procedure can be found in chapter 4.1.

Trading link	Order qualifying factors that led to knock-out
Final consumer	- No processing facilities to extract the pulp - No supply of food-safe water in the communities - No stable power supply in the communities - No transport and storage capacities for refrigerated goods
National processors and intermediaries	- Insufficient volume - No transport and storage capacities for refrigerated good
International intermediaries	- Insufficient volume - No supply of food-safe water in the communi-

	ties - No processing facilities to extract the pulp - No stable power supply in the communities - No transport and storage capacities for refrigerated goods

Table 5.88: Knock-out process for acai

The following possible links for trade remained to be assessed using benefit analysis:

- boat owners/ harbour intermediaries
- local processors

Local processors were determined to be the best route in the value chain to be penetrated. The detailed decision process can be found in the decision tool that was delivered and explained to NAPRA. In annex 8.4 the structure of this tool can be found for the example of copaiba oil.

The before-mentioned processor in Porto Velho, who could not meet the demand of his business partners in Rio de Janeiro, offered already during the interviews the team conducted with him to get into business with community members directly on a contracted basis. First of all, this excludes the intermediaries at the harbour of Porto Velho and ameliorates the earnings of the community members since the spread these intermediaries charged does not occur. Furthermore, it offers them a stable price which opens the possibility to plan and coordinate the harvesting activities for a certain period without running the risk of suddenly falling prices. A detailed description of the recommended approach was delivered to the community members and NAPRA in the step-by-step guideline.

5.3.2 Brazil Nut

5.3.2.1 Value Chain description

The map of the Brazil nut value chain can be found in annex 8.8. The chain follows the regular pattern from value adding procedures in the communities to markets outside of the communities. This section will give a rough description of the value adding activities along the chain.

The first activity along the value chain is the collection of the Brazil nuts in the area surrounding the nut tree. Harvesting directly from the branches is nearly impossible due to the height of the tree. The nut con-

sists of a hard, woody outer shell which contains up to 24 seeds in triangle shaped shells. The collectors have to wait until the end of the rainy season as collection is too dangerous due to falling nuts from the up to 250 feet high tree. A small boat may be necessary if the collecting area is far from the harvester's community. Until now there is no reliable data on the possible supply amount in the region.

Brazil nut fruits are cracked in the forest and only the seeds in the second shell are taken to the Mini factory, located in the community of São Carlos do Jamari. Furthermore the outer shell is used for handcrafts like small boxes or candles. After stocking the nuts the shelled Brazil nuts can be traded directly on local markets. Cracking this second shell and furthermore drying of the contained seeds are the activities that lead to major value adding. As the cracking and drying processes of the Mini factory is still developing, the community is still not able to produce dried seeds. Thus shelled Brazil nuts will still be the only product the community can trade in high volumes in the short term.

Interviews with harvesters showed that most of the Brazil nut production is sold locally either to boat owners in São Carlos do Jamari or to intermediaries in Cai Nágua Harbour, Porto Velho city. Both have low quality requirements and pay low prices. The local market research discovered that the intermediaries meet in the morning and set prices for the Brazil nuts so that harvesters have no chance to bargain price. The same market research revealed that boat owners and intermediaries sell their products directly to local processors and local retailers. The local processors buy only shelled nuts to produce ice cream. These processors are willing to have contracts with suppliers but are not keen on trading with inhabitants of the local communities due to previous bad experience. They also present low quality requirements but pay better prices for the product. At present there is no local processor in the region which solely cracks nuts and sells the seeds. The local retailers' segment is very diverse, representing good opportunities for further product development along the route. It is composed mostly of small booths located in the Porto Velho Mercado Municipal which have low quality requirements and pay prices slightly higher than the ones paid in the harbour. They buy mainly shelled nuts but are interested in buying dried seeds as well. Small shops located in the nearby area of the Mercado Municipal are also part of this market segment. These market players are very interested in trading directly with communities due to their marketing strategy. Their quality requirements, although still based on visual appearance, are high and the prices they pay for the products are the highest on the local market. They buy mostly dried seeds during the year but

higher volumes of shelled nuts during Christmas time. None of the market players on the local market requires a receipt for trading.

The national market research conducted in Sao Paulo state identified the food industry as the next link on the national level. This industry buys in part directly from community suppliers. The quality requirements are relatively high but offer the opportunity of price improvement. They demand a high amount of minimum volumes, around 700 kg per month, of dried seeds (broken seeds are not desired) to start supplying them. A premium price is paid for organic products.

Small retailers located in the Mercado Municipal in São Paulo city also play an important role on the national market. The retailers were very protective about providing information on suppliers, once this is key information to guarantee good prices on this competitive market. The few retailers that gave information about suppliers revealed only that these are big distributors based in Belém, Pará state, well known for its high production of Brazil nuts and its developed NTFP markets. The quality requirements are relatively high. Traders buy only large sized seeds that have to be dried. Some retailers buy around 300 kg of Brazil nuts per month. Certifications have no influence on the price paid.

The next link on the national market is the Brazil nut oil industry represented by the company Beraca. The company is the only one on the national market that extracts the oil from the nut and refines it. Its competitors just refine the oil. Beraca usually just buys broken seeds, the scrap of the production of large producers, in order to guarantee low prices. The company demands high volumes and its quality requirements are considered to be medium which refers to properly dried seeds. Beraca is not willing to support communities which produce Brazil nuts as it is quite difficult for a community to compete in this market segment with large producers and offer lower prices. The Brazil nut refined oil is sold to the cosmetic industry and it is processed into fragrances and crèmes. Intermediaries in the national market require a tax receipt for trading.

The international market is characterized by the presence of intermediaries who either directly import high volumes from Brazil or buy in small amounts from importers. The quality requirements are the highest on the Brazil nut market. Only the dried seed is traded. It has to be free of aflatoxin and has to meet certain minimum sizes. Organic certification can lead to premium prices. The suppliers must be formally organized and provide a tax receipt. Prices were not provided by the researched companies. The processors

are in charge of packaging and branding the product. The distribution to small retailers is also in the responsibility of the processors.

The fair trade industry is part of the international market and has the same processes and market requirements. The only difference between them is the necessity of having a fair trade label to access the fair trade industry. The price paid is the highest on the Brazil nut market.

5.3.2.2 Quantitative market information

The following section will describe the features of the Brazil nut market considering the quantitative information gathered.

The supply of Brazil nuts on the national market in the last twelve years, which can be seen in Figure 5.55, was quite unstable going up and down in cycles of approximately five years. The market value increased slightly in the first nine years and presented a more significant rise during the last two years what could represent an increase in demand once the production did not have an important variation during this period.

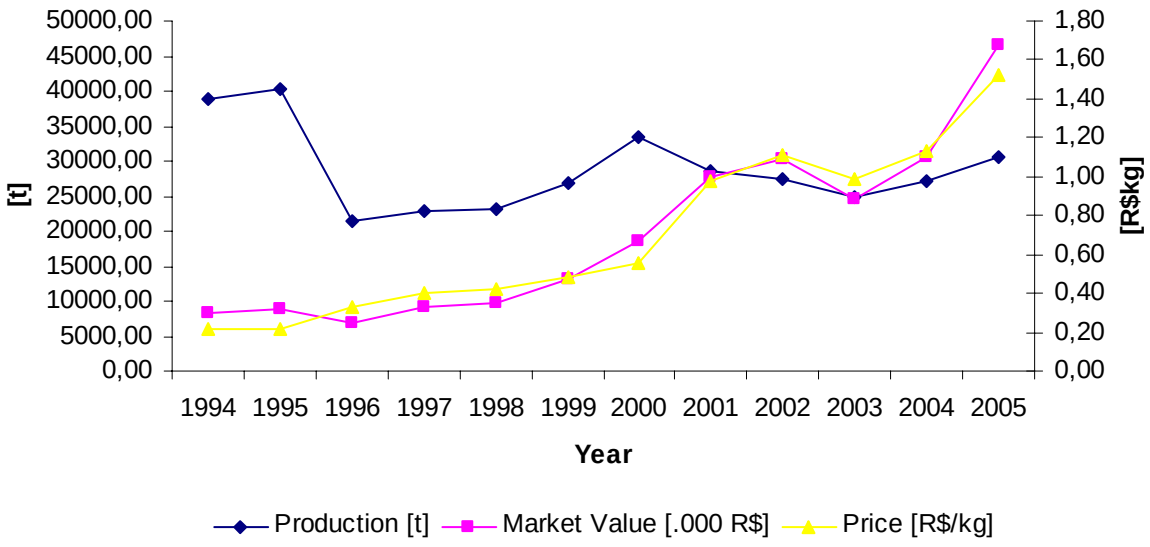


Figure 5.55: Development of production and market value between 1994 and 2005 (Source: IBGE)

The range of the prices on the different markets can be seen in Figure 5.66. The international fair trade market price is significantly higher than the price offered by the national oil industry. The international market also demands higher quality and offers premium prices for fair trade certified products.

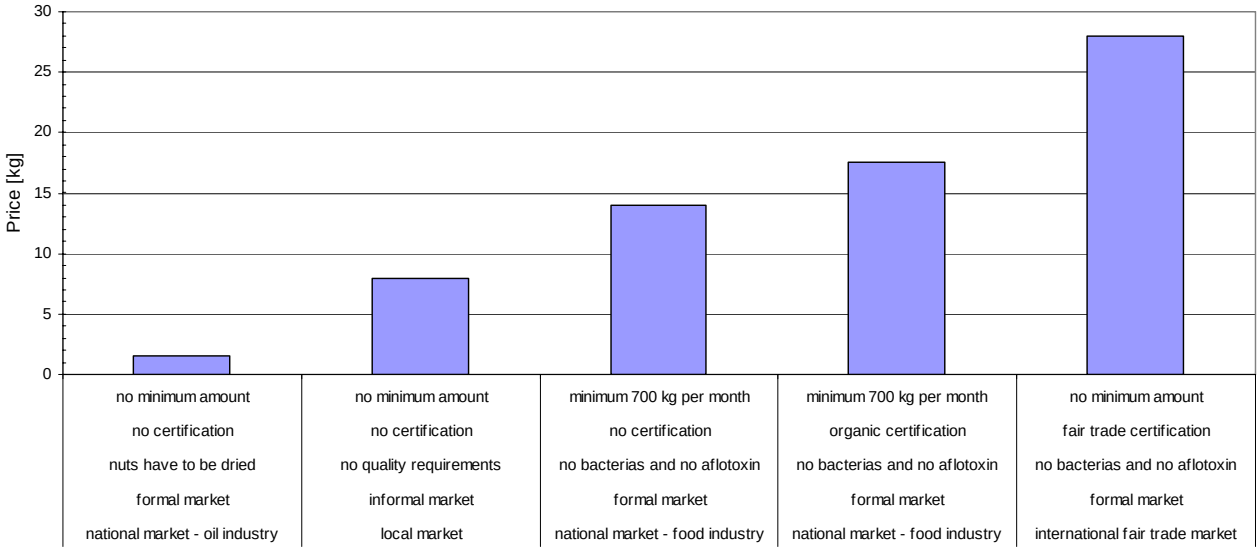


Figure 5.66: Price range on local and national markets (in Reais)

5.3.2.3 Value Chain Assessment

For the assessment of the routes within in the value chain to identify most reasonable business partners for successful commercialization all possible trading links were analyzed. At first, the critical success factors which are order qualifying for the single links of the value chain were gathered and compared with community's capabilities leading to a knock out process which can be seen in Table 5.99. The detailed description of the procedure can be found in chapter 4.1.

Trading link	Order qualifying factors that led to knock-out
National food industry	- High volumes - High quality requirements - Aflatoxin control
International processors	- High quality requirements - High volumes/ no export capacity - Aflatoxin control - Organic certification - Formal organization

International fair trade industry	- High quality requirements - High volumes/ no export capacity - Aflatoxin control - Fair trade certification - Formal organization

Table 5.99: Knock-out process for Brazil nut

The following possible links for trade remained to be assessed using benefit analysis:

- boat owners + traders in Cai n'água Harbour
- local retailers
- local processors
- small national retailers
- national oil extractor/ processor

Starting the commercialization with local retailers was identified to be the most promising route in the value chain. The detailed decision process can be found in the annex 8.8.

The most interesting business partner in this route right now is Floresta - Delicia da Amazônia. The retailer buys small amounts of dried seeds throughout the year and high volumes of shelled nuts during Christmas time. Furthermore the retailer is willing to support communities once it is part of its marketing strategies.

5.3.3 Copaiba oil

5.3.3.1 Value Chain description

The map of the copaiba oil value chain can be found in annex 8.7. The chain follows the regular pattern from value adding procedures in the communities to markets outside of the communities. This section will give a rough description of the value adding activities along the chain.

The first value adding processes are solely conducted on community level. At first the copaiba oil has to be collected from the forest. Depending on the distance to the next copaiba oil tree area, the harvester

may need to make use of a boat or not. The extraction of the oil is knowledge and time intensive. The harvester must have the ability to locate the species and to drill properly into the tree to extract the oleo resin. The yield is considerably inconsistent and varies strongly between different trees. Due to the time horizon that is needed to raise a copaiba tree, domestication is not profitable. The oil is filled into small containers or bottles. There are still quality problems because the bottles are not clean and cannot be closed airproof. Before consolidating the oil into larger containers it must be filtered to remove solid parts from the oil.

From what the team has observed during the stay in Rondônia the supply is difficult to estimate because the ongoing trade is highly marginal and almost not existing in São Carlos do Jamari where the development work was conducted. It is known that in Cunia which is close to São Carlos do Jamari the density of copaiba trees is higher. After gathering a reasonable amount of oil, it is transported to local markets. Either the oil is getting sold directly to boat owners or community producers transport the oil by themselves to Porto Velho which is the state's capital of Rondônia. Because of the low volumes traded and fixed costs for the transportation of a person, the possible margins are reduced significantly. The quality requirements in the local market are fairly low and are based on visual appearance.

In the harbour of Porto Velho, the copaiba oil can be sold directly from the boat to different traders. The informal trade in the harbour is dominated by anti-competitive arrangements which make trade for local producers difficult. The team interviewed traders in the harbour who stated that prices for products are being fixed each morning. The trade with boat owners and local intermediaries in the harbour of Porto Velho describes the commercialization process of copaiba oil at this point of time.

The following market research on the local market identified local retailers and local processors as possible business partners for the communities. The local retailers are located in the mercado municipal, the city’s market hall, which is in short distance from the harbour. Every intermediary has a small booth in the Mercado. Products sold are mostly regional agricultural products but also handcrafts and souvenirs. There is relatively high client diversity for copaiba oil which is being sold by most of the merchants. Quality requirements are still fairly low and comparable to requirements in the harbour. For the final consumer on the local market the oil is a traditional inflammatory medicine that can be used to cure all kinds of skin irritations. In addition there is one local processor for copaiba oil who was not interested in trading with new suppliers at the moment.

The national market research conducted in Sao Paulo state identified the oil and essence industry as the next link on national level. This industry buys in part directly from community suppliers. The quality requirements are relatively high but offer the opportunity to have price upgrades. High quality means single coloured oil without solid parts or residues of water and other liquids. Suppliers of organic products are being paid a premium price. Some companies are willing to develop new suppliers due to rising demand and rather low supply. The oil and essence industry refines the oil making it a commodity-like product that can be used in the cosmetic industry. The products are being sold to different national cosmetic companies promoting their products as natural. Traditional knowledge from Amazon inhabitants and their experience with this natural medicine is used as unique selling proposition.

The international market is dominated by intermediaries who either directly import high amounts from Brazil or buy in small amounts on the domestic markets. Most traders stated that copaiba oil is traded rather marginal by them. The quality requirements are high. The product has to have a clear colour and must be already refined. Most traders also did not show interest in trading directly with producers from the rainforest. Importers of oil were not willing to give out information about the origin of their products and also would buy only from producers who export volumes of at least25 litre containers. The international cosmetic industry buys directly from these importers and processes the oil into fragrances or as an ingredient for crèmes. Like the Brazilian cosmetic industry, the international cosmetic industry is aiming at customers interested in natural products.

Compared to the markets of other researched products certification practices are not well developed. Social certification does not exist while organic certification plays a minor role. This is related to the low awareness of environmental and social issues of final consumers in connection with this product.

5.3.3.2 Quantitative market information

The section will describe further market characteristics taking into account the gathered quantitative information.

As can be seen in Figure 5.77 the supply of copaiba oil on the Brazilian market in the last eight years was stable while the market value constantly increased. This could indicate rising demand for the product. The production numbers obtained by the local market research also show that the volumes traded on the informal market exceed the volumes from official statistics.

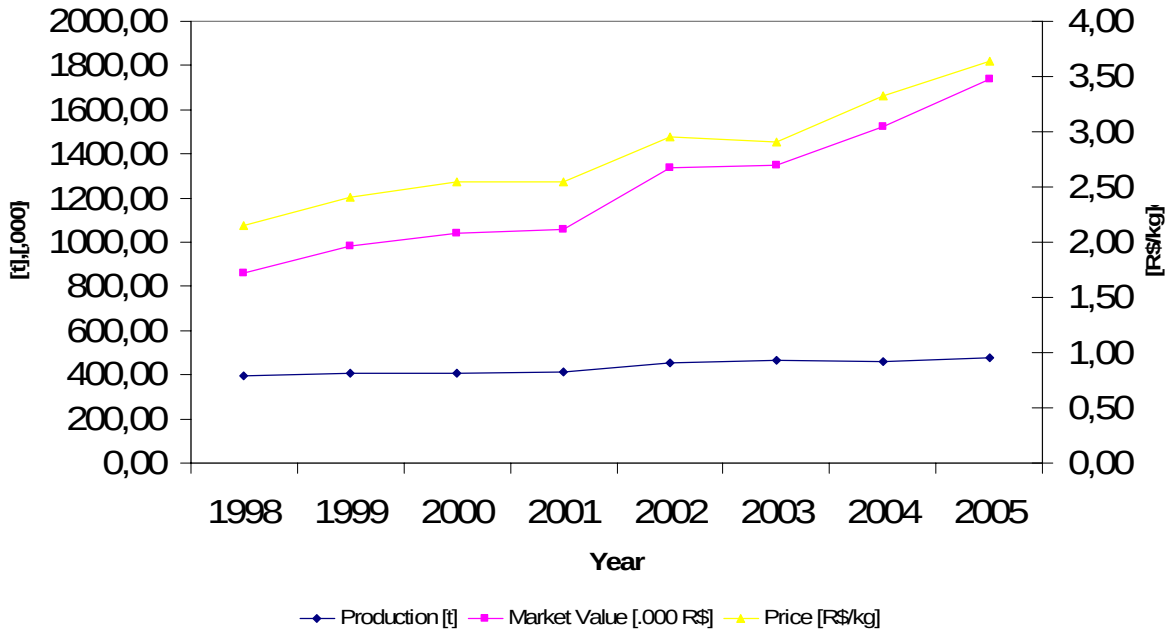


Figure 5.77: Development of production and market value of copaiba oil between 1998 and 2005 (Source: IBGE)

The comparison of the prices on the local and national level can be seen in Figure 5.88. The national market price exceeds the local price by far. The national market also has higher quality requirements and offers premium prices for organic certified products.

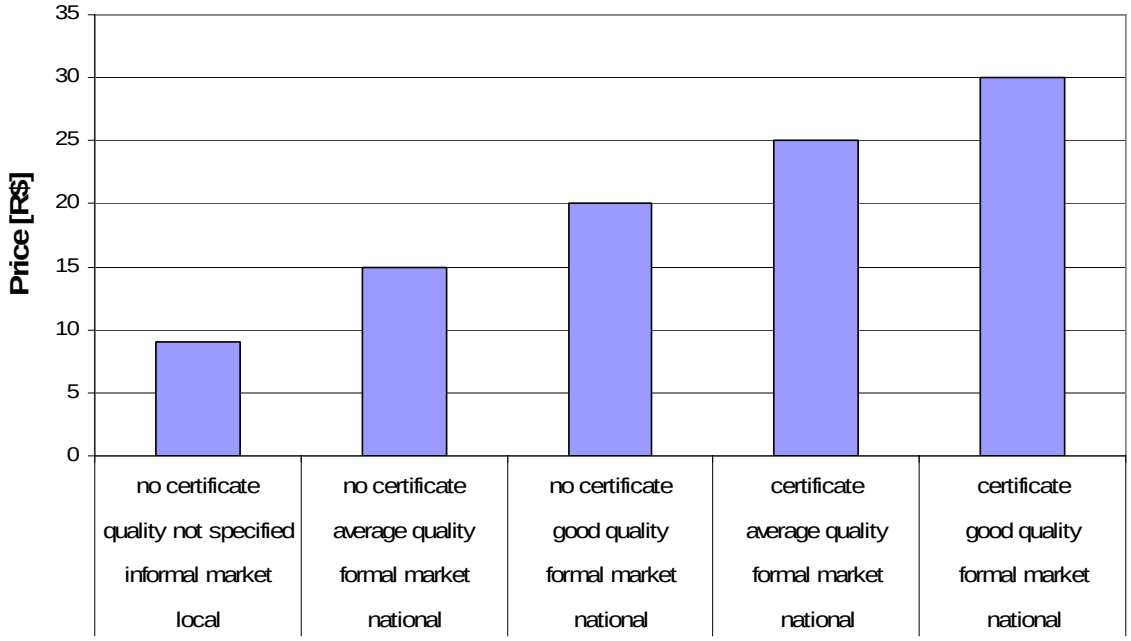


Figure 5.88: Price range of copaiba oil on local and national markets

5.3.3.3 Value Chain Assessment

For the assessment of the value chain to identify most reasonable business partners for successful commercialization all possible trading links were analyzed. At first, the critical success factors which are order qualifying for the single links of the value chain were gathered and compared with community's capabilities leading to a knock out process which can be seen in Table 5.1010. The detailed description of the procedure can be found in chapter 4.1.

Trading link	Order qualifying factors that led to knock-out
Local processor	- No interest in trade with local producers
National cosmetic industry	- no processing facilities to refine the oil - high volumes - lack of business capacity
International oil and essence intermediaries	- no processing facilities to refine the oil - high volumes/ no export capacities - lack of business capacity
International cosmetic industry	- no processing facilities to refine the oil

	- high volumes/ no export capacities - lack of business capacity

Table 5.1010: Knock-out process for copaiba oil

The following possible links for trade remained to be assessed using benefit analysis:

- boat owners/ harbour intermediaries
- local intermediaries/ local retailers
- national oil and essence industry

The national oil and essence industry was determined to be the best route in the value chain to be penetrated. The detailed decision process can be found in annex 8.4.

The most interesting business partner in this route right now is Beraca. The company has experience trading with communities and is willing to develop suppliers. They offered to conduct a workshop about copaiba oil harvesting to improve the quality of the products. As a mid-term business perspective they offer opportunities for development by setting price incentives for improved quality and certification.

5.3.4 Handcrafts and Bio Jewels

The map of the handcrafts and bio jewels value chain can be found in annex 8.9. It describes the value adding activities in the communities and the different market channels for commercialization.

In this specific case, all the value adding processes are conducted at the communities. In the first place, raw material is collected by harvesters from the forest. Different knowledge is required for each of the species collected and the wild environment of the forest makes this activity very risky and time demanding. Different seeds, lianas, leaves and barks can be used for handcrafts and in general a lot of familiarity with the area is also required to collect these products. The materials are usually transported in baskets called *paneiros,* which are produced by the harvesters. In general harvesters are concerned with extracting the material properly in order to guarantee forest regeneration. As in other cases, the supply of raw material cannot be estimated precisely as there are no studies appointing the concentration of the usual species in the region. The availability of a product is based on subjective experience of local inhabitants.

Once the raw material is collected, it is necessary to prepare it before crafting. This is a very important step for the quality of the final product. For every different raw material there are specific techniques to prepare it for crafting. In the case of most of the seeds, for example, it is necessary to clean them, to sand their surface, apply certain substances that will prevent spoilage, to polish and sometimes to drill them. These activities clearly require knowledge and also the proper supporting materials and tools. Some of the mini-factory equipment made it possible to do this processing in the communities. Before that, the limited number of producers who were dealing with handcrafts used to go to Porto Velho to do this processing or buy processed material from the city. Now, it is only necessary to bring more knowledge and experience to improve communities' capabilities.

For generations, crafting was part of riverside communities' subsistence activities. With the intensification of the contact with the market and the local economy changes, many items of basic supply started to come from the city instead of being produced locally. Nowadays, besides the potential of handcrafting activities, few people are dedicated to it, especially because of the difficulties of commercialization. In the case of some products, increasing productivity using supporting equipment is also very important to achieving volume and quality requirements of the markets. The few people who depend on crafting to generate part of their incomes sell the products in the communities, according to the demands, sometimes in the local boats, in which a very restricted number of tourists transit, and very rarely to retailers in Porto Velho or other locations. In contrast to the other products considered here, handcrafts and biojewels are not negotiated with local intermediaries. This upgrades the barriers to access the market.

Several local retailers were identified at the local market as possible business partners for the communities. All the information about these players is available in the research database. There is relatively high client diversity for handcrafts and biojewels in Porto Velho but quality requirements are slightly higher than in the markets where the few craftsmen from the communities are used to commercialize. Complaints from buyers about the quality of the handcrafts produced in the region were common. This means that whoever is able to offer a product according to what they demand, will be a business partner. The retailers usually do not demand a tax receipt and the craftsman is paid a commission when the product is sold or he is paid a certain price agreed upon. As a high contingent of the handcrafts commercialized in Porto Velho is sold for tourists, it was identified that communities should engrave specific sayings on the product to make it more attractive to the final costumers.

The national market research conducted in Sao Paulo state identified several potential buyers for a big diversity of handcrafts. Most of the companies were either intermediates, generally with an internet based business, or small retailers. Top quality is required, as well as tax receipts for the merchandise. In general, producers are paid as soon as they send the products and the prices are higher than in the local market. Usually small retailers offer a better price and buy a smaller volume of products. Logistics for sending the product to Sao Paulo is simple and the costs for transportation depend of the physical characteristics of the products, but are typically relatively low.

The European market is divided between intermediates and retailers. These companies have similar requirements and the basic difference is that the latter require a lower volume and pay a slightly higher price. Because of the similarities of the companies contacted, the intermediates and retailers were considered as a single route in our analyses. Their requirements are basically the same as the ones from the national market but the international companies are much more into supporting the communities. Small retailers are very open to dealing directly with communities, but buying from the intermediates is more practical. These companies also explore intensively the “saving the rainforest” image, since the consumers in Europe have another level of awareness about environmental issues. Logistics to send the products to the international market may be relatively simple depending on the service used to export.

5.3.4.1 Quantitative market information

This section will describe market characteristics taking into account the gathered quantitative information. For the case of handcrafts, as the variety of products is high, the analysis is very limited and should only provide an idea about the general behaviour of prices in the different market channels.

The comparison of the prices on the local, national, and international level can be seen in Figure 5.88. The prices of bio jewels were taken into consideration as a reference to provide an idea about the prices in different market channels. The maximum and the minimum prices are presented as references.

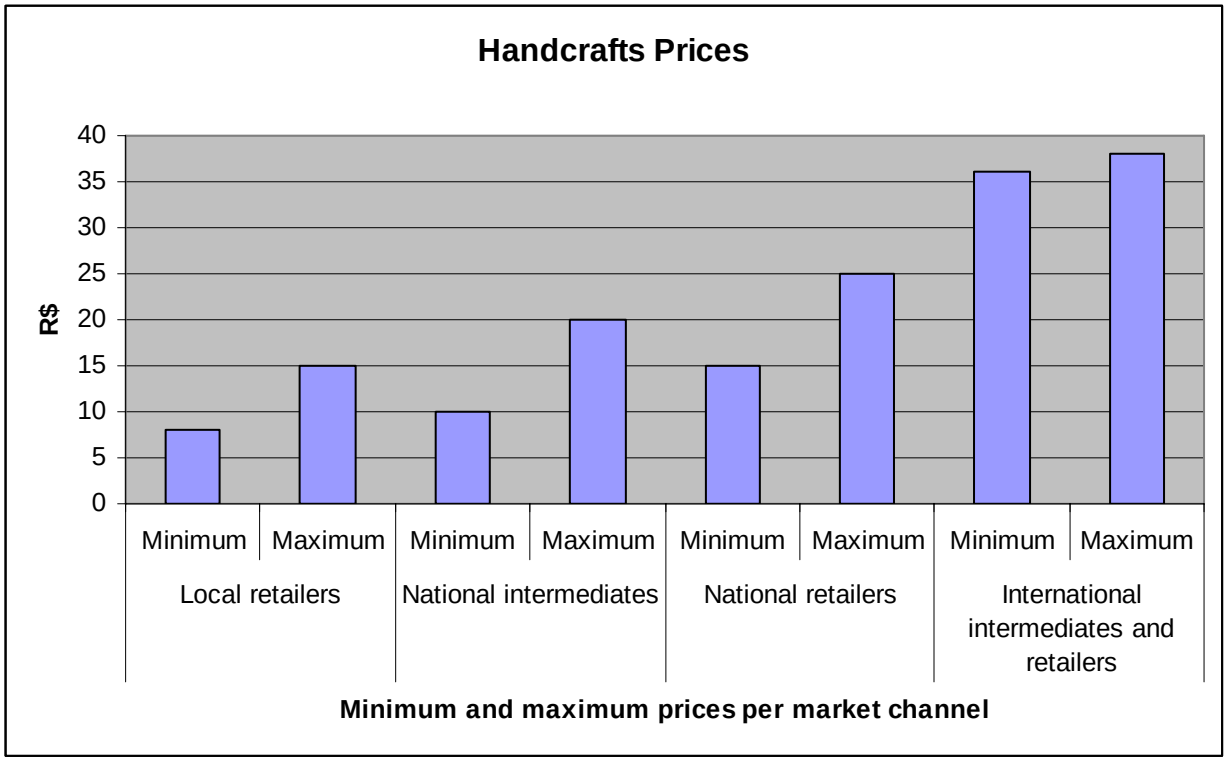


Figure 5.99: Price range of handcrafts on local, national and international markets.

It is clear that the European market pays a lot better than the other ones and even with the higher transportation costs, this is the most attractive option. The prices in national market are also better on average than the ones in the local market. National market presents the highest variance of prices and international the lowest.

5.3.4.2 Value Chain Assessment

All trading possibilities were analyzed to assess the most interesting option at the moment for the communities. The order qualifying requirements were put side by side with communities' capabilities and due to the low barriers to enter the handcrafts market, no chains were knocked out.

The following possible links for trade remained to be assessed using benefit analysis:

- local retailers
- national intermediates
- national retailers
- international intermediates + retailers

The detailed decision process can be found in the Decision Tool for Value Chain Analysis which was handed out and explained to NAPRA.

Two companies are identified out as the most interesting ones to start business with, analyzing their characteristics and requirements: Amazonia Shop and Terra Art. More information about these companies can be found in the research database. Among the factors that lead to the decision, the fact that the contact persons in both companies speak fluent English and Portuguese and are willing to support the communities in this starting process were of high relevance.

5.4 Empowering Communities

Living the community's reality helped the team to improve the comprehension of the context of commercializing NTFP. To get the specific missing information, workshops were organized with two different groups of producers and other market players at the local level. During these workshops, issues of production and commercialization of other community products were discussed as well. Also several semi-structured interviews took place during the daily activities and by the end of the month the team was able to appraise the local situation regarding commercialization of NTFP.

The project was presented to the focus group, so that the goals on local sustainable development were apparent. They agreed to lead the activities and build a team to work on it. At the same time, activities about management and handcrafting were conducted in two other communities and some efforts were made in order to put these different producers in touch with each other. The following items contain a short description of all the activities done during the month and how they integrate the strategy.

5.4.1.1 Team building activity

This activity about team building was conducted in order to highlight the importance of searching for complementary competences and motivation when selecting a work group. For promoting organization between the producers, it was necessary to present the importance of team building and some tools to do it. This is an especially important issue in the communities, as the producers generally prefer working by themselves to avoid problems dealing with other inhabitants.

The activity was conducted informally with the two key producers. A discussion about the benefits of organizing was promoted. The producers showed some examples of unsuccessful organization initiatives in

the community and the main issues about the cases were discussed. They reached the conclusion that a group must be composed of motivated persons with complementary competences. They also considered it important to find people who are easy to deal with and that the best strategy is to start with a small group, which is easy to coordinate and keeps the expectations in the community low.

The producers decided to select a group of ten persons, including harvesters and other local players with different knowledge and experience. All listed persons were from Sao Carlos do Jamari, so the selected community members were invited to the kick-off workshop.

5.4.1.2 Kick-off workshop

During the workshop in São Carlos do Jamari, both GET projects, the Commercialization and the Mini-factory, were presented to the group of producers as well as some previous results from the Literature Review and the Market Researches conducted so far. Specific information about the community's reality and the supply possibilities were gathered to cover information gaps discovered during these two steps at the same time. A supply map for the four focused products was drawn with the producers so a clear idea of logistical aspects for the harvesting could be obtained.

The producers in the workshop were asked about their expectations of the project and if they wanted to take part in the group. An action plan for the month was defined. The timetable of the plan, including the two first activities, is show below.

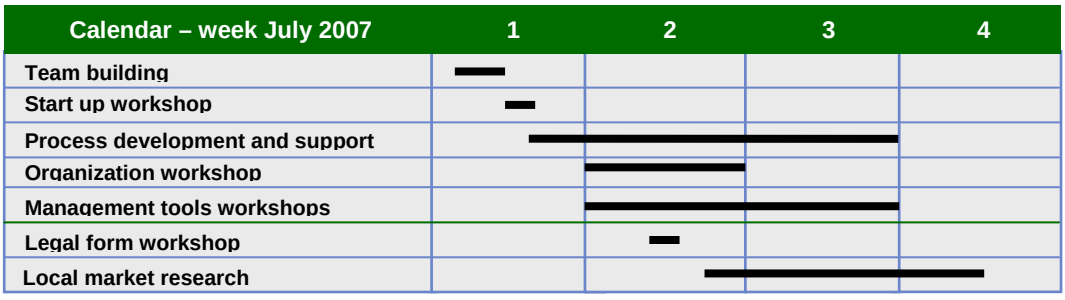


Figure 5.1010: Workshops with community members - Timetable

5.4.1.3 Product and process development support activities

During the installation of the Mini-Factory equipment in Sao Carlos do Jamari, tests were conducted to improve the production process according to the market requirements previously identified. These inter-

ventions were done in cooperation with the producers involved to show the importance of continuously improving the production process. Considering the raw material availability, the processing possibilities at the community, and the market requirements, a decision on the products which would be used for the practical commercialization attempt was made. The ideas were brainstormed and the possibilities discussed in the group. It was decided that the following products would be produced within the month:

- Candles (using the Brazil nut shell)
- Boxes (using the Brazil nut shell)
- Dehydrated Brazil nuts
- Several seeds for bio jewellery
- Brazil nut candy

Samples produced in the mini-factory were used during the market research, described in the following break. Producers from another community, called Boa Vitória, with good potential for production of NTFP also took part in some activities related to the product and process development. This was a way to put producers from different areas in touch, promote exchange of experience, and create a cooperative network in order to produce and commercialize the products.

5.4.1.4 Local market research

After gathering the information for the national market in the first stage of the South phase of the project, it was necessary to get to the local market. The market research in Rondonia had a strategic importance for the sustainability goals. It was critical to involve the members of the community in the research to show them the importance of understanding the market requirements for the development of production and commercialization. Furthermore, it was necessary to provide them some tools for this kind of research so that they would do it without any support.

The target group from the communities were involved in the local market research. The research took place in Porto Velho, the nearest city. One person from the target group in São Carlos do Jamari as well as three producers from Boa Vitória took part in it. Information was gathered with semi-structured interviews, beginning with the local players identified during the previous research. At the same time the information was gathered, more players were identified and contacted in a snowball process. If the player interviewed was a possible partner for commercialization the team simultaneously offered the product

samples produced in the mini-factory. This way it was possible to provide commercialization experience for the producers involved in the activity, get feedback on the samples to support the improvement of the mini-factory products, and access more detailed information about the requirements and terms of the players.

5.4.1.5 Management tools workshops

Workshops about management were provided in order to empower the two key producers of the focus group in Sao Carlos do Jamari, so that they could lead the production and commercialization processes independently later when the team would not be around any more. It was important to work with a practical content, so that they could use it right away on the mini-factory activities. The topics were defined according to the information of the Literature Review, covering the basic knowledge demand to manage the production and commercialization properly. The following subjects were covered:

- Production plan and control
- Financial and cost management
- Planning Techniques (SWOT and participative planning)
- Marketing strategies
- Quality management

These workshops were planned by the team in Sao Paulo and conducted as case studies of the situations the two key producers were going to deal with in the mini-factory management. Support material was prepared by the team or NAPRA. At the same time, other workshops were promoted by NAPRA in other communities. These workshops were either provided individually for interested producers according to the demand, or within bigger groups in specific communities. About 30 producers took part in these management tools activities during the month. That was the way adopted to spread the knowledge and start promoting a network of producers.

5.4.1.6 Organization workshops

Another community demand to be covered during the month and one of the main issues for the development of commercialization of the products at the region was organization. With more organization, the producers can reach different markets, improve bargaining power, exchange knowledge and experiences, which leads to development of commercialization. The activity aimed to link the problems they have with

commercializing their products with the lack of organization and to discuss some ways in which this situation could be improved. The two key producers took part in it and solutions to the problems to get people together in the region were discussed. As they assumed a leadership position at the mini-factory activities, the producers had to be prepared to manage the working process. At the same time the organization had to be democratic, in accordance to NAPRA´s philosophy, it also would have to be an efficient business. Operational rules about the usage of the equipment of the mini-factory, the control of working shifts, and possibilities on how to pay the other producers involved were discussed, put in practice during the month, and evaluated with the key producers by the end of that period.

5.4.1.7 Legal forms workshop

One important decision to make is whether the producers have to be organized in the formal or informal market and this workshop proposed to discuss approaches for the Mini-Factory case. Some advantages and disadvantages for each case and also the possibilities in the legal field were presented to them. The general process of starting and managing a formal organization was presented and the strength and weakness of different legal forms discussed. According to previous research, the two possible ways for the communities to do business in the legal market are forming a regular company or a co-operative company. The characteristics of these legal forms, as well of the differences in how are they managed, are presented in Chapter 5.9 of the report.

The activity was conducted as an informal discussion with the two key producers. They concluded that it is better to start small and informal. As they gain some success, they can start aggregating more people and communities and start thinking about becoming a formal business, as working that way requires more maturity and organization.

5.5 Commercialization

5.5.1 Local Experience

One of the main goals of the project was to detect opportunities to experience the NTFP markets. At local level most of the experiences took part during the local market research in Rondônia when the team and producers met the companies and had the chance to understand their requirements and in some cases to

offer them business. It was possible to improve the understanding about how the market is structured locally, what its opportunities are, what the gaps are between what the communities are producing and what the buyers require in Porto Velho.

The insecurities about the potential of the local market were eliminated and it was verified that there are plenty of opportunities for whoever provides products with good quality and is able to organize production in order to supply higher volumes. In the case of açaí and brazil nuts, it is very clear that the mass of individual harvesters in the surrounding areas of Porto Velho are unable to offer large quantities at a given time which makes the buying process a challenge for the processor with high demands and also provide a good opportunity for the intermediaries in Cai n'água, the harbour of Porto Velho where all products arrive, to make easy money. Handcrafts retailers commonly complained about how difficult it was to find craftsmen who could understand the demands and develop a product to meet the requirements. With products developed considering some general market information, it was easy to have a number of successful attempts and start business locally.

The consequences of the problems observed at communities considering the processing technologies were noticed in the market. For example, it was detected that all the dehydrated Brazil nuts commercialized in the region come from Bolívia or Acre, which are remote regions, especially considering the availability of these resources locally. To acquire knowledge about the process of this specific product, CAEX, a processor in Acre, was visited. During the visit, it was also possible to identify how coordinated the support of the commercialization development has to be, providing at the same time improvements at processing capacity and tools to manage the business properly. A more detailed report about the visit of CAEX can be found in annex 8.10.

The activities during the month also created experiences for local producers since they had the chance to reach potential costumers, enlarging their network and understanding that if they change their production conception and go beyond Cai n'água intermediates, they can obtain better results in the market. An important result was to motivate community members making them seeing perspectives for the commercialization of their products. For the future work of NAPRA it is necessary to support communities which provide the necessary inputs to keep the learning process going on and cover the knowledge gaps which are still the bottleneck for sustainable commercialization.

5.5.2 National Experience

During the national market research different business opportunities were identified. The companies on the national market required samples of NTFP to start business with the community producers. Shortly after the end of the national market research, the team travelled to the producers in Rondônia, therefore it was able to make a first value chain analysis already prioritizing the different opportunities. At this point of time there was no need to focus just on one particular business partner and the process of sending samples to companies was considered to be a good chance for the producers to gain important experience and to test the market for better information gathering. Therefore a list of five companies who were willing to receive samples was presented to the entrepreneurs in the communities. These Companies were Beraca, Jasmine, M.Cassab, Sanrisil and Laboratório Centroflora. Besides the focused products also other NTFP were listed like Babaçu, Andiroba and Breu Branco. The decision on who to send samples to and which products was planned together with the producers.

During the stay in the communities the production of some products was just starting and the capacities were lower than the team had expected. Therefore some requests for samples could already be disqualified. Contacting the companies to ask for adjustment of their amounts was considered to be too difficult because of the lack of communication equipment in the communities. The gathering of samples for the local market already fully stressed the production capacity. Because local experience was considered to be more important at this stage, the focus of the team was on driving the trading activity in this direction. Nevertheless the team and the producers decided to send copaiba oil samples to Beraca. This is a company that deals with a variety of different natural products. It is supplying mostly to the cosmetic industry which makes fragrances out of the natural ingredients. The company is located in São Paulo and was visited by one of the team members together with a NAPRA representative. The company stated that they already have suppliers from rainforest communities and that they are interested in finding new ones. They provide support through fair pricing and knowledge transfer about best harvesting practices.

During the stay in Rondônia the team supported the entrepreneurs by organizing the copaiba oil supply. Just in some areas of the reserve a high density of copaiba trees can be found. Therefore the traders themselves depend on a local network of small suppliers. At the end of the project the producers had sent oil samples to Beraca. Furthermore a visit of a company's representative is planned to conduct a work-

shop about quality requirements and harvesting practices. A future partnership with the company is seen as a great opportunity for commercialization.

5.5.3 International Experience

The only products that were identified to be placed best on the international market were handcrafts and bio jewels. After having carried out this decision, two practical attempts were made to enter this market and to gain experience in it. The first was with a German retailer of authentic handcraft from Brazil who sells his products online. The name of the company is Amazonia Shop, more details about it can be found in the research database. Since the owner has a strong affinity towards Brazil and especially to the inhabitants of the Amazon due to his spouse who was born there, he was chosen for this approach. He ordered bio jewels and handcrafts with a total value of R$ 2340. This deal was made possible by offering business while conducting the market research on the international level. After having described the project and establishing the contact, a catalogue with the photos made during the stay in Rondônia was created and sent to the business partner. Attached to this were a price list and an estimation of the shipping costs as they are stated on the homepage of the Brazilian mail service. Based on this information the customer ordered a variety of goods. This order was transferred to the producers via email with the help of an employee of IBAMA, the environmental agency of Brazil which cooperates with NAPRA in the region. Via telephone, the producers agreed on a delivery date. Furthermore, it was agreed that this first shipment be sent to the members of NAPRA who were about to come to Germany around that time. Unfortunately the producers could not meet the deadline for sending the products in time, so the shipment had to be made through the usual way with the Brazilian mail service. That led to unexpectedly high costs which were not considered during the planning and negotiating of the deal.

Another important factor for the international market is the money transfer. Since customers usually do not pay in Brazilian Reais but in Euro or Dollars, the producers are exposed to volatility in exchange rates. The smallness of the transactions in terms of value makes it inappropriate to consider any tools like futures, forwards or options for covering this risk. The only possibility for reducing at least short term changes in exchange rates was to base the amount invoiced on an average of exchange rates ten days before and ten days after the shipment was sent. In addition to that, the conversion from one currency to another and the transfer from one country to another involves costs which are significant as long as the

amounts traded are that small. For the practical attempt it was agreed that the team members take the Euros in cash to Brazil, change it there to Reais and transfer it to the producers bank account which involves much fewer costs than the international transaction.

Since this solution was feasible only in this special situation, long term possibilities were discussed with the business partner. His experience with transactions of rather small amounts of money between the two countries could help developing a long term solution. He suggested opening a bank account in Europe with a credit card that allows withdrawing money in Brazil as well. By using this, the fewest amount of fees becomes due.

The second practical attempt was planned with a wholesaler of raw materials for jewelry in the United Kingdom which is called Terra Art. The owner used to live for several years in Brazil and speaks Portuguese fluently as well. He was interested in starting to commercialize prepared parts like seeds or shells for self-made jewellery in his online store were he already offers semi-precious stones from Brazil for purchase. For this purpose he offered to set up a homepage only for the producers in the communities which he would maintain as well. NAPRA could provide detailed information and pictures about the project and it could be used as the story, supporting the business and the image of the products. The first step of this partnership would be to send him some samples of seeds in order to make professional pictures he could show his business partners in Europe in order to obtain an idea of the prices that could be achieved. Since the shipment from the producers did not arrive before the end of the project the further proceeding cannot be determined.

5.6 Certification

Certification is a market based system that can help to distinguish products in a global market where the origin of the product is mostly unknown to the final customer. Labelling organizations try to close the gap between the final market and producers who do not have the marketing power to inform customers about the quality of their products.

5.6.1 Challenges

It is a big challenge to increase the two-way flow of knowledge between collectors with poor market information and commercial buyers, industries, and government regulators who are often unaware of tradi-

tional use and knowledge about the circumstances or production but who understand and shape the productive market chain. That is why a common experience in NTFP certification is the difficulty of merging a system driven by international scientific and bureaucratic norms with community's reality. Another problem is the lack of awareness of customers about unsustainable harvesting of medicinal barks, resins and edible nuts sold in international markets. In general, certification of NTFP is just starting and all initiatives in this field, organic, forest management or fair trade, have one thing in common that is their emergent nature. There are many obstacles observed by recent literature that show why certification of NTFP is different from products like timber [27]:

- The wide array of products encompassed by the term “NTFP”
- The complexity of chain-of-custody systems for NTFP, which often involves a high number of middlemen
- The diverse plant forms and plant parts used;
- The diversity of applicable certification schemes for NTFP which will likely necessitate collaboration across schemes to succeed
- Inaccessibility of certification to small producers, due to the institutional infrastructure and built-in costs, that are usually excessive
- Lack of capacity to address the topic in the forestry sector
- Gap between traditional management systems and formalized management practices
- Existence of competing and conflicting systems of certification (fair trade, ecological, organic) have not been adequately integrated and tend to address distinct segments of the market
- NTFP operations receive little or no assistance post-certification
- lack of ecological data to design a management plan

5.6.2 Labelling of NTFP

Numerous standards for certification of NTFP have been developed in the organic, forest management, fair trade, quality control and other sectors. Not all of them have been identified by the team as requirements to penetrate certain market niches for the researched products. Table 5.1111 gives an overview of

the labelling initiatives which are relevant in the markets for the chosen NTFP. This information can be found in more detail in Shanley, Pierce and Laird's paper on NTFP certification [27].

Program / Characteristic	Organic	Fair trade	Ecological
Emphasis	- Pesticide-free standards; organic processing guidance	- Assures fair wages and better working conditions - Support for producers in the third world	- Forest management
Weakness	- Single species orientation; weak forestry and ecosystem standards	- Mainly focused on high volume/high value agricultural commodities	- No attention to processing or manufacturing stages of production - Area based, no program for wild collecting
Main Message	- Pesticide-free herbs	- Equitable trade with producers, fair labor conditions	- Sustainable forestry and harvesting, healthy forest ecosystems
Oversight	- Independent certification to thirdparty accreditor standards or government standards	- Independent verification by thirdparty certifiers	- Independent verification through thirdparties
Agents	- NGOs government programs (e.g. Demeter, USDA)	- NGOs (e.g. FLO international)	- Certifiers accredited by the Forest Stewardship Council (e.g. SCS, SGS, IMAFLORA

Table 5.1111 : Main characteristics of relevant labelling initiatives

The producer organization must weigh the costs and benefits of various labelling initiatives to determine whether or not a particular set of standards is a good fit for their product, their consumer base and their organizational capacity. A decision for a certain certificate should also include considerations about a possible joint certification which will be more cost-effective in most cases.

The following sections will provide detailed information about the requirements, certification process, benefits and costs of the relevant labelling schemes.

5.6.3 Fair trade certification

„Fair trade is aimed at benefiting those who find it difficult to sell into the international market and to trade responsibly and profitably when they do. Fair trade brings benefits such as access to the market, with increased sales and increased income as well as advice and support. Producers are expected to use these benefits to increase their organizations' ability to trade responsibly and to respect and improve the lives of those who work with them, the communities in which they work, and the environment. The benefits are also to be used by any workers employed to improve their living and working conditions and those of their communities. "[4]

Fair trade certification (usually simply Fair trade or Fair Trade Certified™ in the United States) is a certification system for product designed to allow people to identify products which meet certain environmental, labour and developmental standards. Overseen by a standard-setting body, Fair Trade Labelling Organization International, and a certification body, FLO-CERT, the system involves independent auditing of producers to ensure the agreed standards are met. Companies offering products that meet the Fair trade standards may apply for licences to use the Fair trade Certification Mark for those products. The FLO International Fair trade certification system covers a growing range of products, including bananas, honey, oranges, cocoa, cotton, dried and fresh fruits and vegetables, juices, nuts and oil seeds, quinoa, rice, spices, sugar, tea and wine.

Of the products considered in this project only Brazil nut can be certified by FLO-Cert.

In January 2004, Fair trade Labelling Organizations International was divided into two independent organizations: FLO International, which sets Fair trade standards and provides producer business support, and FLO-CERT, which inspects and certifies producer organizations.

Besides the International Fair trade Certification Mark there are still three labelling initiatives existing: Transfair USA, TransFair Canada and Max Havelaar Switzerland.

There are two types of Fair trade standards for disadvantaged producers: standards for small farmers' organizations and for hired labour situations.

5.6.3.1 Guideline for certification (Small Farmers' organization)

This step-by-step guideline was compiled taking into account the current level of development in the communities. Following this guideline; the communities should be able to meet the minimum standards of Fair trade certification. For further information please read chapter 5.6.3.8.

Official registration

To be certified under the Fair trade standard for Small Farmers' organizations, the producers have to officially found an organization. In this case a member based organization like a cooperative or an association is recommended. For further information about these organizations please read chapter 5.9.

Installing basic structures

The following structures have to be implemented in the chosen organization. They should be part of a member agreement or stated in the articles of incorporation to be documented for the certification officer.

- General Assembly must consist of all members and is the main decision body
- General Assembly has to appoint a Board or Management Committee
- Annual Report and accounts need to be presented to all the members at the General Assembly and must be accepted by the Assembly before they are valid
- General Assembly should install a committee in charge of administrating the Fair trade Premium
- General Assembly should assign a person or committee responsible for quality management

Fairtrade Premium committee

The Fair trade Premium committee has the following responsibilities:

- Give suggestions on how to spend the Fair trade premium
- Let the General Assembly decide democratically on the usage
- Keep record of all spending for certification officer

Quality manager

The Quality manager has the following responsibilities:

- Brazil nut quality has to comply to export standards

To start, the quality manager should follow the process improvement suggestions of the team which can be found in annex 8.11.

Built capacity to export

The following equipment has to be owned by the organization:

- Telephone
- Computer system
- The organization also must have access to the internet.
- Following the step-by-step guideline to commercialize handcrafts (see annex 8.12) the producers' organization can make the needed experience in the export process.

Workers right and child labour

The members' agreement should contain articles that state the freedom of each worker to join a union and prohibit child labour.

Every worker has to become a contract. The salaries of the workers have to be equal or above regional average. The management has to keep a copy of the contracts and records for the monthly payments of the salaries. These documents have to be shown to the certification officer.

The quality manager has to make sure that the work is done in a safe and healthy environment. The process improvement suggestions for the Brazil nut production as they can be found in annex 8.11 should be followed.

Application

The application process always begins with filling out an application form or questionnaire by an applicant and ends with an evaluation of the applicant.

To receive the application form contact FLO Cert GmbH[1].

[1] The address of FLO Cert can be found in the market player database

The purpose of the Application process is to:

- Find out whether an Applicant falls within the scope[1] of the FLO Certification system,
- Provide the Applicant with sufficient information regarding the Fair Trade system in order to properly prepare for the rest of the Certification process,
- Inform the Applicant of all rules (Standards and Certification Policies) that apply to their case,
- Create clear communication lines between the Applicant and the relevant members of FLO Certification Team.

Apply for funding

After the organization receives an invoice for the inspection from FLO Cert GmbH they can apply for funding from the Producer Certification Fund[2] which is administered by FLO international[3]. For additional information on the scope of the financial support please see chapter Financial support.

The management has to prepare the following documents:

- signed balance sheet of the most recent complete financial year (for the initial application you might not have a financial history, an account listing the organizations' assets and liabilities may be acceptable as well)
- signed profit and loss statement of the most recent complete financial year (same exceptions as above)
- The application has to be filled out and sent to FLO international.

Initial Inspection

During an inspection FLO-CERT evaluates the compliance of an operator (producer or trader) to the relevant Fair trade Standards.

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[1] regarding the chosen products in this project, only the production of brazil nuts falls under the scope of Fair trade

[2] Application form can be found on the website of FLO international: http://www.fairtrade.net/certification_fund.html (27.09.2007) File name: English_Application_Form_2007.pdf

[3] The address of FLO international can be found in the market player database

At the end of the inspection, all detected non-compliances are made known to the inspected organization.

Operators are informed of sanctions during the application phase. This information is explained in detail in the certification contract.

Evaluation

The operator has time to suggest measures to correct the non-conformities. Selected staff members evaluate the corrective measures taken by the operator to make sure that all relevant requirements of Certified Fair trade are adhered to.

Certification

Once all non-conformities are corrected, the operator file is handed to a qualified certifier who had not been involved in the inspection or evaluation process.

FLO-CERT issues a certificate as soon as compliance with all the relevant compliance criteria is confirmed.

After Certification

After being certified, all operators enter a certification cycle which currently takes one year to complete.

Before the end of a certification cycle, a renewal inspection takes place to evaluate if the operator is still in compliance with the relevant Fair trade Standards.

5.6.3.2 Requirements and Standards

The following section is a summary of the most important requirements. The currently effective requirement list can be found in the further reading section.

The producer organization was assumed to be a Small Farmers Organization under the Fair trade standards. The minimum requirements are only applicable for this type of organization.

Different types of standards

The Fair Trade Certification System uses different standards depending on the form of organization and products produced.

The generic standards refer to different ownership situations in the production process:

- Small Farmers Organizations
- Hired Labour

Small farmers´ organizations are usually member based organizations such as cooperatives or associations of farmers. The members have a direct stake in the policy and operations of the organization and democratically control it. A small farmer organization usually creates a **Premium** Committee that manages the use of the Fair trade premium based on a democratic decision of the members of the organization.

The majority of the members of the organization must be small producers who do not depend on hired workers all the time, but run their farm mainly by using their own and their family's labour.

Hired labour standards refer to companies such as privately owned farms or factories. The firms employ workers who usually do not own or co-own the firm. The workers of these companies are the actual beneficiaries of Fair trade and they receive the Fair trade premium payments. In order to manage the premium funds, workers together with management have formed a Joint Body Committee.

There are certain basic principles hired labour organizations have to obey. These are the prohibition of child labour, the right of the workers to join a union to negotiate their working conditions and the payment of salaries which have to be equal or higher than the regional average.

The standard is made up of two sets of requirements against which farmer or producer organisations will actually be inspected:

Minimum requirements, which all organizations must meet from the moment they join.

Fair trade and progress requirements, which show the sort of areas in which organizations will be expected to improve and by when.

5.6.3.3 Minimum requirements for Small Farmers organizations

Fairtrade brings Development Potential

The farmers' organization has got to be able to show that Fairtrade is going to make a difference and that the benefits will help develop a better business and give better lives to the producers and their families.

The Members must be Small Producer

The majority of the members must be smaller farmers and they must produce more than half of the volume of any Fairtrade product the organization sells. So you cannot be Fair trade, under this standard, if you have a small group of larger farmers who produce most of your Fair trade products. You would then need to look at getting certified for Fair trade under the Hired Labour Fair trade Standard.

Democracy, Participation, and Transparency

The organization must have a structure which allows control to be executed by the members. This probably means a general assembly that meets at least once a year and which is the top decision making body. The assembly should elect a board or management committee. Any staff that the organization employs must be answerable to the assembly through the board. The annual report and accounts need to be presented to all the members at the general assembly and must be accepted by the assembly before they are valid.

5.6.3.4 Economic Development Requirements

Fairtrade Premium

The organization must show that it has the systems in place and is willing to administer the Fair trade Premium for the benefit of the producers and do this in a transparent way. Decisions on the use of the Premium must be taken democratically by all the producers in the general assembly and a record must be kept of all these decisions. Both the producers and FLO need to be able to see what the money is being spent on and that it is spent efficiently and effectively.

Ability to Export

The organization must have all the infrastructure and capacity that is needed to be able to communicate with, sell to, and deliver to a market overseas. This would include a telephone line, internet access, computer systems and generally good administrative skills. It also means being able to use good facilities to move or transport the product and to export it. If they have to borrow or hire these things from another organization then they must make sure that they have easy access to them. The product must meet the up to date export quality standards and the organization must show that it has or can export successfully

itself or, if necessary through a partner. There must also be a clearly established fair trade demand for the product.

5.6.3.5 Labour Conditions

Forced Labour and Child Labour

People and their spouses, must be free to decide whether they work for you or not. Children under 15 should not be in employment. Work must not stop schooling or hinder the ability to learn through tiredness or illness. It must not cause problems for the social, physical or moral development for young people. Any work which is dangerous must not be done by people under 18 years of age.

Freedom of Association and Collective Bargaining

You need to show in both writing and the way you work that you recognize the right of all workers to organize themselves and to be able, as a group, to negotiate their working conditions with you. You need to allow trade unions and elected representatives to have access to workers in the work place and you should meet with these representatives on a regular basis.

Conditions of Employment

All the workers must work under fair conditions of employment. You must pay wages the same as or higher than national laws and agreements on minimum wages. And you must state what those wages are for all positions. All the workers must have contracts and you have to pay wages on a regular and agreed basis.

Occupational Health and Safety

You have to reduce the risk to the health and safety of your workers as far as possible. You need to make sure that the workplace and all the equipment and machinery that is used is safe. FLO may ask you to provide an independent inspection report which shows that it is. There is a list of the types of people who are not allowed to use pesticides. This includes people who are under the age of 18 years and pregnant or nursing women.

5.6.3.6 Costs and Prices

Product	Origin	Currency / Unit	Fair trade Minimum Prices			Fair trade Premium on top of the price
			Farm Gate	Ex Works	FOB	
Brazil nut conventional	Worldwide	US$ / pound		1.13*	1.80	0.17
Brazil nut organic	Worldwide	US$ / pound		1.21	1.92	0.17

* The Fair trade Minimum Prices for Brazil nuts set at the "Ex Works without selection and packing – at the processing plant" level cover the following costs: one-off set-up costs amortized, field work, harvest, transport to the processing plant, shelling, and organizational costs.

Table 5.1212: Prices for Brazil nuts, March 2007

Cost of certification

Cost of certification differs depending on the form of organization, the number of members, the number of products and the number of processing installations to be visited. Higher costs can also arise from the unexpected cost of travel.

The calculated costs assume a 1st Grade organization[1], one product to be certified, less than 50 members, and one processing installation to be visited.

Initial costs

Application fee: 681.79[2] Reais

Initial Certification Fee: 4361.47 Reais

Total costs of certification: 5043.26 Reais

Continuous costs

[1] For more information on organization classifications please see FLO-CERT Producer Certification Fees (File: PC FEESYSTEMSF IS 19EN.pdf) or FLO-CERT Website; these cost also apply to a hired labour organization with the same capacities

[2] All cost in Euro converted into Real at an exchange rate of 2.7275 Reais/Euro Date: 10.09.2007

Fair trade certified producers are inspected at least once a year as part of a three year certification cycle. Depending on the certification performance of the last two years, FLOCERT decides case by case to conduct a

- Full Inspection (focus on all aspects of the Fair trade standard); or a
- Surveillance Inspection (focus on the major aspects of the Fair trade standard)

The costs for a surveillance inspection each year are the following:

Renewal Basic Fee: 2387.25 Reais

Renewal Processing Installation Fee: 239.12 Reais

Total costs per year: 2626.37 Reais

Financial support

FLO International has created a fund to help **Small Farmers' Organizations** pay for their Fair trade certification.

The funding for 1st grade organizations goes up to 75% of the certification costs.

Eligibility criteria for applicants:

- Small producer organization
- Have or be likely to find a market for their products
- Export capacity
- Have received a certification invoice from FLO-CERT GmbH

Fulfilling these criteria does not guarantee funding but is necessary to apply for funding

5.6.3.7 Key benefits

- Minimum price payment:

  A Fair trade Minimum Price (FTMP) is defined for most Fair trade products. It covers the sustainable cost of production and ensures equal opportunities for certified producers. The FTMP is the price which the buyer has to pay to the producer. However, if the general market price is higher than the FTMP, the market price has to be paid.

- Fair trade Premium:

  A Fair trade premium is defined for most products. It is an extra payment on top of the Fair trade Minimum Price and is used to support the socio-economic development of the beneficiaries of Fair trade. Small farmer organizations have to decide democratically on the use of the Fair trade Premium. In hired labour situations, the Fair trade premium belongs to the workers of the certified company. Its use is managed by a “Joint Body” Committee. The money should be used for projects that contribute to the livelihoods of the community members.

- Access to pre-financing of up to 60% of the business deal from their buyers

5.6.3.8 Further readings

This short abstract is meant to give an overview about the most important factors influencing a decision for Fair trade Certification. The websites of the Fair trade Labelling Organizations International (FLO) and the website of the FLO-Cert GmbH offer actual information on the Certification procedure.

- General information on Fair trade:
  - "What is Fair trade?" (File: Fairtrade_Module_1_What_is_Fairtrade_Version_Aug_06 (1).pdf)
- Costs:
  - "FLO-CERT Producer Certification Fees" (File: PC FEESYSTEMSF IS 19EN.pdf)
- Standards:
  - "Generic Fair trade Standards For Small Farmers Organizations" (File: Generic_Fairtrade_Standard_SF_March_2007_EN.pdf)
  - "Fair trade Standards For Nuts & Oilseeds FOR Small Farmers" Organizations (File: Nuts_and_Oilseeds_SF_March_07_EN.pdf)

5.6.4 Organic certification

The aim of organic certification is to regulate and facilitate the sale, assuring quality and preventing fraud [4]. Consumers recognize the certifiers by their logos and certifications have different recognition value to consumers, according to their credibility in the market. Most excepted by consumers worldwide are prod-

ucts certified by organizations associated to the International Federation of Organic Agriculture Movements (IFOAM).

Generally, organic certification programmes aim to produce solely using local resources, protecting the environment and human health. The main advantages are that the producer gets a better price for the products, the market is expanding, and that a great variety of producers can be certified.

At present there is no regulation on organic products applicable world-wide and a confusing number of organic standards make orientation of organic operators, especially in developing countries, quite difficult. The main organic standard types can be summarized as follows:

- Baseline Regulatory Standards and Regulations such as the EU Regulation N° 2092/91, the American USDA National Organic Program (NOP), the Japanese JAS standard, the Swiss Organic Regulation.

  These governmental standards regulate certain organic markets, which are contributing a legal basis of the minimum requirements that a product and its production process have to fulfil in order to label and market it as "organic". Most organic regulatory standards define the requirements for organic production and labelling within the applicable market but also define certain import requirements.

- Private Organic Label Standards, such as e.g. Naturland, Bio Suisse, KRAV or Soil Association.

  These standards usually existed before the regulatory framework standards came into force. Basically these private standards nowadays mainly serve marketing purposes, that is, according to the country of sale, a certain private standard may further facilitate the marketing of the organic produce since consumer's associate organic quality with this particular label. These private standards include all requirements of the underlying regulatory standard and sometimes exceed these regulations in certain aspects

- International private or intergovernmental framework standards, such as IFOAM International Basic Standard

  These aim to harmonize different certification programmes by providing a uniform framework for organic standards world-wide. They cannot be used directly as a basis for certification and as such are not directly applicable for organic operators in tropical countries. However, they may be helpful to understanding the underlying principles and issues in all organic certification programmes world-wide.

5.6.4.1 Guideline for Certification

Because of the amplitude of different certification standards for the organic market developing a consistent, generic guideline for all of them is nearly impossible. Most of the standards are targeted at products which originate from cultivation. However, a considerable number of organic products are not cultivated, but rather collected where they grow naturally. For such wild collection products the principles of the organic regulations apply as much as for “cultivated” crops. However, the different situation concerning the risk of contamination, ownership of the land, vast size of the collecting areas and sustainability implies that there are some differences regarding requirements for organic certification of wild collected plants.

The following manual is a guideline to meet the minimum requirements for organic wild collection according to the organic regulation of the European Union (Regulation No 2092/91) and the US standard (USDA NOP).[1]

This step-by-step guideline was compiled taking into account the current level of development in the communities.

Register officially

To be certified as organic the producers have to officially found an organization. For further information please read chapter 5.9.

The area itself will not be certified just the products harvested in this area. The organization does not have to be the owner of the land. Collecting areas can be public land as well.

Internal collection rules

The management of the producer's organization is in charge of documenting the internal collection rules which can be seen as a quality handbook.

The following contents have to be included into the document.

Collecting areas

[1] This guideline is based on the "Guidance Manual For Organic Collection of Wild Plants" published by the Institute for Market Ecology (IMO) for further information and download please access IMO website: www.imo.ch

The organization needs to have a set of maps (scale at least 1:50'000). The following information has to be included:

- Clear borders of harvesting areas
- Indication of processing facilities
- Sources of possible contamination (e.g.: garbage dump)
- Indication of areas excluded from collection (e.g.: housing areas)

Ask IBAMA for an official document stating that the area has not been treated with any prohibited input (e.g.: fertilizer) for the last 3 years.

Collected plants

Make sure that you have a legal permit for harvesting. Please see chapter 5.9 for further information.

The management also has to prove that harvesting is sustainable:

- For harvesting in the reserves keep a copy of IBAMA's management plan
- For harvesting outside the reserve a sustainable quantity of collection has to be defined. IBAMA should be consulted to provide relevant data. If data is unavailable, contact your certifier before proceeding

Make a list of all wild plants from which you are collecting fruits, nuts, seeds, and oil. To every wild resource state the quantity harvested. For this the producers should register the amount of harvested material with at the organization's management after every collection.

Add the following information for every plant:

- Botanical name
- Local name
- Part of the plant collected
- Collection period
- Collecting area (in which of the collecting areas is the respective plant found)
- Habitat of the plant

Description of the collection method. Include information about the sustainability of the collection method. Note how the best quality of the product can be reached with this method.

Collectors

Make a list of collectors in the area. The list has to include the following information:

- Name of the collector
- Address of the collector
- Each collector should get an assigned code number
- Date of training

For each collecting area, one person should be responsible.

Every registered collector should get a collectors card with the person's photo and name.

The management has to make sure that every collector knows the internal collection rules. Before a collector starts harvesting he has to be trained. Include the date of the training and the content on the collectors list.

The management has to make someone responsible for human resources. This person has to hold collectors responsible for breaking the collection rules. One possible sanction would be to pay a small fine.

Every collector has to sign a contract including the following topics:

- Agreement with collection rules. Short summary of the rules.
- Agreement to grant access to all facilities used for collecting and processing.
- Agreement to accept sanctions set by the company for breaking collection rules.
- No sale of conventional products to other traders

Hygiene

The quality manager of the organization has to make sure that all products are dried on clean surfaces. Trays for drying need to be made of untreated wood or other material.

Make a list of all drying and processing facilities.

Transport to the processing facility

- The quality manager has to make sure that the collectors use clean containers to transport the wild products to the processing facility.
- For Copaiba Oil, plastic containers in different sizes should be bought.

5.6.4.2 Procedures for storage before processing

The following procedure should be followed before and while storing the collected goods:

- Check if the collector is on the collector's list
- If incoming goods do not comply with quality requirements the goods have to be refused, the refusal has to be documented. Note the date, collector and the reason for refusal.
- All goods in the storage have to be labelled. Information on the label includes collecting area, "organic", name and code of certification body, harvested year and product.
- Every delivery has to be documented in a register with the following information:
    - Date
    - Quantity
    - Collector
    - Collecting area
    - Product processing state (fresh, dried)

For every delivery the collector has to receive a receipt which indicates the product, quantity name of the collector and organic quality. The collectors have to keep record of the receipts

These procedures should be documented in the internal collection rules and copies should be placed at the intake.

Storage and Handling

Regarding the storage the following procedure has to be followed and documented:

- Keep stock record
- Labelling of the warehouse with "organic"

- No usage of synthetic pesticides
- Keep a record of all sanitary procedures

Processing

Make a list of all ingredients needed for processing. At the moment there are no ingredients used in the communities.

Make a chart of the production process[1].

Sale

Keep a record of all sales. Keep the original receipts with the record.

Application

After having all the procedures documented, the management has to choose a certifier[2]. The choice of certifier should be based on the label needed to penetrate a certain market and costs of certification.

Certification

The certifier will evaluate the organization's progress in implementing organic standards. After the evaluation process the certifier will contact the organization and inform it of the results.

5.6.4.3 Requirements

The number of labelling organizations makes it difficult to state minimum requirements for all organic certifications. Some requirements can be found in all standards published and should be kept in mind preparing for certification:

- No use or at least avoidance of synthetic chemical inputs (e.g. fertilizer, pesticides, antibiotics, food additives, etc) and genetically modified organisms;
- use of area that has been free from chemicals for a number of years (often, three or more);

[1] Can be found in the GET 2006 project report

[2] Organic labels and possible certifiers can be found in the database created by the team

- keeping detailed written production and sales records;
- maintaining strict physical separation of organic products from conventional products;

5.6.4.4 Cost of certification

In the case of IBD, one of the most recognized certifiers in Brazil, the costs of organic and Ecosocial Certification are composed by:

- Inscription costs (only at the first year and only for organic certification);
- Annual tax for certification;
- Scheduled inspections costs;
- Complementary inspections (only for Ecosocial);
- Costs for maintenance of the inspectors.

For an area the size of RESEX Cuniã with about 50 harvesting families and three products (açaí, copaíba and Brazil nuts), the cost for having Organic Certification and Ecosocial Certification (similar to Fairtrade) for the harvesting process is around R$ 8,000.00. In this amount, the cost for maintenance of the inspectors is not included. This certification would conform the following markets norms:

- BR – Brazilian market;
- EU Regulation N° 2092/91 for EU market;
- USDA Label for US market;
- ES – Ecosocial guidelines.

5.6.4.5 Key benefits

An organic certification is a way to differentiate the product, assuring quality and respect to environmental issues. With the certification, it is possible to access new markets and opportunities, diversifying the commercialization and getting a better price for the products (the profitability depends, of course on the costs involved in certification). Another benefit is that the certification process demands more control over production, which promotes better management in the producer's organizations.

5.6.4.6 Further readings

This short abstract is meant to give an overview about the most important factors influencing a decision for organic certifications. The website[1] of the Institute for Marketecology (IMO) offers some more insides about organic certification and sets one of its focal points on wild collection.

- Guideline and requirements for wild collection certification:
  - "Guidance Manual For Organic Collection of Wild Plants"
  - (File: Guidance_Manual_Wild_Collection.pdf)

5.6.5 Forest Management Certification

The Forest Certification is defined by the Forest Stewardship Council (FSC) as a voluntary tool which proves the origin of a forest raw material in a product. In this way, it is possible to guarantee that companies and communities manage the forests environmentally correctly and in a socially fair and economically efficient way. The whole supply chain of the products is certified in order to guarantee sustainability to the final consumer.

FSC uses the following principles and criteria to certify forest products:

- Compliance to laws
- Requirement of a clear definition of long term land possession and use
- Respect Indian peoples' rights
- Assuring the community and workers welfare
- Promotion of optimized use of forest resources
- Minimizing environmental impacts
- Plan the management of forest resources
- Monitoring and evaluating of forest management
- Maintaining forests with high conservation value

[1] Website: www.imo.ch (30.09.2007)

- Reforesting

5.6.6 FSC in Brazil

FSC is represented in Brazil by the Brazilian Council for Forest Management (Conselho Brasileiro de Manejo Florestal), an independent non-profit and non-governmental organization. This organization's mission is to promote management in Brazilian forests according to the Forest Stewardship Council principles and criteria, which addresses environmental interests, social benefits and economic viability. The council is economically independent from FSC international and is funded through partnerships with companies, NGOs and GOs.

The council does not provide the certification, but accredits certifiers for the FSC label. There are three certifying companies in Brazil:

- IMAFLORA (BRA)
- SCS – Scientific Certification System (USA)
- SGS - Société Générale de Surveillance Forestry

5.6.6.1 Types of certification

Forest management certification

This assures quality of forest management and applies to small or big producers, large corporations or community associations, virgin forests or domesticated systems. Timber and Non-timber products can be certified and certification is valid for 5 years, being monitored at least once a year.

SLIMF Certification

SLIMFs' initiative was developed by FSC to extend access to certification for community-managed forests. The initiative manages to solve some of the central problems of certification for NTFP harvesters, reducing direct and indirect costs of certification and recommending a more practical evaluation process for small producers and NTFP harvesters. Shanley et al [27] recommend:

- monitoring and assessment requirements to be modified;
- shorter and more concise public summaries to be included;

- forest management evaluations checklist;
- automatic renewal of five-year certificate if annual audits are satisfactory;
- fewer audits and peer reviews.

The price differential is due to three factors: a smaller team of auditors, less time in the field, and a simplified report. If a community is seeking certification of both timber and NTFP, the scale and the intensity of extraction are taken into consideration. Despite advances in the area of accessibility in FSC timber certification, significant obstacles remain for NTFP certification, as:

- Management plans elaboration;
- Monitoring issues
- Incompatibility with national laws;
- Lack of knowledge about market opportunities;
- Other factors which combine to make certification inaccessible to small producers.

Chain certification

The chain certification guarantees that the raw forest material is FSC certified. The aim is to track the product in the chain of custody from the producer to the final customer. For this, strict documentation of the buying and selling process is needed. It applies to processors of the forest products in the chain of custody.

5.6.6.2 Certification process

Certification can be provided individually (ex.: certification of areas of a company or a community) or in group (certification of different areas in the responsibility of a single organization). The first step, after the certifier is contacted, consists of a general analysis of the management of the product, the documentation and a field evaluation. During this process, the customers are able to argue about the conditions of certification. After the evaluation, the customer has to work on the non-conformities, so that certification can be provided. Once the community gets the certification, the certifier has to audit it at least once a year. For further information ion the certification process please see the chapter 5.6.6.5.

The detailed step by step for the certification process is presented at the “Cartilha da Certificação” file, published by IMAFLORA[1].

5.6.6.3 Costs of certification

Direct costs:

- Previous evaluation costs
- Monitoring costs
- Annual charge
- Usage of FSC logo

Indirect costs:

- Related to adaptation of forest management systems, so that the costumer can meet the require-ments for certification (ex.: training, equipment substitution).

Costs depend on the size and complexity of the operation. According to IMAFLORA, for the communities at the lower Madeira River, it would cost between R$ 5,000 and R$ 30,000 [10].

The SLIMF certification is being developed for the specific cases of communities. According to IMAFLORA, they will be able to certify communities for about R$ 3.000,00 at the end of 2007.

5.6.6.4 Key benefits

The following environmental benefits and advantages for NTFP forest management certification have been described by recent literature [27].

Social and environmental benefits:

- Reduce the ecological impact
- Conserve the regeneration capacity of forests
- Support the development of forest communities

[1] Web link to the publications of IMAFLORA: http://www.imaflora.org/?fuseaction=content&IDassunto=17 (30.09.07)

- Assure that workers and community rights are respected
- Assure that management techniques are responsible and continuously improved
- Offer the opportunity for cooperation between players of forest management
- Improve safety conditions for community and for workers

Competitive advantages:

- Add value and differentiate the product in the market
- Improve credibility
- Meet requirements of a growing market: the one for social and environmentally correct products
- Allow access to more markets

5.6.6.5 Further readings

- IMAFLORA[1] is a possible source for material about harvesting management for copaiba oil, Brazil nuts and acai since they are the only certifier for these products in Brazil. The IMAFLORA website offers information about the certification process and experience with community producers.
- http://www.imaflora.org/index.cfm?fuseaction=content&IDassunto=4&IDsubAssunto=14

5.7 Funding

The financial situation of communities is one of the main problems when it comes to the realization of projects in the Amazon rainforest. So is it for this project, even though initial costs were covered by NAPRA and its partners. In that this is a common problem, it was agreed upon to research the different possibilities of funding and to structure the information about it as one of the deliverables of the project.

After having concluded that the aim of the project should be to empower communities by initializing small scale business with different products and not to provide oversized production facilities, the requirements for adequate funding possibilities were developed. The following section provides a brief overview of the main characteristics of the current demand for funds.

[1] Website: www.imaflora.org (30.09.07)

5.7.1 Requirements

The chosen approach of making commercialization happen not by providing ready made solutions for market problems and production issues has different implications. It leads to the presumption that community members themselves should be able to apply for the funds, even if they will be supported by NAPRA or other GET teams in the medium-term. This in turn has an impact on the postulated skills of the applicant and the risk that can be taken and therefore the amount of money that should be invested.

5.7.1.1 Financial volume

The targeted range of financial means for any project depends on various factors. First of all the team had to calculate communities' financial needs to identify applicable funding possibilities. In means of commercialization, money is needed to penetrate new markets. Therefore market barriers were gathered taking into account medium development goals. To overcome these barriers, capacity building would be necessary. The needed capacities lead to applications for funding. The costs for the applications are based on the producers' current situation taking into consideration short-term development. In a second step these positions where endowed with the amounts of money they would require. In one case, an exact amount could not be determined but rather a certain range in which the costs would vary. All numbers are estimations, since no empirical values exist, but the aim of getting an overview of the financial needs is still reached because all major influences are taken into consideration. The following disposition arose:

Item	Amount [R$[1]]
Organic certificate (IBD)	6,000
Fair Trade certificate	7,672
FSC certificate (SLIMF)	2,965
Equipment Mini-Fabric	~3,000
Costs of starting a business	2,334
Investment in raw materials and utilities	1,600 to 2,950

[1] Where necessary converted to R$ with exchange rates from 10.9.07: €1=US$1.3802; US$1=R$1.97620

Expenses for labour	2,400
Transportation	334
Workshops and training	3,650

Table 5.1313: Possible purpose of use for financial means from funding and corresponding amounts

The costs for the three eligible types of certificates were researched; they are given amounts and could clearly be defined. How these costs arise precisely is described in chapter 5.6. The other positions could not be defined as easily, since they depend highly on the next steps and the development of the project. As an estimation of the costs for equipment in the mini-factory the costs of all investments made by NAPRA in this field in 2007 were adopted. The cost of starting a business is comprised of all steps to found a Sociedade Limitada (comparable to a Limited Company) as they are described in 5.9. For the calculation numbers from 2006 were consulted [26] and converted from US Dollar to Brazilian Real. The assumed costs for raw materials and utilities highly depend on the product that would be produced and the time of the year they would be purchased. As a worst case scenario it was assumed that the producers do not harvest themselves but have to buy everything they want to process at the local market. Currently the only products that are processed in the mini-factory are Brazil nuts, Brazil nut shells and seeds. The seeds do not have any initial value other than the time spent to collect them. They can be found in the forest around the community very easily. The Brazil nuts in the second shell cost between R$ 0.6 to R$ 1.7 per kilogram [20]. Assuming that in the first year the communities would process and sell 1,500 kg of nuts this would create costs in a range between R$ 900 to R$ 2,550, depending on the time period in which they would buy them. In addition to that, costs for the second shell could arise. In case of 50 candles and boxes per month costs of R$ 300 would be added. The costs for utilities can be estimated by using the costs for the first equipment bought by NAPRA. That includes a set of drill bits, sandpapers, a set of brushes and varnish for the seeds and add up to R$ 400.

Expenses for labour can be estimated by assuming that at most four people could work in the mini-factory simultaneously. If they would work for two months at R$ 15 per day, which is the normal daily wage in the region, expenses in the amount of R$ 2,400 would arise. Transportation is an issue for the communities since their geographic position isolates them somewhat from the markets, even from the local market. Costs for transportation depend mainly on the volume and weight. For all four products very high volumes have not yet been reached so the highest costs that could arise are for shipping packages to overseas

costumers. For a weight of 20 kilograms the price from Porto Velho is R$ 296 plus insurance, which would be 0.4% of the declared value. Given a value of maximum R$ 2,000 that would add up to R$ 304. The costs for one person to hand in the package at the post office would be R$ 30.

To estimate the costs for workshops and training, the average refund of expenses IBAMA pays for workshops was applied. In addition, the average hourly wages for an employee with an academic degree in the State of Sao Paulo was applied. The allowance IBAMA pays amounts to R$ 110 per day for board and lodging. A two way flight from Sao Paulo to Porto Velho costs about R$ 1,500 and the average hourly wage amounts R$ 40, so for a five day workshop with one person costs of R$ 3,650 arise.

All these assumptions are made under the premise that the communities would have to lay out only one consignment before getting the reward for it and could use this money for further investments.

5.7.1.2 Complexity of application process and requirements

Funding bodies have different motivations to support communities. Some of them have strict programs that allow them to support only those applicants that contribute to their own aims; others are only founded in order to help wholesalers to develop new suppliers and still others are limited to certain areas of the world. But all funding bodies have in common that they assess the projects they could support in order to make sure the project goals coincide with the funding body's goals. This process of assessment is different for each of them and very different levels of complexity can be found. In order to compare the requirements and cross-check with the skills and given factors in the communities; they were researched and documented in a structured way in the research database. In the following a list of variables and characteristics is provided:

Variables	Characteristics
Legal form	▪ Company ▪ Non-governmental organization ▪ Non-profit organization
Application form	▪ Standard form ▪ Letter of inquiry ▪ Project proposal ▪ Business plan

Application language	▪ Only English ▪ Only German ▪ English and Portuguese
Relation to funding organization	▪ No relation ▪ Only contracted suppliers
Geographic location	▪ Not specified ▪ Only certain continents ▪ Only certain countries
Program topic	▪ Forests ▪ Water ▪ Green living (recycling etc.) ▪ Animal Abuse ▪ Empowering women and children

Table 5.1414: Variables and characteristics for funding programs

5.7.2 Approach

After having obtained an overview of the market for funding, the team filtered out those funding possibilities that did not fit into the communities' reality. In practice that meant a decision on two stages. First of all those funding possibilities with very high amounts of money for already realized projects were excluded. Since the estimations in section 5.7.1.1 above do not provide an exact level of funding needs a rough classification took place. Those who do not fund projects with a smaller volume than US$ 10,000 or R$ 20,000 were expelled. Everything else would violate the chosen approach and results in hazardous scenarios which exceed the risk aversion of the communities.

In the second step the criteria for applying to the funding programs were checked for knock-out criteria which would certainly lead to a denial of an application from the communities. In Annex 8.1 the funding possibilities with all knock out criteria or the volumes of their projects are given. Even if the project focuses on funding possibilities for the communities, those which require an NGO as applicant are not expelled categorical because the communities need a partner to apply for these funds for sure. At least for the next steps this assumption is valid, once they obtain a higher level of independence this assumption has to be reviewed critically. After this knock-out phase only three organizations were short listed.

Name	Project volumes [R$[1]]	Main focus	Application process
ProRegenwald	2,728 to 54,551	▪ Initial aid on short notice for small projects ▪ All kinds of projects will be checked	▪ Short abstract in written form about the project, its aims and the financial planning ▪ If the organization it interested they will contact the applicant for further information
Rainforest Action Network	Do not exceed 9,881	▪ Demarcation of indigenous territories and creation of extractive and biological reserves. ▪ Local resistance to destructive development activities such as logging and oil extraction. ▪ Environmentally and socially sound alternative development projects. ▪ Community organizing and education.	▪ Cross check project aim with their basic categories ▪ Send project proposal of no more than six pages
Rainforest Alliance	988 to 3,952	Providing grants to communities to improve the quality of life by supporting business opportunities that protect their resources and help to stimulate a sustainable economy	▪ Fill in application form and hand it in

Table 5.1515: Eligible funding possibilities and their requirements

They are itemized in Table 5.1515 with the financial volume of the projects they funded so far and the requirements for applying. More detailed information about the application process can be found in the research database and on the homepages of the entities. As the remaining three possibilities cover different focal points, it was not possible to rank them or assess any preferences.

[1] Where necessary converted to R$ with exchange rates from 10.9.07: €1=US$1.3802; US$1=R$1.97620

5.7.3 Step by step guideline

The presence of more than one possibility for funding and different requirements for the application makes it impossible to point out a guideline for the application process which is designed down to the smallest detail. Nevertheless, there are some similarities and if it is well planned the preparatory work for applying to one of the programs can be used to apply for the others as well. The Application Form of the Rainforest Alliance in particular, which is used for making the different projects comparable, offers a good guideline to structure and plan the project for which the money is required. The information requested demarks the bottom line of what everyone who wants to roll out a project should consider. On the basis of these simple thoughts conclusive and well structured applications for the other programs can be written as well. Therefore the approach the team recommends for applying to funds is to follow these steps:

1. Define the aim of your project
2. Calculate the amount of money needed to realize the project
3. Cross-check the aim of the project and the money needed with Table 5.1515 and prioritize according to the probability of success
4. Contact chosen funding organization(s), describe project briefly and ask for current financial situation and deadlines
5. If necessary, disregard funding organizations that clearly state inability to support the project in the focused time
6. Compile information needed for the Application Form of the Rainforest Alliance
7. Fill in application form or write the needed document(s)
8. Ask at least five persons who were not involved in the preparation of the application(s) for feed-back
9. Process feedback
10. Send application(s)
11. Contact funding organization(s) and ask if application is received

The Application Form of the Rainforest Alliance can be found in the annex in chapter 8.2. For writing a project proposal or letter of inquiry it is important to point out how this project supports the aims or focal points of the organization. Furthermore, it is crucial to communicate that it is well planned and promising. Therefore a feedback loop of the most experienced readers available should be established.

5.8 Carbon Credit

At the beginning of the project the team agreed that research on funding possibilities should also include research on the carbon credit market. The idea was that through sustainable usage of the forest, deforestation would be stopped in this certain area and by this carbon emission would be reduced. This methodology is called "avoided deforestation".

The carbon markets around the world are still developing. The European market in particular, the only one which is not voluntary, is still in the testing phase. The public authorities in charge of administration are now gathering first hand experiences and the first suggestions about changing regulations are being made. Other carbon markets are more mature due to years of experience but lessons learned cannot, unfortunately, be transferred that easily on the non-voluntary market.

Avoided deforestation is not an approved methodology in the European market yet. There were several concerns that led negotiators to exclude it in the Clean Development Mechanisms (CDM). These were non-permanence, baselines, monitoring and measurement uncertainties, lack of human control, and the potential scale of total emission reductions. The voluntary market is not as rigid and offsets projects using avoided deforestation methodology are possible.

The short summary should provide basic information on the goals and mechanisms of the Kyoto Protocol. The main focus of the abstract is the Clean Development Mechanism which gives countries the chance to achieve their commitments by supporting emission reducing projects in developing countries. The different carbon credit markets will be introduced and chances for avoided deforestation projects will be discussed.

5.8.1 Kyoto Protocol in Brief

The information about the framework of the Kyoto Protocol was given by the United Nations Framework Convention on Climate Change (UNFCCC) website [31].

5.8.1.1 Short History

1992 Rio de Janeiro: The UN Framework Convention on Climate Change (UNFCCC) pursuing the objective of "stabilizing greenhouse-gas concentrations in the atmosphere at a level that would prevent dangerous, anthropogenic (human-induced) interference with the climate system."

The UNFCCC was signed by 154 nations and the European Union. It became effective on March 21, 1994 and is binding under international law.

1997 Kyoto: Adoption of the Kyoto Protocol at the 3rd successor conference to the Framework Convention on Climate Change.

The Kyoto Protocol contains legally binding obligations on the part of the industrialized countries to reduce the emissions of greenhouse gases, as well as flexible instruments to achieve such a reduction.

5.8.1.2 Kyoto Protocol Commitments

Reduction commitment

The industrialized countries have undertaken to reduce their greenhouse-gas emissions to a level which is 5% below 1990 levels in the period from 2008 to 2012.

Inventor system

The industrialized countries have undertaken to establish a national calculation system for greenhouse-gas emissions and reservoirs.

National reports

The industrialized countries have undertaken to prepare annual national reports providing information on current emissions and an estimate of future trends.

5.8.1.3 The flexible instruments of the Kyoto Protocol

The industrialized countries have several possibilities to fulfil their emission reduction goals from the Kyoto Protocol:

- Joint Implementation:

  Implementing projects for the reduction of greenhouse-gas emissions in an industrialized country. The reductions achieved by means of the project may be transferred among the industrialized countries to help fulfil the reduction commitment.

- Clean Development Mechanism:

  Project carried out by an industrialized country to reduce greenhouse-gas emissions in a developing country. The reductions achieved with the project may be set off against the reduction commitment of the industrialized nation in question.

- Emissions Trading:

  Industrialized countries may trade achieved emissions reduction units or emissions rights. Emissions rights used to help fulfil the reduction commitment shall only be acquired in addition to domestic efforts to reduce emissions.

- Bubbles :

  Industrialized countries may cooperate to jointly achieve the reduction targets.

5.8.1.4 Important terms and abbreviations

Annex I countries:

Annex I to the Climate Convention (UNFCCC) lists all the countries in the Organization of Economic Cooperation and Development (OECD) in 1990, plus countries with economies in transition, Central and Eastern Europe (excluding the former Yugoslavia and Albania). By default the other countries are referred to as Non-Annex I countries. Annex B is not quite the same as Annex I, which also includes Turkey, and Belarus, while Annex B includes Croatia, Monaco, Liechtenstein, and Slovenia.

Emissions reduction:

Emissions reduction means that a reduction in the release of greenhouse gases is achieved within a system or project by means of measures that have already been taken or will be taken. Emissions reduction Units can be achieved within the scope of a climate projection-project using the flexible mechanisms of

the Kyoto Protocol such as Joint Implementation (JI) and Clean Development Mechanisms (CDM) and can be traded or transferred. The emission reduction units achieved through a CDM-Project are called Certified Emission Reduction Units (CER).

Additionality:

According to the Kyoto Protocol Articles on Joint Implementation and the Clean Development Mechanism, emissions reduction units (ERUs & CERs) will be awarded to project-based activities provided that the projects achieve reductions that are 'additional to those that otherwise would occur.' The issue is subject to further clarification by Parties. Some now make the distinction between different types of additionality criteria:

- Environmental additionality: Credits are allocated to projects purely on the level of greenhouse gas (GHG) reductions or limitations achieved
- Financial additionality: The funding for the project would need to be additional to existing Official Development Assistance (ODA) commitments from governments and Global Environment Facilities (GEF).
- Investment additionality: In this approach to defining whether a project would qualify for credits, investors would need to demonstrate that the credits generated significantly improve the financial and/or commercial viability of the project activity.
- Technological additionality: The technology used for the project activity shall be the best available for the circumstances of the host Party

Baseline

The amount of emission reduction, obviously, depends on the emissions that would have occurred without the project. The construction of such a hypothetical scenario is known as the baseline of the project. The baseline may be estimated through reference to emissions from similar activities and technologies in the same country or other countries, or to actual emissions prior to project implementation. The partners involved in the project could have an interest in establishing a baseline with high emissions, which would yield a risk of awarding spurious credits. Independent third party verification is meant to ameliorate this potential problem.

Leakage:

Leakages are indirect effects of emission reduction projects or policies that lead to a rise in emission elsewhere. E.g. fossil fuel substitution leads to a decline in fuel prices and rise in fuel use elsewhere.

5.8.2 Emission Trading

In an emission trading system, carbon emissions of all participants are limited and target amounts (Caps) are decided on, usually amounting to less emission than encountered at present (depending on the agreed emission target, that in rare cases also allows increase in emission). According to the allocation procedure, each participant is assigned a certain amount of emission rights for a trading period that then can be used. At the end of the trading period, all participants have to return emission rights equivalent to the actual emission. In the case wherein a participant cannot reach his emission goal, sanctions are applied. The participant who manages to reduce his emissions beyond the agreed target level within his responsibility may sell his extra emission rights. That means companies with low or even negative marginal costs to reduce emissions will prefer conducting investments for reduction and then sell excessive emission rights to those companies whose marginal abatement costs exceed the market price for emission rights. Taking advantage of market mechanisms can help to reach the goal of global emission reduction with the most reasonable costs to the economy. The system will lead to investments into emission reduction where costs are low and will give environmental protection measures a monetary value.

5.8.2.1 Emission Allowance

Using an allocation procedure, all companies participating in an emissions trading scheme obtain greenhouse gas emissions allowances for a prescribed period (usually on an annual basis).

Common allocation procedures in this context are:

- "Grandfathering":

  Emissions allowances are determined on the basis of the respective company's emissions at a baseline date and allocated free of charge; the participating companies thus have reduction targets that can also be achieved via trading activities. ("cap and trade")

- "Auctioning":

Emissions allowances are auctioned prior to commencement of the commitment period; participants can satisfy their anticipated demand, whilst a 'ceiling' is put on the total amount of emissions allowances.

- Hybrid methods:

  All participants receive a basic volume of emissions allowances. Any additional emissions allowances needed can be obtained via auctioning

Key principle of all allocation methods is a 'ceiling' on the total amount of emissions allowances, which can be reduced annually within the scope of climate-protection objectives. Generally, allowances quotas are retained for newcomers and newly established locations.

5.8.2.2 Trading

Emissions allowances can be traded either directly between the participating companies or via third parties (e.g. brokers, exchanges). In this context, however, trading does not involve the exchange of documents, such as shares, but takes place by entering the trade in the registers of the companies involved. At the end of each commitment period, each emitter must possess a sufficient amount of emissions allowances to cover its actual greenhouse gas emissions over the commitment period as a minimum requirement. Whether excess emissions allowances or credits can be saved for use in subsequent commitment periods ("banking") or borrowed from future commitment periods ("borrowing") ultimately depends on the regulatory instruments governing the emissions trading scheme. This also applies to the alternative of using emissions allowances or credits not distributed directly via the allocation procedure. This includes the use of "credits" obtained from projects falling under the "flexible mechanisms" of the Kyoto Protocol and emissions allowances and credits from other emissions trading schemes. In the latter case, the term 'linking of emissions trading schemes' is used.

5.8.2.3 Current Status

The establishment of emissions trading schemes already plays an important role in the climate-protection policy of many "Annex-I-countries" today. Emissions trading schemes have already been introduced in:

- United Kingdom emission trading scheme[1] (UKETS)
- European Union
- Chicago Climate Exchange[2] (CCX)

In Germany the German emission trading organization (DEHST)[3] is responsible for the allocation and issuing of allowances, monitoring and control tasks, the administration of the national registry as well as national and international reporting.

United Kingdom emission trading scheme (UKETS)

British companies can choose from among four different ways of participating in the UK emissions trading scheme:

- via acceptance of absolute caps on their emissions and the resulting entitlement to financial incentives (core participants - get money out of a fund with the amount of GBP 150 million)
- via acceptance of relative caps on their emissions within the scope of Climate Change Levy Negotiated Agreements with the British government (get exempted from 80% of the levy when they reach their goals)
- via emissions reduction projects (similar to the flexible mechanisms of the Kyoto Protocol) in the UK
- via opening an emissions trading account

Emissions reduction projects, like the flexible mechanisms, offer all manufacturers of energy-efficient technologies or manufacturers of installations using renewable energy carriers and their customers in the UK new ways of funding their projects. By opening an emissions trading account, non-government organizations (NGOs) or even private persons can withdraw emissions rights from the exchange, thus increasing emissions reduction volumes. The planned integration of CERs from CDM or JI-Projects in UKETS will enable all parties holding such emissions credits to integrate the UK emissions trading scheme into their business strategies with the approval of their national authorities.

[1] Website of UKETS - /www.british-energy.co.uk/ (01.10.07)

[2] Website of Chicago Climate Exchange - /www.chicagoclimatex.com/ (01.10.07)

[3] Website of DEHST - /www.dehst.de/ (01.10.07)

European Union

The European Union Trading Scheme is the first multinational trading scheme. Under the scheme, each participating country has a National Allocation Plan (NAP) specifying caps on greenhouse gas emissions for individual power plants and other large point sources. Each facility gets a maximum amount of EU emission allowances (EUA) for a particular period (e.g. 2005-2007). To comply, facilities can either reduce their emissions or purchase allowances from facilities with an excess of allowances. Progressively tightening caps are foreseen for each new period, forcing overall reductions in emissions.

The new Directive highlights the importance for the EU to reduce emissions within its own territory. Therefore the amount of credits generated by Joint Implementation and Clean Development Mechanism projects to be imported into the European scheme will be subject to limitation. The conversion will be arranged on a one to one ratio.

Chicago Climate Exchange (CCX)

The CCX (Chicago Climate Exchange) is the first U.S. pilot program for the voluntary trading of greenhouse gases which, apart from emissions trading among emitters, also provides for offset projects in North America and limited offset projects in Brazil. To this end, the Joyce Foundation funded the development of framework conditions for establishing an initial emissions trading market. Starting from an already existing regional sulphur dioxide (SO_2) trading scheme, the project aims at extending the latter by greenhouse gas emissions trading. Initially, the system will be introduced in the U.S. Midwest Region, in the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio and Wisconsin.

Initially, during the pilot phase, participation will be restricted to 33 entities (companies and organizations) from the above seven U.S. states. As a matter of principle, participation in the CCX scheme will always be voluntary. The participating entities can choose between the following modes of participation in CCX emissions trading:

1. via acceptance of an emissions right ceiling
2. via offsets from individual emissions mitigation projects (analogous to the flexible mechanisms of the Kyoto Protocol) initially in the seven US states, later across the entire USA and to a limited extent in Brazil

3. via opening an emissions trading account

Emissions mitigation projects include measures relating to renewable energy sources and measures to promote efficient methane use and carbon sequestration. Emissions mitigation projects, like the flexible mechanisms, offer all manufacturers of energy-efficient technologies or manufacturers of installations using renewable energy carriers and their customers in the USA new ways of funding their projects. By opening an emissions trading account, non-government organizations (NGOs) or even private persons can withdraw emissions rights from the exchange, thus increasing emissions reduction volumes. The planned integration of CERs from CDM or JI projects in CCX will enable all parties holding such emissions credits to integrate emissions trading into their business strategies.

5.8.3 CDM Clean Development Mechanism

5.8.3.1 Definition/ Purpose

The Clean Development Mechanism (CDM) enables industrialized countries (Annex-I-countries) in terms of projects for the reduction of greenhouse gases (so-called climate protection projects) to generate additional emissions rights (Certified Emission Reductions; CERs) for the fulfilment of the obligations of the Kyoto Protocol. The CERs which have been gained through CDM projects could be added to the total amount of greenhouse gas emissions of developed countries (Assigned Amounts). Thus the total quantity of available emissions rights increases. The Kyoto Protocol and the Marrakech Agreement point out the possibility for public and private bodies, such as enterprises from industrialised countries, to take part at CDM projects. Among Kyoto Mechanisms the CDM has a special position where developing countries (Non-Annex I Countries) are involved. The purpose of this Mechanism is not only to produce Certified Emissions Reductions (as it is the purpose of JI), but they should also contribute to sustainable development and the transfer of technology in developing countries. The reduced emissions by a CDM project have to be additional to any that would occur in the absence of the proposed project activity. In order to calculate the emissions reductions a so-called baseline must be set up. The calculations must be handed in together with a description of the project including contracts, technical data, and a monitoring plan. The project is assessed by certifiers, who attest both to the eligibility of the project for authorization and the anticipated amount of greenhouse gas reduction. After a successful implementation, the project partici-

pants receive CERs from the CDM Executive Board and can thus be traded. For the financing of CDM projects 2% of the certified CERs are kept aside. Furthermore, there is a fee for the administration.

5.8.3.2 Conditions for a CDM-Project

Investors:

Investors can come from any country on Earth. Companies from Annex-B-countries, which are excluded from the use of the flexibility mechanism of the Kyoto-Protocol, are therefore are not allowed to deal with CERs.

Conditions for Project:

- CDM-projects have to contribute to sustainable development of the host country. That means only projects considered to be sustainable by the host country are eligible. The criteria catalogue for sustainable development is established by the host country according to its special needs. In reality these limitations will be quite loosely defined due to severe competition in the world market.
- CDM excludes any kind of nuclear power stations.
- Projects shall not result in the diversion of official development assistance. Therefore projects financed by the Global Environmental Facility (GEF) are excluded
- CDM-forestation projects are limited to 1% of the basis emissions (annually 183 Mio. t CO_2).

Permission:

The government of the host country has to approve the project. In some cases this can lead to charges and additional requirements. Furthermore, a reference scenario must be established. Technical documents and a monitoring plan have to be provided as well. The project must be validated by a notified body for certification. After that the CDM Board will register the CDM-project.

Operational entities:

Operational entities must be accredited and designated by the executive board.

Fees:

Two per cent of the proceeds and a fee for administrative costs are retained. The costs for certification and consultancy are normally the respnsibility of the investor.

Host Country:

The country wherein the investment is made must have ratified, as a non-Annex-I-country, the Kyoto Protocol and confirm to the investor in writing that the project supports the sustainable development of the country.

Outline of the CDM Project Process

To have a project approved as an Emission Reducing Project, the applicant (for example an industrialised country) has to use a methodology which is approved by the CDM Executive Board (EB)[1]. In the next step the applicant must make the case that the project would not have happened otherwise so that his project fulfils the principle of additionally. He also has to establish a baseline estimating the future emissions in absence of the registered project. The case is then validated by a third party agency, a so-called Designated Operational Entity, to ensure that the project results in real, measurable, and long-term emission reductions. The EB then decides whether or not to register (approve) the project. If a project is registered and implemented, the EB issues credits, so-called Certified Emission Reductions; CERs (one CER being equivalent to one metric tonne of CO_2 reduction), to project participants based on the monitored difference between the baseline and the actual emissions, verified by an external party called a DOE.

Methodologies for forestry areas

As already mentioned, the used methodology has to be approved by the CDM Executive Board (EB). Most projects are being conducted in the areas of renewable energies and energy efficiency[2]. The following project activities are being conducted in the forestry area:

- afforestation and reforestation[1]
- opening of new conservation areas
- opening of plantations with afforestation plans

[1] Information about approved methodologies and project activity can be found on the website of the United Nations Framework Convention on Climate Change UNFCCC - /unfccc.int/ (01.10.07)

[2] A full list of project activities can be found on the website of TÜV SÜD Industrie Service GmbH - /www.netinform.org

- long term usage of wood

New methodologies can be proposed to the CDM Executive Board.

5.8.3.3 Small scale CDM projects

Alternative to a "normal" CDM project are small scale CDM projects. For this type of project the procedures of establishing a baseline and monitoring are simpler.

Possible project activities are:

- Renewable energy project activities with a maximum output capacity equivalent up to 15 megawatts
- Energy efficiency improvement project activities which reduce energy consumption, on the supply and/or demand side up to the equivalent of 15 gigawatthours per year.
- Other project activities that both reduce anthropogenic emissions by sources that directly emit less than 15000 tonnes of carbon dioxide equivalent annually

5.8.3.4 Controversy over CDM

The initial idea of the Kyoto Protocol was to give industrialized countries flexible possibilities to achieve their goals. CDM was supposed to be "supplemental" to the domestic actions to reduce emission thus keeping industrialized nations from unlimited use of this mechanism. This wording has led to a wide range of interpretations. Other problems that can be observed are excessive payments for emission reduction projects or overstated baselines[1].

5.8.4 The voluntary market - Chicago Climate Exchange

The CCX emitting Members make a voluntary but legally binding commitment to meet annual greenhouse gas (GHG) emission reduction targets. Those who reduce below the targets have surplus allowances to sell or bank; those who emit above the targets comply by purchasing CCX Carbon Financial Instrument (CFI) contracts. The CFI is the tradable commodity of the CCX.

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[1] Exact definitions of afforestation and reforestation can be found in the file CDM_Booklet_LR.pdf

5.8.4.1 Member categories

Members: Companies or other entities with direct greenhouse gas (GHG) emissions. These members commit to reduce 6% below a 1998-2001 or single year 2000 baseline by the end of 2010.

Associate Members: Entities with negligible direct GHG emissions, such as office-based institutions, businesses and service organizations. These Associate Members commit to report and fully offset 100% of indirect emissions associated with energy purchases and business travel from year of entry through 2010.

Participant Members are Offset Providers, Offset Aggregators and Liquidity Providers.

Offset Providers: Owners of title to qualifying offset projects that sequester, destroy, or displace green-house gas emissions. Offset Providers register and sell offsets directly on the Exchange.

Offset Aggregators: Entities that serve as the administrative representative, on behalf of offset project owners, of multiple offset-generating projects. Offset projects involving less than 10,000 metric tons of CO_2 equivalents per year should be registered and sold through an Offset Aggregator.

Liquidity Provider: Entities or individuals who trade on the Exchange for purposes other than complying with the CCX emissions reduction schedule, such as market makers and proprietary trading groups.

Exchange Participants: Entities or individuals who purchase CFI™ contracts for purposes of retirement to offset the emissions associated with special events or other particular activities on a self-determined purchase schedule.

5.8.4.2 Offset Pogram

Offset Projects can be registered by Members, Offset Providers and Offset Aggregators. Offset Providers and Offset Aggregators do not have significant GHG emissions. Entities that have significant GHG emis-sions are eligible to submit Offset Project proposals only if they have agreed to commit their own emis-sions to the CCX reduction schedule as a Member.

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[1] More information on http://en.wikipedia.org/wiki/CDM referring to the bullets: "2007 Controversy over excessive payments for emission reductions" and "Environmental concerns"

An Offset Provider is an owner of an Offset Project that registers and sells Offsets on its own behalf. An Offset Aggregator is an entity that serves as the administrative representative, on behalf of Offset Project owners, of multiple Offset-generating projects. Offset Projects involving less than 10,000 metric tonnes of CO_2 equivalent per year should be registered and sold through an Offset Aggregator. The terms of the business and legal relationships between aggregators and Offset Project owners are left to the discretion of those parties.

CCX has developed standardized rules for issuing Carbon Financial Instrument™ (CFI™) contracts for the following types of projects:

- Agricultural Methane
- Landfill Methane
- Agricultural Soil Carbon
- Forestry
- Renewable Energy

Other project types to be approved on a project-by-project basis may include:

- Energy Efficiency and Fuel Switching
- Clean Development Mechanism-Eligible Projects

Forestry Carbon Emission Offsets

CCX has developed simple, standardized rules for issuing Carbon Financial Instrument (CFI) contracts for forest carbon sequestration. Eligible projects include forestation and forest enrichment, urban tree planting, and, in specified regions, combined forestation and forest conservation projects.

Basic Specifications:

- Forestation and forest enrichment projects initiated on or after January 1, 1990 on un-forested or degraded forest land may qualify.
- Qualifying projects may earn Offsets during the years 2003-2010.

- For specified locations, forest conservation projects may be eligible if they are undertaken in conjunction with forestation on a contiguous site.
- Demonstration that entity-wide forest holdings are sustainably managed.
- Demonstration of long-term commitment to maintain carbon stocks in forestry.
- Use of approved methods to quantify carbon stocks.
- Where required, carbon stocks must be independently verified by a CCX-approved verifier.

CFI contracts are issued to forest enrichment projects on un-forested or degraded forest land (including urban tree planting) at a rate based on the annual increase in the carbon stocks of above-ground, living biomass. Forest conservation credits for combined conservation and forestation projects on contiguous sites are credited on the basis of avoided deforestation rates specified for eligible geographic regions. Quantification methods for forest carbon stocks vary by project size. More information can be found on the official website of the Chicago Climate Exchange [1].

5.8.5 Outlook and examples

At this point in time only the voluntary market offers possibilities for avoided deforestation projects. Unfortunately there were no examples of conducted projects found declared as offset-projects of these markets. Few projects are conducted in the forestry area and most of them use conventional methods like reforestation or afforestation. This is possibly due to the difficulties that are arising from measuring the exact reduction of carbon emission.

At the present time discussion about this methodology is ongoing and articles about future projects are hitting the headlines. The Wall Street Journal recently published an article about a planned avoided deforestation project in New Guinea where the forest has been destroyed for decades. One of the first projects supported by the World Bank[1] is just starting in Colombia and is estimated to capture about 270,000 tons of CO_2, for which the World Bank will pay US$1 million in carbon credits.

[1] Website of the World Bank's Community Development Carbon Fund - http://carbonfinance.org/Router.cfm?Page=CDCF (02.10.07)

The German Association for technical corporation (GTZ) and the German Federal Ministry for Economic Cooperation and Development have just published a paper on the significance of avoided deforestation projects and their possible future role in the carbon market [3]. They are also referring to projects that can be seen as possible examples of how this methodology can be used. One of these projects, the Extractive Reserves Program (RESEX), is part of the Pilot Program to Conserve the Brazilian Rain Forest (PPG7) which has been implemented jointly by Brazil and seven donor countries. The RESEX has created the legal environment around the communities subject to the GET project. Also, the other projects presented have been conducted on a much larger, national scale.

If the parties promoting avoided deforestation are successful, there will be possibilities in the future to get funding for forest preservation projects using the CDM mechanism of the Kyoto Protocol. The voluntary market offers possibilities now but there are not many experiences with this methodology. Carbon consulting companies[1] which built up expertise on how to conduct offset projects can be a possible partner in realizing opportunities from the voluntary market.

5.9 Organization and legal environment

One important subject for the development of commercialization in the communities is the access to the formal market. To define the best strategy to formalize, research about the legal environment in Brazil were carried out. The Brazilian organization to support small and medium companies, SEBRAE, provided important information on this subject. Also, case studies about the commercialization of NTFP at other communities in the Amazon were taken into consideration.

The decision of how and when the communities should start a formal organization was important for our analyses, as long term sustainability is the goal. To make this decision, understanding of how this issue influences the business activity had to be achieved.

The legal environment context in Brazil was a key aspect to be considered. According to IBGE [12], Brazil has 10 million informal companies. SEBRAE [26] points out two main barriers of the formal environment which can be related to this situation:

[1] Ecosecurities is one of the leading companies in this field. Website - http://www.ecosecurities.com/ecows.nsf (02.10.07)

- excessive bureaucracy and the lack of clear information about the procedures to start and maintain a company
- high amount of taxes which the companies have to pay

On the other hand, SEBRAE points out several advantages of formal business activity:

- access to funding
- liability
- access to the formal market
- increased control about business
- possibility of certification of products
- Legality of income source of businessmen.

Considering the community's restrictions to access information and the lack of financial resources and organizational skills, the barriers to formalize become especially relevant. To benefit from the advantages of formality, communities have to reach higher level of maturity and experience in dealing with the market. Facing the complexity of the legal environment while starting to organize makes the probability of success even smaller.

Considering this, the strategy chosen for the commercialization of NTFP in the lower Madeira River was to start business informally. It was verified during the market research and considered that many options are available to start business in the informal market. The producers will be ready to formalize when they feel that informality is the bottleneck to development, and not the lack of organization and capabilities. All the advantages of the formal market will be a natural consequence and the access to this situation have to be a goal for the communities.

5.9.1 Legal forms

Once the communities decide to formalize, it will be necessary to evaluate which is the appropriate legal form to be adopted. The different possibilities were analyzed cross checking basic requirements and the situation of the communities. It was possible to knock-out several possibilities and leave the ones that

apply to a community's reality. The trade-offs in choosing the different possibilities are stated to support the eventual decision of the community members.

There are seven possible types of company societies in Brazil. These possibilities and their main characteristics are shown in Table 5.1616.

Company societies	Main characteristics
Sociedade em nome Coletiva	▪ Composed by people or capital ▪ Partners are liable to unlimited extent ▪ Profit is proportional to capital ▪ Low administration effort
Sociedade em Comandita simples	▪ Composed by people or capital ▪ Two different types of partners (regulares and comanditários) ▪ Partners are liable to unlimited extent ▪ Regulares have unlimited responsibility over social capital ▪ Average administration effort ▪ Profit is proportional to capital
Sociedade Limitada	▪ Composed by people or capital ▪ Partners are liable to limited extent ▪ Low administration effort ▪ Profit is proportional to capital
Sociedade Anônima	▪ Composed by capital ▪ Possibility to register in the stock market ▪ Partners are liable to unlimited extent ▪ High administration effort ▪ Profit is proportional to capital
Sociedade Comandita por ações	▪ Composed by capital ▪ Possibility to register in the stock market ▪ Responsibility over the company is proportional to the shares ▪ High administration effort ▪ Profit is proportional to capital
Sociedade Cooperativa	▪ Composed by people ▪ Low administration effort ▪ Democratic decision (1 person, 1 vote) ▪ Profit is proportional to work

Table 5.1616: Types of legal forms in Brazil

The most important requirement for the communities is related to the administration effort of the legal form. The isolation of the location where the business will take part, the lack of financial resources and formal instruction, and support are barriers for dealing with the legal procedures. So, numerous and demanding legal requirements are very complicated to deal with in the case of the communities, as the company representatives will have to take eight hours by boat to Porto Velho each time they have to sign a document, or will need knowledge to which they normally do not have access to solve the more complicated issues of the legal environment. According to this requirement, three kinds of societies were knocked out: Comandita simples, Anônima e Comandita por ações.

Other three types of companies were considered to be appropriate to community's needs, as no other restrictions were identified. All of them are indicated for small business and have a low level of operational complexity. The choice among them has to be made by the communities and there are some trade-offs involved.

5.9.1.1 Sociedade em nome coletivo

The Sociedade em nome coletivo was created to meet the requirements of family companies. This kind of society is not a juridical entity separated from the owners. This makes them liable with their entire personal assets for the responsibilities of the company. Statistics from SEBRAE [1] also shows that this kind of society seems to be unlikely to encourage a more professional behavior among the producers, because their personal finances will be confused with the company's. Another important point is that the responsibility over the organization is shared equally between the producers. While in theory this can motivate group work and union, in theory, in practice it increases the risks for the owners. As in the other types of companies, the decision making process is related to the shares of the business partners. On the other hand, the proprietors of a Sociedade em nome coletivo have low costs for establishing and maintaining, fewer complications to pay taxes, as they are charged individually, and relatively low bureaucracy.

5.9.1.2 Sociedade Limitada

Owner's responsibilities are limited to their shares in the Sociedade Limitada. Considering the context of the community, in which many businesses failed because personal problems were brought into business, this is an important aspect be considered. According to SEBRAE, statistically, this kind of company promotes a professional behavior between the producers, as each one is going to have the responsibilities well defined. It also reduces the individual risks of the society members. The decision making process is ruled by the ones who have more shares, as in the Sociedade em nome coletivo. The sociedade limitada has more bureaucracy to deal with, comparing to the Sociedade em nome coletivo. The required level of formal control over the operations can bring benefits to the management of the business.

For both cases, the company would have to be registered as a small or medium business, so that a simplified tax collecting plan can be adopted and the administration effort minimized.

5.9.1.3 Sociedade Cooperativa

Cooperative societies were created to contemplate not only the economic issues of the business, but also the social. In this type of company, the owners of the production facilities are also the workers and they are managing the company. The conceptual differences between cooperativas and regular companies according to information from SEBREA are shown in Table 5.1717.

Cooperativa	Regular companies
Society of persons	Society of capital
Unlimited number of owners	Limited number of owners
Controlled democratically – 1 person, 1 vote	Controlled by capital – 1 share, 1 vote
Income of owners is proportional to work	Income of owners id proportional to the value of the shares
General support to the owners is the main goal	Profit is the main goal
Shares cannot be transferred to someone who does not take part in the society	Shares can be transferred to someone who does not take part in the society

Table 5.1717: Conceptual differences between cooperativas and regular companies

According to SEBRAE the level of administration effort in the management of the cooperative is relatively low and the operational costs are similar to a limited company. Although this legal form seems to fit all the communities' requirements, there are some practical complications. It is verified that most of the cooperativas in Brazil are not as effective in business as the other companies. According to Rede Unitrabalho [24], existing management technologies are inappropriate to the concept of this kind of companies. These are also commonly associated with poor communities which are not empowered to run an effective business. A lot of research is being developed in Brazil to address these issues. Government recognizes its potential to collaborate on the solutions of social problems in Brazil and plenty of support is also offered to these organizations by Universities and NGOs. The market of socio-environmentally correct products, which has channels of enormous potential to the community's products, promotes this type of companies too.

5.9.2 Formalization process

5.9.2.1 General procedures

This section intends to provide a generic description of the steps to open one of the three types of companies relevant for the communities. The exact same procedures have to be followed for the sociedade limitada and a sociedade coletiva. This procedure is shown in Table 5.1818. The activities, as well as the documents and the institutions in charge are detailed. There are some small differences with the process to start a cooperativa. Table 5.1919 describes this process.

The complexity and bureaucracy involved in starting a company in Brazil is pointed as a serious problem by SEBRAE. This organization also supports medium and small companies in dealing with the administrative burden and also helps building up management capabilities for the business. The service is free of charge and is available in Porto Velho. A partnership between SEBRAE and other governmental institutions created a service, called Central Fácil [1], to simplify the registration process .

[1] For more information about this service, access the following website on the internet: http://centralfacil.sefin.ro.gov.br/

	Activity	Documents required	Responsible Institution
1	**Check company name**		Cartório de Registro Civil de Pessoas Jurídicas ou Junta Comercial
2	**Check location**	“Inscrição cadastral do imóvel (IPTU)”	Prefeitura municipal
		“Endereço oficial completo (IPTU)”	
		“Nome da firma e de um dos sócios”	
		“Descrição detalhada das atividades”	
		“Habite-se”	
3	**Register**	“Requerimento de empresário”	Cartório de Registro Civil de Pessoas Jurídicas
		“Requerimento da junta comercial – capa de processo”	
		“Requerimento de empresário (4 vias)”	
		“CPF e Identidade do titular autenticada em cartório”	
		“DARF (2 vias)”	
		“Declaração de micro empresa (ME) ou de empresa de pequeno porte (EPP) assinada pelo titular em capa de processo separada”	
4	**Register at Cadastro Nacional de Pessoas Jurídicas (CNPJ)**	“Ficha cadastral de pessoa jurídica (FCPJ)”	Site ou sede da Receita Federal
		Quadro de sócio e administradores (QSA)	
		Ficha complementar	

		Cópia autenticada do ato constitutivo (Contrato Social ou Requerimento de Empresário) registrado na Junta Comercial	
		Cópia autenticada do Pedido de Enquadramento de ME ou EPP (só para Microempresa ou Empresa de Pequeno Porte)	
		Cópia autenticada do CPF e RG de cada um dos sócios	
		Documento básico de entrada no CNPJ em 1 via com firma reconhecida do responsável junto à Receita Federal	
5	**Require authorization to start activities**	*Formulário do corpo de bombeiros*	Corpo de bombeiros do município
		Comprovante de pagamento da taxa pertinente	
6	**Require license to start activities**	*Requerimento "Licença para Localização e Funcionamento e Cadastro, Alteração e Baixa de Pessoa Física e Jurídica"*	Secretaria Municipal de Desenvolvimento Urbano
		Consulta prévia (PDU)	
		Cópia do Contrato Social ou Declaração de Firma Mercantil Individual ou Estatuto e Ata de Assembléia, registrados em cartório do município ou na Junta Comercial do Estado	
		Cópia do cartão do CNPJ (Cadastro Nacional Pessoa Jurídica)	

		Cópia do CPF e Carteira de Identidade do Titular ou de cada sócio	
		Certidão do Corpo de Bombeiros	
		Nada Consta de Débitos da Pessoa Jurídica	
		Nada Consta de Débitos do titular ou dos Sócios	
		Cópia da folha de rosto do carnê do IPTU do imóvel onde a Pessoa Jurídica irá se localizar e funcionar	
		Requerimento de Alvará Sanitário de atividades de interesse à saúde	
		Habite-se do imóvel ou Aceitação de Obra ou Certidão Detalhada para as obras concluídas de acordo com o projeto aprovado.	
7	**Require "Certidao negativa de débito" at Receita Estadual**	*Formulário padrão preenchido*	Agência da Receita Estadual
8	**Register at Receita Estadual**	*Formulário padrão preenchido*	Agência da Receita Estadual
9	**Register at Previdencia Social**	*CNPJ*	Agência or web site from Previência social
		Dados contibuintes e responsáveis pelas empresas.	
10	**Require authorization to print fiscal notes**	*Formulário Autorização para impressão de documentos fiscais (AIDF)*	Secretaria de Estado de Finanças de

		Número de ordem	Rondônia (SEFIN)
		Nome, endereço e número de inscrição estadual e no CGC (MF) do estabelecimento gráfico e do usuário dos documentos fiscais a serem impressos	
		Espécie do documento fiscal, números inicial e final dos documentos a serem impressos, quantidade e tipo.	
11	**Register at Sindicato patronal**	*CNPJ*	Federação das indústrias ou do comércio do Estado
		Documentos dos responsáveis.	
12	**Register and require licenses at other public institutions**		IBAMA, ANVISA e MAPA

Table 5.1818: General process to start a sociedade limitada and a sociedade coletiva.

	Activity	Documents required	Responsable Institution
1	**Verify address**		Cartório de Registro Civil de Pessoas Jurídicas ou Junta Comercial
2	**Register at Junta Comercial**	*4 vias da ata de constituição da Assembléia Geral de constituição (todas as páginas rubricadas pelos sócio fundadores);*	Junta commercial
		Cópia do RG e CPF dos Diretores;	
		Relação com nome dos presentes;	
		Cópia do comprovante de residência do presidente;	

		Cópia do comprovante do local de funcionamento da instituição;	
		Visto de advogado na última página das vias da Ata de fundação.	
3	**Register at Receita Federal**	*Ficha Cadastral e ficha complementar (CNPJ)*	Site ou sede da Receita Federal
		Cópia do CPF, RG e comprovante de residência de todos os diretores	
		Lista dos associados	
4	**Require authorization to start activities**	*Formulário do corpo de bombeiros*	Corpo de bombeiros do município
		Comprovante de pagamento da taxa pertinente	
5	**Register and require licenses at other public institutions**		IBAMA, ANVISA e MAPA
6	**Require license to start activities**	*Cópia da Ata da constituição e do estaturo*	Prefeitura Municipal
		Cópia do CPF e Carteira de Identidade dos Diretores	
		Certidão do Corpo de Bombeiros	
		Cópia da folha de rosto do carnê do IPTU do imóvel onde a Pessoa Jurídica irá se localizar e funcionar	
		Requerimento de Alvará Sanitário de atividades de interesse a saúde	
		Habite-se do imóvel ou Aceitação de Obra	

		ou Certidão Detalhada para as obras concluídas de acordo com o projeto aprovado	
7	**Require "Certidao negativa de débito" at Receita Estadual**	*Formulário padrão preenchido*	Agência da Receita Estadual
8	**Register at Receita Estadual**	*Formulário padrão preenchido*	Agência da Receita Estadual
9	**Require authorization to print fiscal notes**	*Formulário Autorização para impressão de documentos fiscais (AIDF)*	Secretaria de Estado de Finanças de Rondônia (SEFIN)
		Número de ordem	
		Nome, endereço e número de inscrição estadual e no CGC (MF) do estabelecimento gráfico e do usuário dos documentos fiscais a serem impressos	
		Espécie do documento fiscal, números inicial e final dos documentos a serem impressos, quantidade e tipo.	

Table 5.1919: General process to start a cooperativa

5.9.2.2 Specific procedures

Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis - IBAMA

For a company which deals with NTFP, some specific procedures have to be considered. The communities harvest their products inside or in the surrounding areas of three conservation units or in other areas that are not protected.

In the region there are three different types of conservation units: Extractive Reserve (RESEX); National Forest (FLONA); Ecological Station (ESEC). The RESEX and the FLONA are both reserves of sustain-

able use. The ESEC is a completely protected area. This means the only reserves in the region where the natural resources can be exploited are the FLONA and the RESEX. In order to harvest copaiba, açaí, Brazil nuts and material for handcrafts from these areas, the communities have to follow the management plan established and the rules controlled by the Brazilian environmental agency (IBAMA). When the products are harvested outside these areas, the situation is unclear. That is because of the land possession problems in the rainforest, caused by a very non-coordinated occupation process. In practice, the harvester must have an authorization proving that he is able to use the area, which is considered of public possession. This document has to be obtained at the city hall by its political representative in the community.

In order to commercialize the product regularly, the harvester living either inside or outside the reserves has to register at IBAMA. To do so, it is necessary to go to the state environmental office in Porto Velho with[1] the following documents:

- Personal identification
- Cadastro de pessoa física (CPF)
- Authorization of public land use (if harvester live outside the reserves)

The harvester has to fulfill the Registro Técnico Federal (Federal Technical Registration) annually, describing the amounts of each product harvested. This has to be done at the IBAMA office in Porto Velho or online[2]

In the case of copaiba oil, an authorization for transporting and stocking is required by IBAMA. To get this authorization, first it is necessary to register online[3] or at IBAMA's office in Porto Velho. For detailed information about the registration process and the procedures to get the DOF (Forest Origin Document) consult IBAMA's webpage[1].

Agência de defesa sanitária do Estado de Rondônia - IDARON

[1] For IBAMA's office address in Porto Velho, see worksheet with players information.

[2] This service can be used on the following website: www.ibama.gov.br/cogeq/home

[3] www.ibama.gov.br at the link called "serviços on line"

Legal organizations also have to register at IDARON in order to require an authorization for transportation of the products abroad the state of Rondônia. It is necessary to go to the office of the Secretaria do Estado da Agricultura, Produção e Desenvolvimento (SEAPES) [2] with the following documents:

- Personal identification of the independent harvester, of the owners of the company or the president of the cooperative
- CPF (independent harvester) or CNPJ (company or cooperativa)
- Address proof of the independent harvester, company or cooperative

It is necessary to list all the products traded as well as their processing forms.

Each time products are transported outside the state, producers have to go to SEAPES in Porto Velho to get the authorization. The following information is required to do it so:

- Address of the final destination
- Dates of transportation
- Means of transportation
- Data of the transportation companies (name, CNPJ, address)
- Amounts transported

Agência Nacional de Vigilância Sanitária - ANVISA

In order to trade in the formal market, communities also have to consider ANVISA requirements for food products, like açaí and Brazil nuts. According to Resolução n. 23[3], raw materials, frozen pulps, jellies and sweets do not need to be registered. If the product is processed, a license must be required at the State Sanitary Authority[4]. To do so, the producers must go to ANVISA-RO office in Porto Velho and register the products that are being traded. The following documents are required:

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[1] http://www.ibama.gov.br/ctf/manual/html/160000.htm

[2] For SEAPE's office address see spreadsheet with players information

[3] Available at www.anvisa.gov.br

[4] For State Sanitary Authority's office address see spreadsheet with players information

- Fulfilled Ficha de cadastro da empresa (company registration form)
- Copy of the Alvará de Funcionamento (License to start activities)
- Receipt of inspection tax payment
- Report of the technical analyses of the product by an authorized laboratory
- Copy of the product label

More details about the requirements of ANVISA can be found at Portaria SVC/MS[1], from 30 of July, 2007. The procedures for inspection are detailed I RDC n. 275 and RDC n. 12[9] (microbiological aspects)

Ministério da Agricultura, Pecuária e Abastecimento (MAPA)

Ministry of Agriculture (MAPA) is the fourth authority in which the communities have to register before starting formal business. Registration of the business and the product are required in this case. It applies to açaí, brazil nuts and copaiba oil.

To register the business successfully, the following requirements must be met:

- Area/land in which production will occur must be approved (depending on the nature of the business, IBAMA, Health Ministery and City Hall will have to be consulted);
- All technical studies considering, for example, water availability, sanitary conditions, electricity supply, etc must be approved.

More details about the procedures can be found at MAPA´s website[2], at the "Servicos" link.

To register the product, the packing label must be approved by technical analyses performed in authorized laboratories. The detailed procedure can be found at the MAPA webpage[10], accessing the link of "Serviços".

Brazil nuts must be submitted to a certification of quality and security to be commercialized in the internal or external market. The certification is provided for a technical professional in each chain of the supply chain. The producers and intermediates must be registered in the MAPA. To sell to the European Union,

[1] Available at www.anvisa.gov.br

[2] www.agricultura.gov.br

in addition to the official certification the product is going to have if all the requirements are accomplished, a Sanitary Certificate, provided by an Officer from MAPA (FFA - Fiscal Federal Agropecuário) is required. Each chain has to be certified and you must be able to prove the quality in the whole chain.

The requirements for exportation of the 3 products are defined by a special sector of MAPA called Vigilância Agropecuária Internacional (VIGIAGRO). The products are classified in different categories, according to the risk they offer for spreading diseases or any other threat to human health.

- Açaí and copaiba oil (Category 0 – not offer high risks) – documents required:
    - Tax receipt
    - Requirement for inspection (Formulário V)
    - Document proving the order from the buyers
    - Invoice
    - Copy of Manifesto de carga (loading and transportation manifest)
    - Plano de carga (loading and transportation plan)
    - Requerimento de fiscalizacao (Formulário V) form
- Brazil nuts (Category 3 – high risk potential) – documents required:
    - Tax receipt
    - Requirement for inspection (Formulário V)
    - Document proving the order from the buyers
    - Invoice
    - Copy of Manifesto de carga (loading and transportation manifest)
    - Plano de carga (loading and transportation plan)
    - Requerimento de fiscalizacao (Formulário V)
    - Fitossanitário certification from an authorized laboratory (according to the demando f the import country)
    - Declaration of the additional requirements of the importer country
    - Additionally Transportation documents of the merchandise

5.9.2.3 Investment

From the general and the specific procedures described, it was possible to estimate that a total investment of R$ 2.000,00 is required in order to start a formal business in the community. It was considered that the communities would work with the four products and processes for value adding would be imple-

mented. The costs to transport the products to Porto Velho were also considered. The investment would be similar to the three kinds of societies considered.

5.9.3 Taxes

As a company or a cooperativa, the community's business would be able to fit in the Simples, a simplified method to pay taxes for small and medium companies in Brazil. There are 2 categories of companies:

- Microempresa – Annual income up to R$ 120.000,00
- Empresa de Pequeno Porte – Annual income up to R$ 1.200.000,00

The Following table describes all the percentage of taxes to be paid, according to the income level.

Taxes and contributions	Microempresa (annual income)			Empresa de pequeno porte (annual income)								
	Up to 60.000	Up to 90.000	Up to 120.000	Up to 240.000	Up to 360.000	Up to 480.000	Up to 600.000	Up to 720.000	Up to 840.000	Up to 960.000	Up to 1.080.000	Up to 1.200.000
Imposto de Renda Pessoa Jurídica	Zero	zero	zero	0,13%	0,26%	0,39%	0,52%	0,65%	0,65%	0,65%	0,65%	0,65%
PIS/PASEP	Zero	zero	zero	0,13%	0,26%	0,39%	0,52%	0,65%	0,65%	0,65%	0,65%	0,65%
Contribuição Social Lucro Líquido	Zero	0,40%	1,00%	1,00%	1,00%	1,00%	1,00%	1,00%	1,00%	1,00%	1,00%	1,00%
COFINS	1,80%	2,00%	2,00%	2,00%	2,00%	2,00%	2,00%	2,00%	2,00%	2,00%	2,00%	2,00%
Contribuições Previdenciárias	1,20%	1,60%	2,00%	2,14%	2,28%	2,42%	2,56%	2,70%	3,10%	3,50%	3,90%	4,30%
Subtotal	3,00%	4,00%	5,00%	5,40%	5,80%	6,20%	6,60%	7,00%	7,40%	7,80%	8,20%	8,60%
IPI*	0,50%	0,50%	0,50%	0,50%	0,50%	0,50%	0,50%	0,50%	0,50%	0,50%	0,50%	0,50%
Total	3,50%	4,50%	5,50%	5,90%	6,30%	6,70%	7,10%	7,50%	7,90%	8,30%	8,70%	9,10%

Table 5.2020: Rates of taxes in dependence of the earnings

For detailed information about the Simples system, access the SEBRAE website[1].

5.10 Guideline

The step-by-step guideline to commercialization was the main deliverable for NAPRA and for the communities. In this document all relevant information for commercializing the four products acaí, Brazil nut,

[1] www.sebrae.com.br

copaiba oil, and handcrafts in the short run are combined and organized in a way they can be used without having to study the whole project.

Because there are the two addressees, the guideline contains two parts as well, one for each of them. The first part is addressed to NAPRA. It is compiled out of five steps which together aim to implement the project. The second part is for the producers and contains a five-step program for each of the four products. All steps are structured in five sub-items:

- **When**: Suggests time period for the Step to be implemented.
- **Goals**: Details where should NAPRA or communities get by implementing the step.
- **To do's**: Details the main tasks to be accomplished.
- **Expenses**: Details the basic expenses necessary to implement the tasks. It is important to consider that these expenses were estimated separately for each step and the total expense does not correspond to the sum of all of them.
- **Other considerations**: Highlight critical aspects of the step.

This guideline provides a basis for the work that has to be done by NAPRA in the following months and it is a preliminary stage of a business plan for the communities. It helps them to organize their steps and to gather the information they need, either by leading through the research database or providing the sources that can be consulted in order to obtain them.

The guideline itself can be found in annex 8.12.

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7 Tables and Figures

7.1 Tables

7.2 Figures

8 Annex

8.1 Knock-out criteria for funding possibilities

Funding institution	Knock out criterion	
	Financial volumes	Others
Department of international Development (UK)	£700,000 to £5,000,000	
Deutsche Umwelthilfe (Hand-in-Hand Fonds)		Application only in German
FUNBIO	R$ 5,000,000	
Inter-American Investment Corporation	US$5,000,000 to $35,000,000	
ProRegenwald		
Rainforest Action Network Inc.		
Rainforest Alliance		
Rainforest Conservation Fund		Only work in a reserve in Peru
The Body Shop Foundation		Only projects with a diffent focus than ours can apply
The Forest Foundation, Inc.		Investment capital only available for follow-up projects
The Overbrook Foundation	US$20,000 to US$100,000	

8.2 Questionnaires for market research

What are the products xy buys?

1.

2.

3.

4.

5.

Are there minimum batches/amounts they require?

1.

2.

3.

4.

5.

Are there any specific products xy is interested in at the moment?

1.

2.

3.

Is there any potential product that is not explored so far?

1.

2.

3.

What are the quality requirements?

Do you consider any certificates?

1.

2.

3.

How much do you pay for the products and how do certificates influence the price?

1.

2.

3.

4.

5.

Do you prefer any specific legal form to make business with? Why?

Do you already make business with communities directly? Which ones?

Do you offer any strategic partnership or support for the communities?

Who are your main competitors?

8.3 Decision tool for the sustainable commercialization of NFTPs

	Social						Environmental
	0.25						0.05
	Womens contribution to value adding	Cultural impacts	Harvesting impacts	Harvesting knowledge	Process complexitiy	Communities interest and skills	Ecolocical impact
	3	3	3	2	2	3	1
	0.19	0.19	0.19	0.13	0.13	0.19	1.00
Unha de gato	3	4	4	4	4	3	4
Cupuacu	3	5	4	5	3	4	4
Babacu	4	3	4	5	3	5	5
Patauá	4	2	4	4	3	3	4
Andiroba	2	3	4	4	4	3	4
Breu Branco	1	2	4	3	5	4	4
Rubber	2	5	3	2	2	3	3
Palmito	2	2	3	4	2	1	3
Purpunha	2	3	3	4	3	2	4
Dragon Blood	1	3	3	3	5	4	3
Bio Jewels	5	3	4	5	2	3	4
Handcrafts	4	4	4	4	3	3	3

Economic										
0.7										
Supply Capacity	Real Value adding possibilities	Client diversity	Products diversity	Barriers for market entrance	Seasonality	By-products	Strategic partnerships	Market information dependency	Competitive advantages	Rank
1	3	3	2	2	2	2	3	3	1	
0.05	0.14	0.14	0.09	0.09	0.09	0.09	0.14	0.14	0.05	
3	4	2	3	4	3	3	1	4	3	3.17
3	4	4	1	3	2	1	5	4	3	3.46
5	2	3	1	2	4	3	3	4	3	3.29
2	3	3	1	3	2	3	1	4	3	2.81
1	2	3	1	2	3	2	2	4	3	2.70
1	1	2	5	5	5	1	1	4	3	2.87
5	2	4	5	2	4	1	2	4	3	3.05
1	1	5	5	1	4	1	1	4	3	2.59
3	3	4	5	4	4	4	2	4	3	3.40
2	2	2	5	3	5	1	1	4	3	2.82
3	4	3	5	2	5	5	1	1	3	3.25
3	3	5	5	3	5	5	3	2	3	3.65

8.4 Decision Tool for Value Chain Analysis – Copaiba Oil

Criteria	Masao		Eiko		Silvio		Peter		Values
Quality Requirements									12%
boat owner + local intermediaries	9	- no quality requirements	8	- low quality requirements but no possibility to upgrade price through quality improvement	9	- no quality requirements	8	- low quality requirements	1.04
local retailer + small shops	8	- no quality requirements	9	- no quality requirements	8	- no quality requirements	8	- low quality requirements	1.01
national oil industry	9	- low quality requirements because they want to develop new suppliers	9	- low quality requirements because they want to develop new suppliers	9	- low quality requirements because they want to develop new suppliers	6	-low quality requirements in the beginning - not interested in supporting suppliers if no improvement takes place, probably even in the short of medium term	1.01
Demand									14%
boat owner + local intermediaries	4	- no stable demand and low volumes	4	- no stable demand and low volumes	5	- no stable demand and low volumes	4	- low demand - volatile - no growth	0.60
local retailer + small shops	5	- demand is more stable and low volumes	5	- demand is more stable and low volumes	5	- no stable demand and low volumes	6	- higher demand than for boat owners but still low - no market growth	0.74
national oil industry	9	- buy the whole production	8	- buy the whole production	8	- buy the whole production	9	- buy whole production - contracts possible - growing market	1.20

price									11%
boat owner + local intermediaries	4	- ~10 Reais, no high volatility	4	- ~10 Reais, no high volatility	4	- ~10 Reais, no high volatility	4	- ~10 Reais, no high volatility	0.45
local retailer + small shops	5	- ~ 7-12 Reais, low volatility	5	- ~ 7-12 Reais, low volatility	5	- ~ 7-12 Reais, low volatility	5	- ~ 7-12 Reais, low volatility	0.56
national oil industry	8	- ~ 15 - 20 Reais, low volatility, at the beginning is the price a little bit lower	8	- ~ 15 - 20 Reais, low volatility, at the beginning is the price a little bit lower	8	- ~ 15 - 20 Reais, low volatility	8	- ~ 15 - 20 Reais, low volatility	0.90
transportation									7%
boat owner + local intermediaries	9	- partly no transportation needed	8	- partly no transportation needed	9	- no transporation needed sometimes	8	- low demand leads to small amounts that can easily be transported - no special packages needed since quality requirements are very low	0.58
local retailer + small shops	9	- just to go to Porto Velho	8	- just to go to Porto Velho	8	- just to go to Porto Velho	7	- low demand leads to small amounts that can easily be transported - no special packages needed since quality requirements are very low	0.55
national oil industry	9	- some companies would pick it up from Porto Velho	7	- more costs and a little bit more difficult	7	- more costs and a little bit more difficult	5	- quality requirements are very low at the beginning but as soon as they increase transportation will get more difficult - longer ways to the market in the medium term	0.48
support									17%
boat owner + local intermediaries	1	- interested in keeping harvesters down - protective in order to save own business	2	- interested in keeping harvesters down - protective in order to save own business	1	- interested in keeping harvesters down - protective in order to save own business	2	- no interest in the development of the communities - eventually interested in stable supply	0.26
local retailer + small shops	4	- neutral attitude toward communities	5	- neutral attitude toward communities	4	- neutral attitude toward communities	4	- neutral against the communities - interested in stable supply - eventually interested in quality improvements	0.73
national oil industry	9	- some of them want to develop new supplier (Bearca) - help with workshops	8	- some of them want to develop new supplier (Bearca) - help with workshops	8	- some of them want to develop new supplier (Bearca) - help with workshops	8	- interested in organization of the communities - interested in long term partnership - commercial interest is the main focus	1.41

governance									15%
boat owner + local intermediaries	2	- captive market structure	2	- captive market structure	2	- captive market structure	2	- captive market structure	0.29
local retailer + small shops	9	- market structure	9	- market structure	9	- market structure	9	- market structure	1.32
national oil industry	7	- modular market structure	7	- modular market structure	7	- modular market structure	7	- modular market structure	1.02
short and medium term development									14%
boat owner + local intermediaries	0	buy only raw oil	0		0	- do not consider product improvements	2	- might be convinced by increasing income possibilities through partnership that leads to more stable supply	0.07
local retailer + small shops	2	,- very low possibilities for product development	3		2	- there are possibilties for better prices through quality improvements	4	- might be convinced by increasing income possibilities through partnership that leads to more stable supply - consider long term partnerships	0.39
national oil industry	9	- good market for refined copaiba oil	9	- higher quality leads to higher prices - upgrade thru organic certification - could be interested in other natural oils	6	- improve quality of right material - not interesting for them if communities would do more processing	9	- offer support for increasing knowledge about quality issues - support organization - value adding process steps in order to improve quality on community level possible	1.17
client diversity									10%
boat owner + local intermediaries	1	,- players set product prices	3	- monopolize the market - eventually one of them breakes out	1	- they act like one single buyer	1	- act like one single buyer - no benefit from changing behavior	0.15
local retailer + small shops	8	,- many possibities	8	- many of them	7	- different possiblities, but in a restricted market	7	- many buyers reachable - restricted market where everyone does more or less the same	0.73
national oil industry	5	- not many companies	4	- not many companies	4	-companies have the same caracteristics - restricted numbers of possible buyers	5	- more than one with almost the same requirements - not easy to convince to work with communities except one company	0.44

8.5 Application Form of the Rainforest Alliance

Community Conservation Enterprises Business Plan for Eco-Entrepreneurs

The purpose of the Community Conservation Enterprises is to *improve the quality of life in tropical communities*. An improved quality of life includes a clean environment, economic opportunities, cultural integrity and protection of natural resources. To achieve this, the Rainforest Alliance provides small grants to cooperatives, associations and community groups to expand or create innovative small eco-enterprises. We hope to help stimulate a sustainable business economy at the community level that includes both international and local trade that benefits the community and forests.

Currently, grant-making is restricted to Mexico and Central America, with priority given to communities in the *Selva Maya*. Grants for a specific business need may range from $500 to $2000 and are non-renewable.

The Rainforest Alliance is an international conservation organization dedicated to protecting the world's most biodiverse ecosystems and the communities that depend upon them. We do this by working together with communities, business, government and scientists to develop criteria for the environmental and social certification of key industries.

A. Name of Business: _____

Address: _____

City: _____ Municipality: _____ Country: _____

Tel: _____ Fax: _____ Email: _____

B. Business Objective: _____

_____

_____

Amount requested: US$_____ (Current Exchange rate: _____ = US$ 1.00)

1. How will you use these funds? _____

2. What specific need will these funds help you to address? _____

3. What will you do if you do not receive this grant? _____

C. Workers

Name	Title/Position within Business	Previous Occupation	Age	Ethnicity or Culture	Gender (M/F)	# Dependent Children

CCE Application **Rainforest Alliance**

Send to: cce@ra.org or by fax to: 212.677.2187

3. Where do you buy/collect these ingredients, components or raw materials?

4. What is the process for making your product? Please be sure to include all ingredients/components/materials.

5. What types of materials or supplies do you use to process your product?

6. Do you need any equipment or tools to make your product? Please list all equipment used.

7. Does this equipment require gas, electricity or other fuel to operate?

8. What types of waste or by-products does this process generate? Please identify how you will dispose of these waste products.

9. How many of your product can you make or collect each month per employee or participant?

10. Are there seasonal fluctuations in product availability?

11. What price will you sell your product for?

12. How will you package your product?

13. Will you buy the packaging materials, or are they available?

F. Sales

1. Where do/will you sell your products?

2. Please list at least 3 potential buyers or markets for your product:

3. Have you already arranged to sell your product to anyone? If so, how many? _____

4. How will you get your product to buyers and/or markets? _____

5. How much does transportation cost? And, how many products can you take per trip? _____

6. How regularly is this transportation available? _____

7. Are there seasonal fluctuations in sales? If so, what are they? _____

8. Are there any other companies or cooperatives selling the same product in your intended market? If so, how does your product differ from theirs? What prices do they sell their products for? _____

E. Biodiversity

1. Where will you be harvesting or growing the ingredients for your products? _____

2. Is this a protected area, privately owned land or community-managed reserve? _____

3. What impact will your activities have on the area? Please be very specific. _____

4. Do you know which animals or plants use the ingredients you will be harvesting/growing? _____

5. Are there any local conservation organizations or citizens groups working in the area (please provide name and telephone or email)? _____

6. What other resources are harvested from or grown in this area by other members of the community? Local names are sufficient. _____

ANALYSIS OF COSTS & REVENUE:

Table 1: Start Up Costs

Start Up Costs	Materials	# Units	Cost Per Unit	Total Cost	Do You Already Own This?
Use your answer from Start Up Costs #1, #2 and #3.					
			Total		

Table 2: Variable Costs

Variable Costs	Ingredients	# Units Per Month	Cost Per Unit	Total Cost Per Month
Use your answers from Production & Harvesting #2, #4 & #5				
			Total:	

Table 3: Equipment Maintenance and Operation Costs

Equipment Maintenance & Operation	Item	# Units	Monthly Cost For Maintenance And Operation (ie., Fuel)	Total Cost Per Month Of Operation
Use your answers from Production & Harvesting #7				
			Total	

Table 4: Transportation Costs

Transportation Costs	Transportation	# Per Month	Cost Per Trip	Total Cost Per Month
Use your answers from Sales #4 & #5				

			Total	

Table 5: Packaging Costs

Packaging Costs	Product	# Units Per Month	Cost Per Unit	Total Cost Per Month
Use your answers from Production & Harvesting #11 & #12.				
			Total	

Other Costs: Please describe any other costs associated with your business that have not been included above. _____

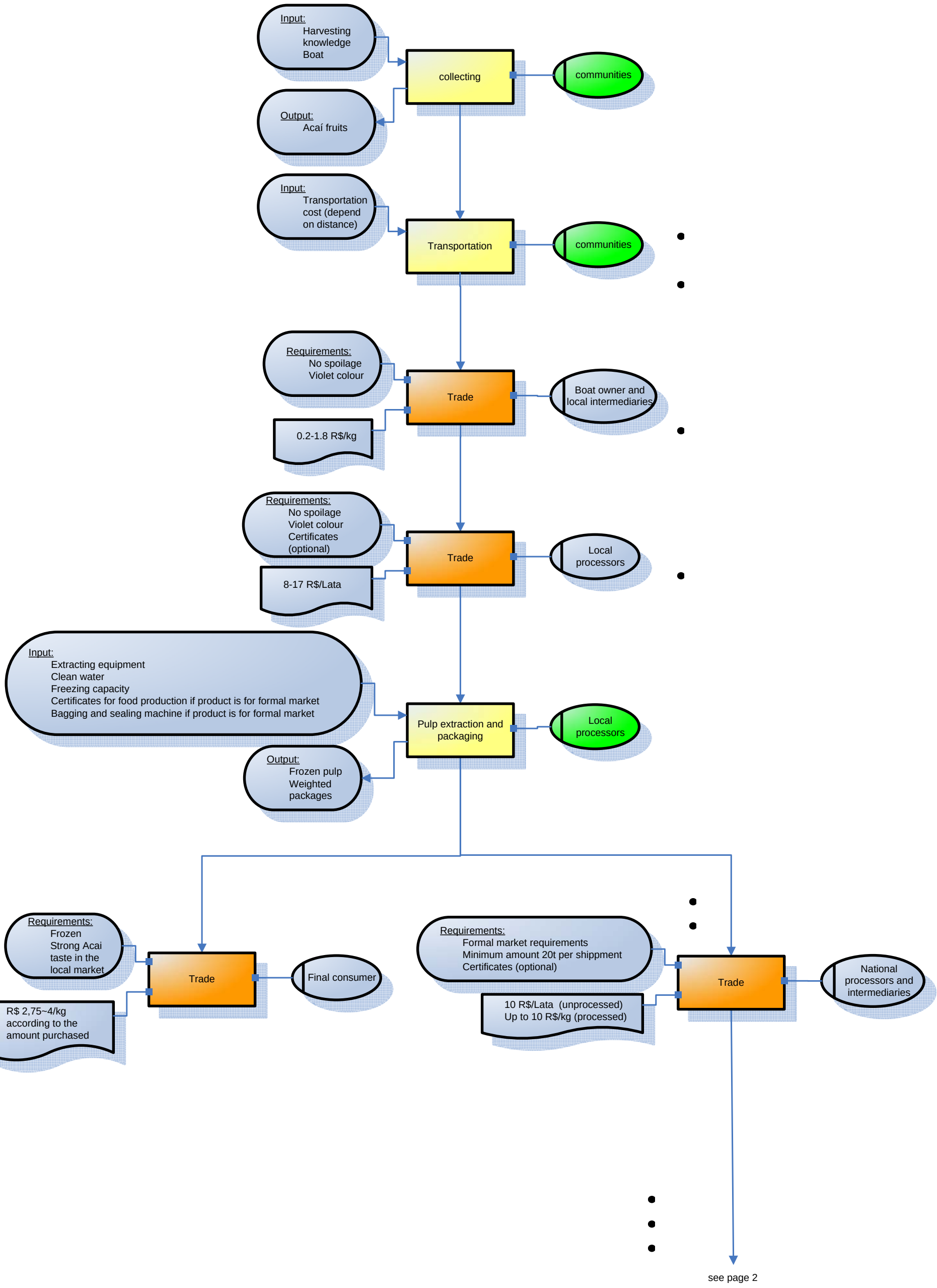
Table 6: Sales Information

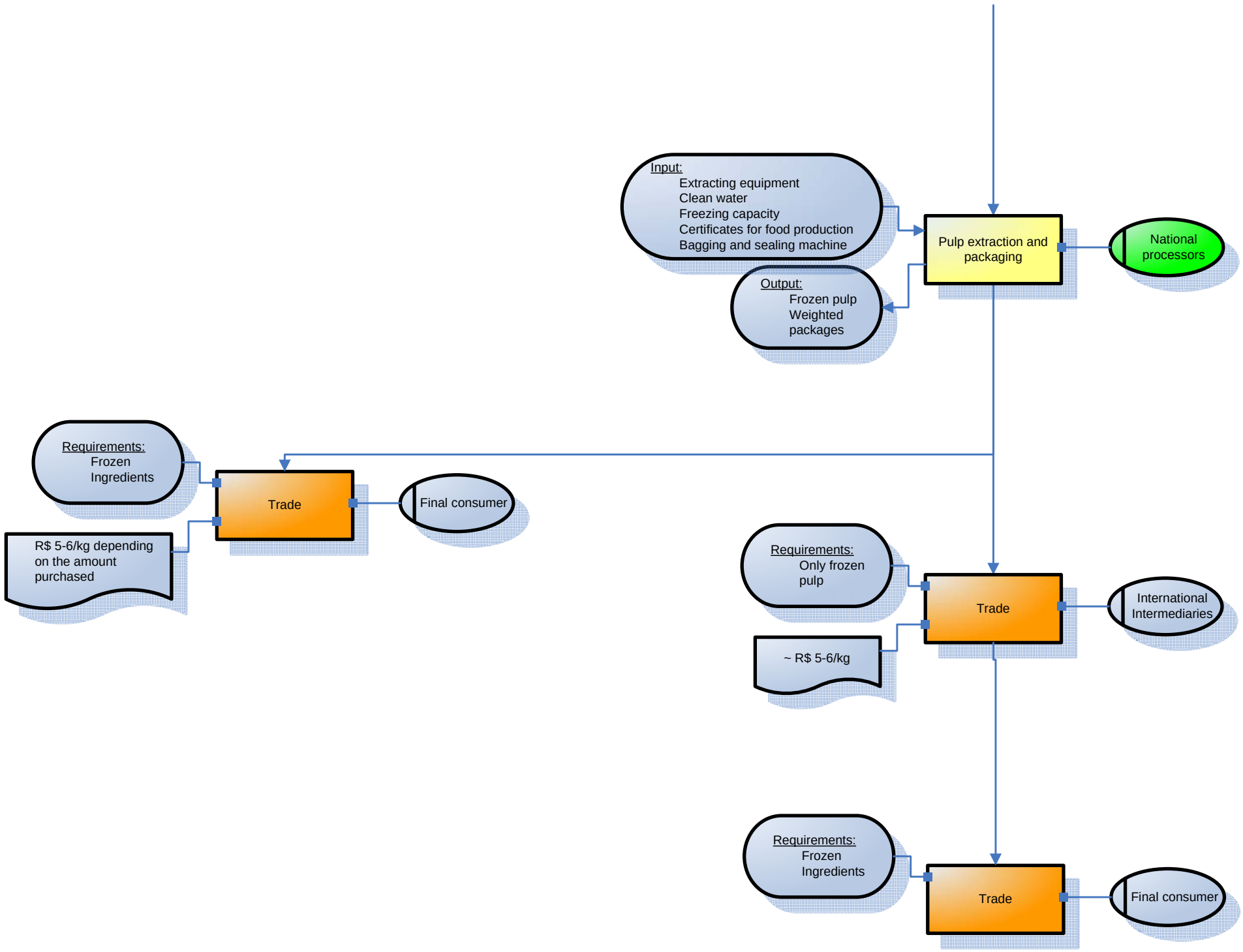
Number Of Ind. In Businesses	Average # Of Products Made Per Month	Total # Of Products Made Per Month	Average Sale Price Of Product	Total Sales Per Month
Example: 15 women	24 chairs	15 x 24 = 360 chairs	$7 per chair	$2,520
			Monthly Total for All Products:	

Table 7: Total Sales and Expenses

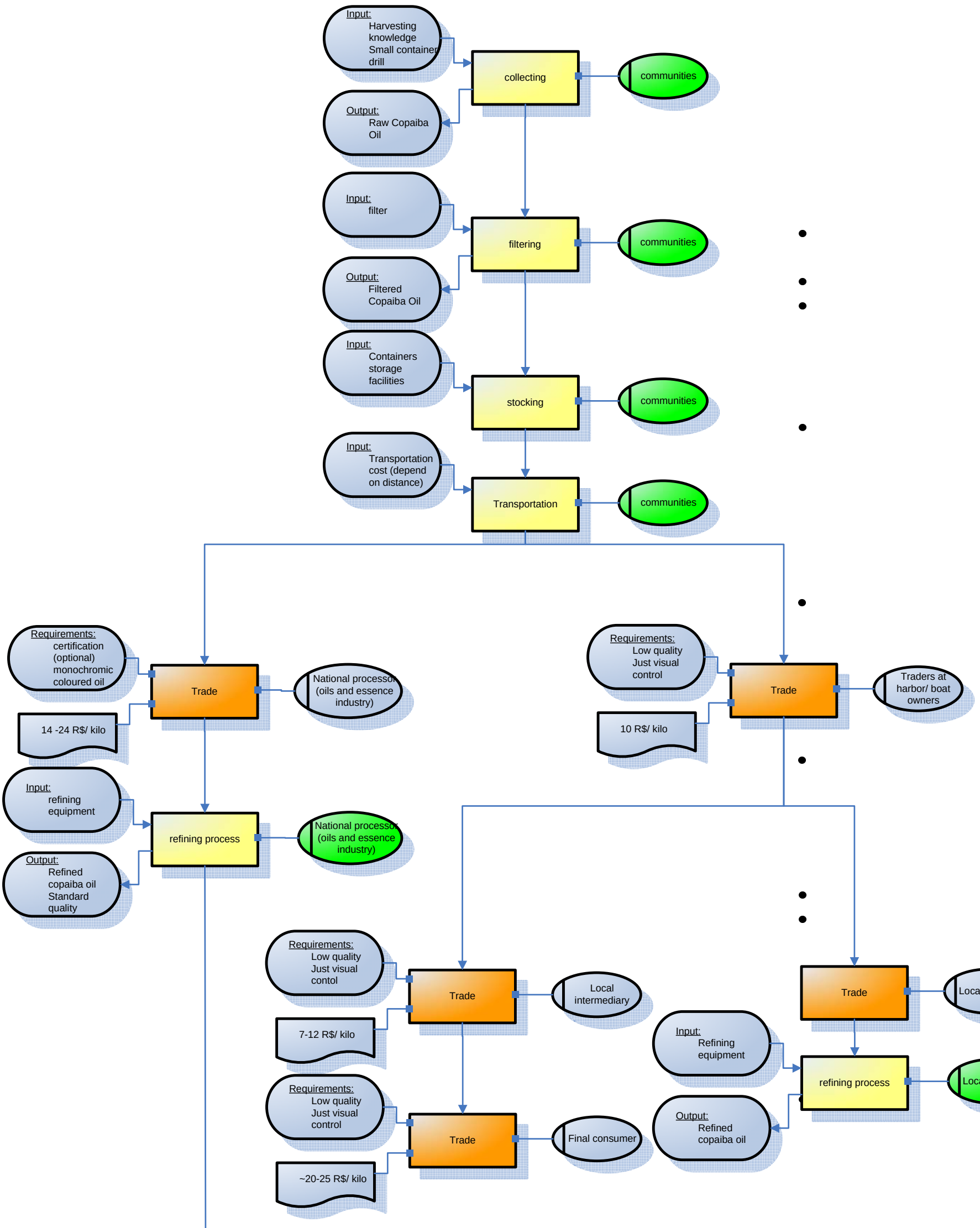
Category	Total Monthly Costs/Revenue
1. Total Monthly Sales for All Products (*Total from Table 6*)	
2. Expenses:	
A. Variable Costs (*Total from Table 2*)	
B. Equipment Maintenance and Operation Costs (*Total from Table 3*)	
C. Transportation Costs (*Total from Table 4*)	
D. Packaging Costs (*Total from Table 5*)	
E. Other Costs (please describe below)	
Total Monthly Costs (*Add lines A – E*)	
3. Potential Monthly Gross Profit	
Personnel Costs: From this amount you subtract the amount paid to all workers per month.	
4. Potential Monthly Surplus for Reinvestment, Recover Start Up Costs or Savings.	

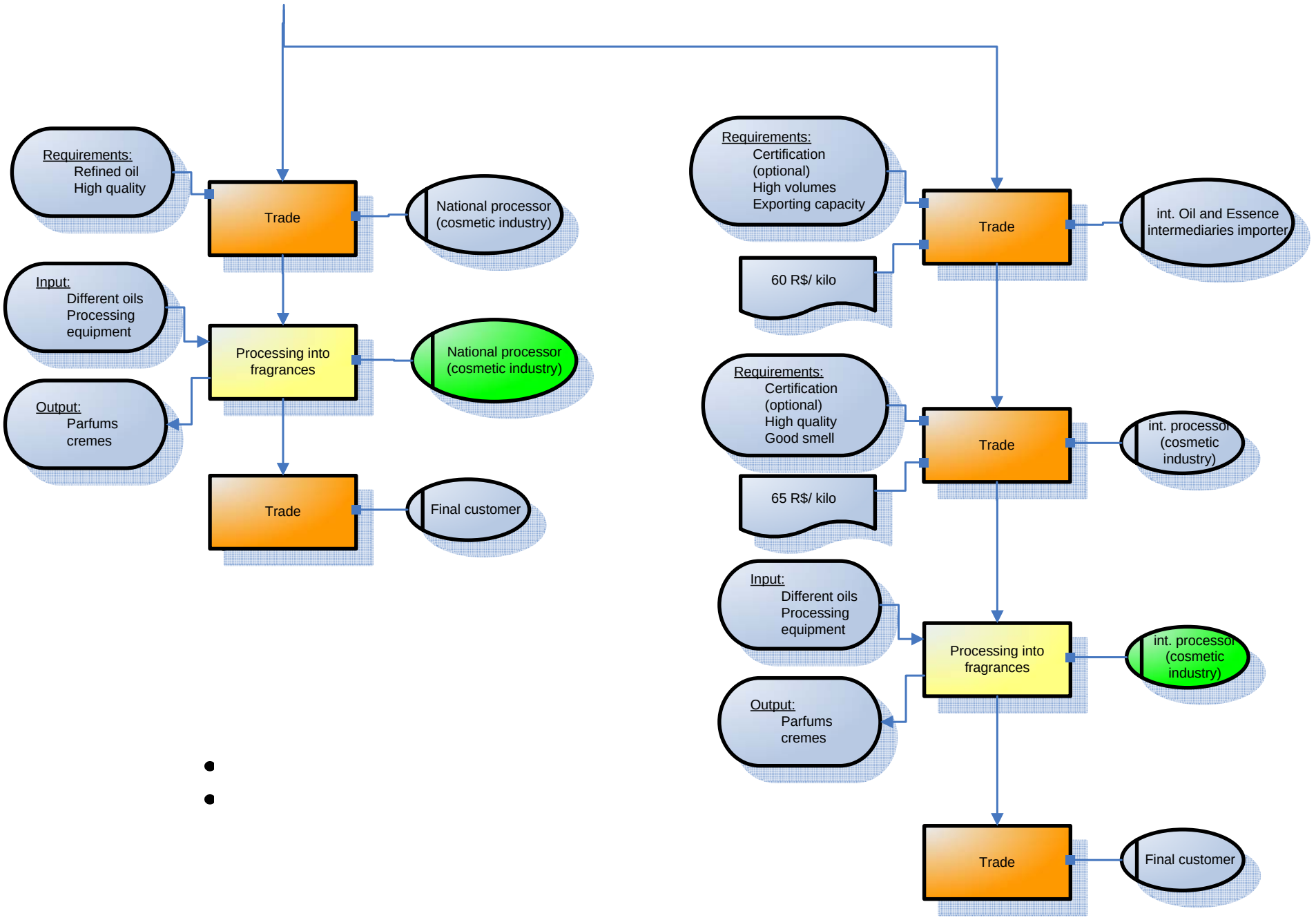
8.6 Acaí Value Chain



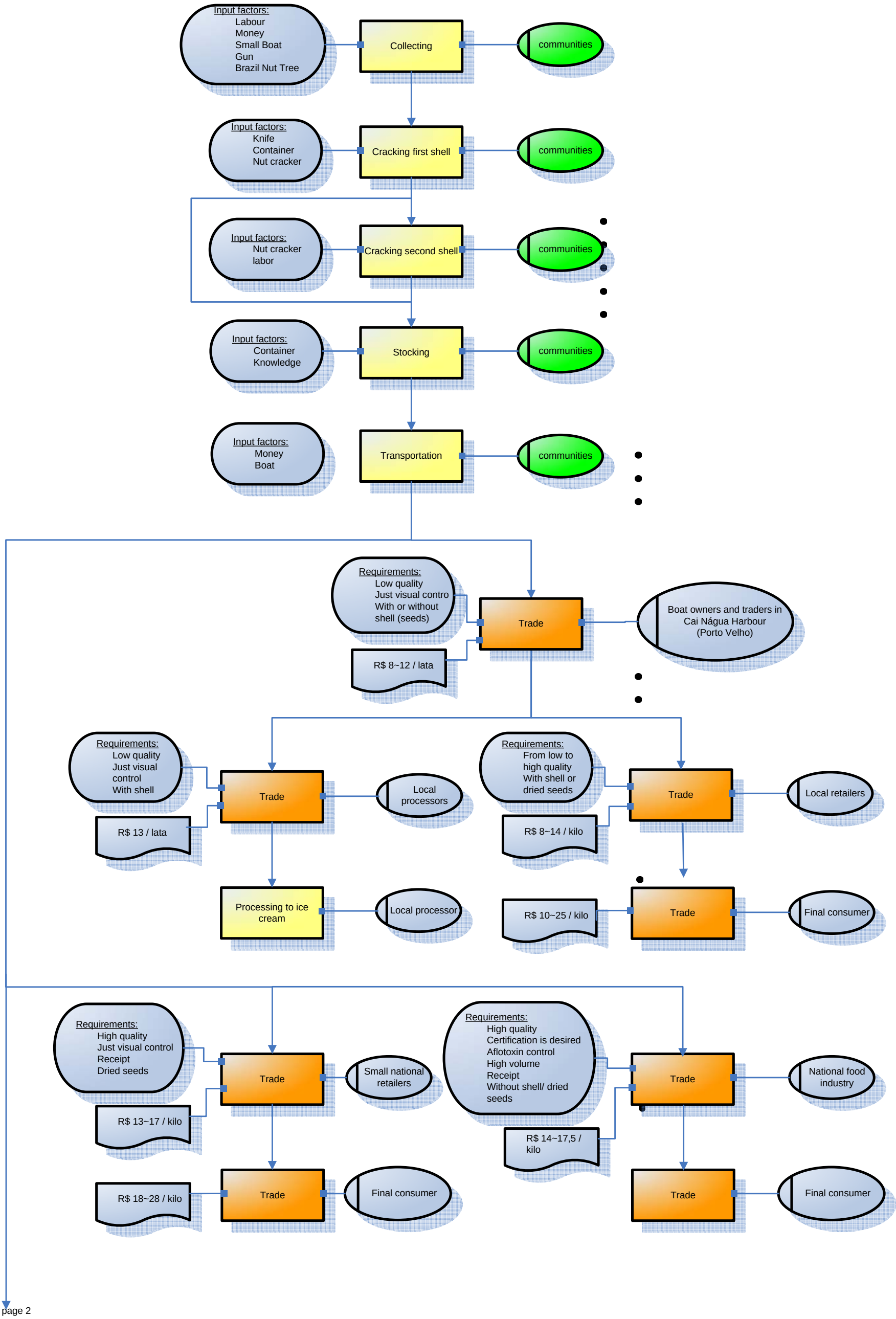

Input:
Extracting equipment
Clean water
Freezing capacity
Certificates for food production
Bagging and sealing machine
Output:
Frozen pulp
Weighted packages
Pulp extraction and packaging
National processors
Requirements:
Frozen Ingredients
R$ 5-6/kg depending on the amount purchased
Trade
Final consumer
Requirements:
Only frozen pulp
~ R$ 5-6/kg
Trade
International Intermediaries
Requirements:
Frozen Ingredients
Trade
Final consumer

8.7 Copaiba Oil Value Chain

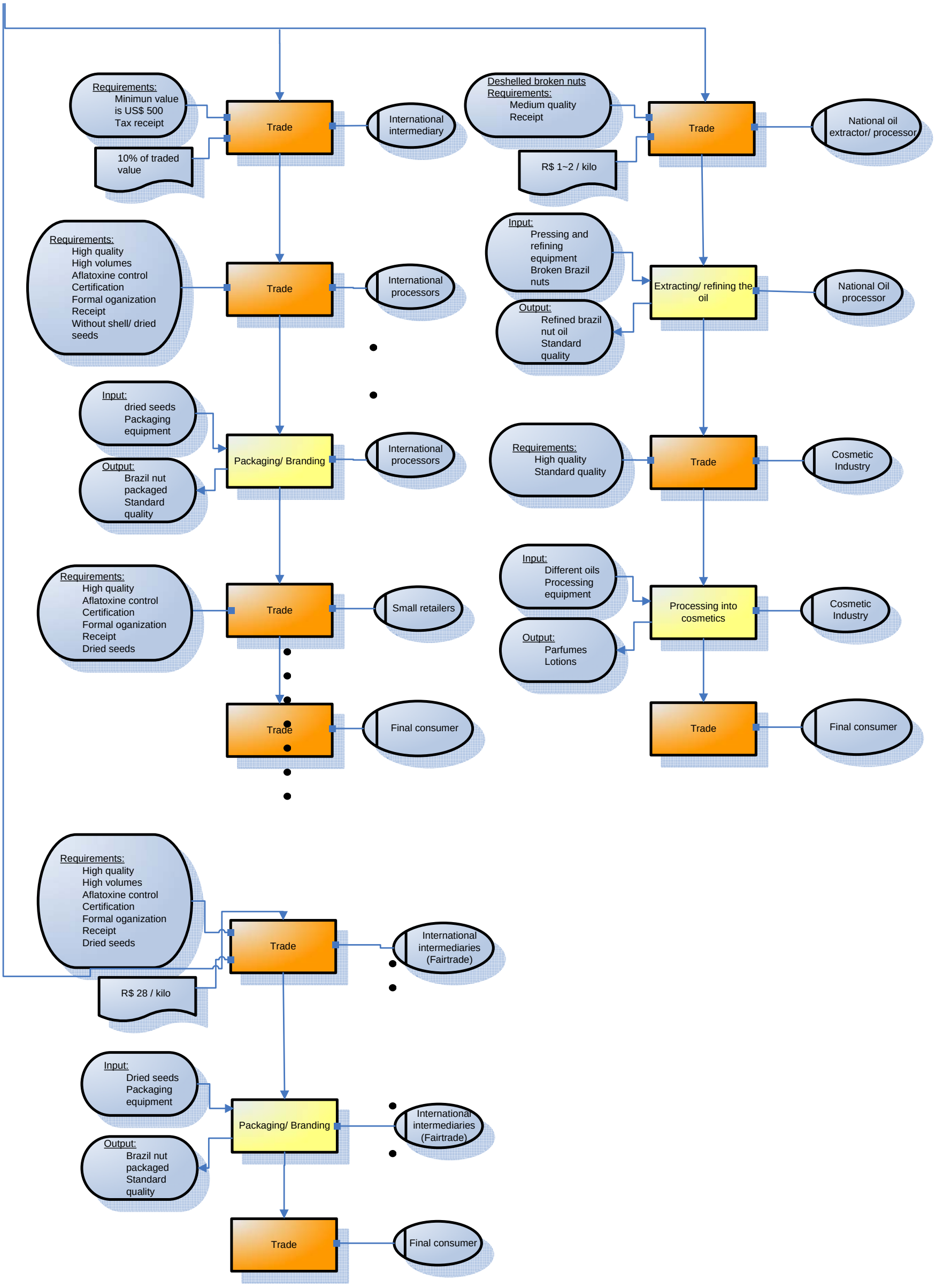



Requirements:
Refined oil
High quality
Trade
National processor
(cosmetic industry)
Input:
Different oils
Processing
equipment
Processing into
fragrances
National processor
(cosmetic industry)
Output:
Parfums
cremes
Trade
Final customer
Requirements:
Certification
(optional)
High volumes
Exporting capacity
Trade
int. Oil and Essence
intermediaries importer
60 R$/ kilo
Requirements:
Certification
(optional)
High quality
Good smell
Trade
int. processor
(cosmetic
industry)
65 R$/ kilo
Input:
Different oils
Processing
equipment
Processing into
fragrances
int. processor
(cosmetic
industry)
Output:
Parfums
cremes
Trade
Final customer

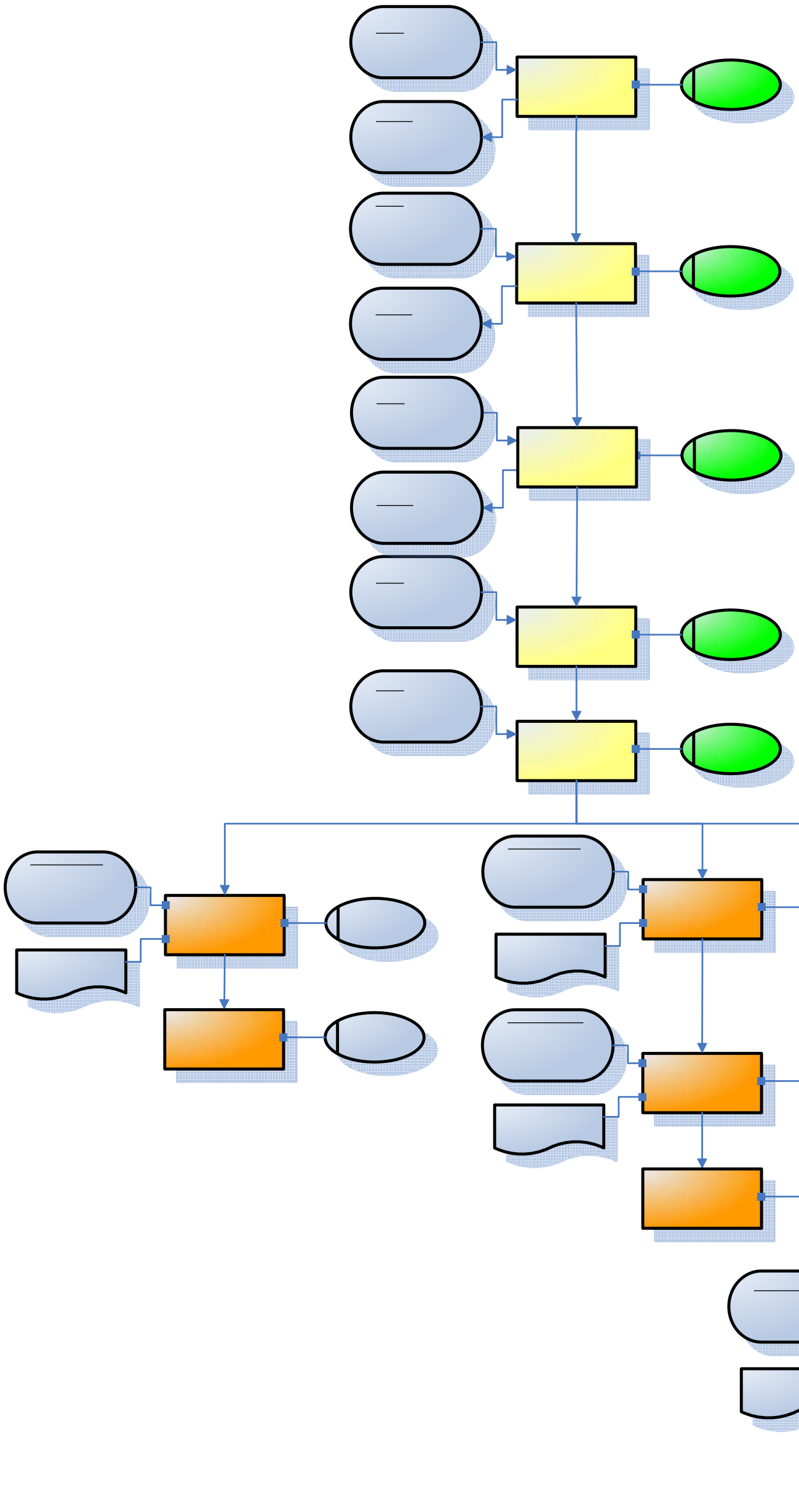
8.8 Brazil Nut Value Chain



1/2
see page 2


Requirements:
Minimun value is US$ 500
Tax receipt
10% of traded value
Trade
International intermediary
Deshelled broken nuts
Requirements:
Medium quality
Receipt
R$ 1~2 / kilo
Trade
National oil extractor/ processor
Requirements:
High quality
High volumes
Aflatoxine control
Certification
Formal oganization
Receipt
Without shell/ dried seeds
Trade
International processors
Input:
Pressing and refining equipment
Broken Brazil nuts
Output:
Refined brazil nut oil
Standard quality
Extracting/ refining the oil
National Oil processor
Input:
dried seeds
Packaging equipment
Output:
Brazil nut packaged
Standard quality
Packaging/ Branding
International processors
Requirements:
High quality
Standard quality
Trade
Cosmetic Industry
Requirements:
High quality
Aflatoxine control
Certification
Formal oganization
Receipt
Dried seeds
Trade
Small retailers
Input:
Different oils
Processing equipment
Output:
Parfumes
Lotions
Processing into cosmetics
Cosmetic Industry
Trade
Final consumer
Trade
Final consumer
Requirements:
High quality
High volumes
Aflatoxine control
Certification
Formal oganization
Receipt
Dried seeds
R$ 28 / kilo
Trade
International intermediaries (Fairtrade)
Input:
Dried seeds
Packaging equipment
Output:
Brazil nut packaged
Standard quality
Packaging/ Branding
International intermediaries (Fairtrade)
Trade
Final consumer

8.9 Handcraft and Bio Jewels Value Chain



Input:
- Harvesting knowledge

Output:
- Raw material for the handcrafts

Input:
- Knowledge
- Tools
- Supporting materials

Output:
- Processed material

Input:
- Knowledge
- Equipment

Output:
- Handcraft

Input:
- Storage facilities

Input:
- Transportation cost (depend on distance)

8.10 CAEX – Cooperativa Agro Extravista de Xapuri

CAEX was visited by two members of the team during the stay in Rondônia. The manager of the cooperative showed them the production facilities as well as some of the areas the members extract Brazil nuts from. During the one-day stay the team members had the chance to conduct several interviews with the manager himself, the shop floor manager of the plant and some of the members of the cooperative. The following chapters provide the information obtained from that. They reflect the situation as it was reported by the interviewpartners.

8.10.1 History

CAEX was founded on July the 30th in 1988 in an area where the members of the cooperative used to tap rubber for many years. The reason for establishing a cooperative was to generate more income by avoiding intermediaries. Many of the rubber tapers joined together and tried to sell their rubber in Rio Branco, the capital of Acre. Chico Mendes, a famous unionist and environmental activist, was one of the organisers of this first attempt to form a strong group of producers. This was the beginning of CAEX.

In the following Chico Mendes wrote a project proposal to the world bank and they provided him a truck which he donated to the cooperative. The producers decided to diversify their product portfolio in 1990. Since the season for Brazil nuts starts when the rubber season ends they choose entering into this market and started processing the nuts. In 1990 the WWF (formerly known as the World Wildlife Fund) helped the cooperative to establish an accounting system for their business. At that time they where already supported by some other NGOs as well. From 1992 to 1994 the Cultural Survival[1], a U.S. company, financed the construction of their first factory to process Brazil nuts. In return the cooperative paid this investment back with Brazil nuts. That meant they gave their whole production for the first three years to this company.

From 1994 to 1997 the cooperative experienced financial difficulties due to management failures and bad corporate governance. This included too many employees in the factory, breaking supply contracts and maybe corruption. In 1998 the management started an attempt to restructure the cooperative. Therefore

[1] See www.cs.org for more information

they used a high amount of funds to buy 330 tons of rubber and 80,000 latas[1] of Brazil nuts. Unfortunately they were not able to find buyers for the processed products in the market. By contrast in 1999 the cooperative had to break another contract with one buyer because they could not deliver the specified amount due to a lack of management.

In 2000 the president of the cooperative and the management changed. During this time many problems appeared.

- The president decided to buy just from certain producers of the cooperative. That forced all other producers to sell their products to these friends of the president in order to participate any further.
- Money disappeared and could not be used to buy more raw materials
- CAEX used to pay the harvesters up front according to their estimations of what they would harvest during the season. Usually these estimations were too high and harvesters delivered less without paying the difference back.

Between 2004 and 2005 the government of Acre built a new factory in Xapuri and gave it to CAEX to use it. This facility has a capacity of 1,200 kg per day. The bad experience of the previous years led to the decision that CAEX alone would not be able to run this factory and forced them to cooperate with two other partners. One of them, a Bolivian company, was supposed to bring the processing know how into the partnership and got 50% of the shares. CAEX and another cooperative, CAPEBE, got 25% each. All of them are allowed to use the factory for 15 years for free, after that they have to negotiate about the terms of usage again. This partnership trades under the name of Sociedade Castanheira da Amazonia.

In 2004 CAEX got two certificates for parts of their production. They obtained the organic label of IBD and another label for fair trade which is called FLO. Further information about these two certificates can be found in chapter 5.6.

The financial difficulties CAEX had experienced during the previous years could not be solved in the short term and they had to borrow money from the Bolivian partner in order to buy raw material. When it became obvious that this debt could not be paid back, the Bolivians decided to take the whole harvest of one year, which summed up to 86,000 latas of Brazil Nut, to their country without paying it. This finally led

[1] Portuguese for cans, a common measurement in the Amazon which is about 18 litres

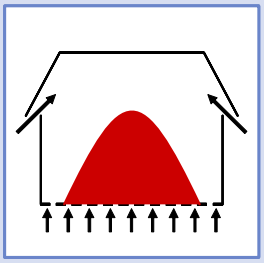
to a sharp decrease of the amount of Brazil nuts CAEX bought. From 100,000 latas in 2005 it fell to 40,000 latas in 2006 and 10,000 latas in 2007.

The intense use of funds combined with serious problems of management and fraud led to as high as R$ 800,000 debt only to the state of Acre. Due to this till this day the production is paralyzed. Only 2,300 kg of Brazil nuts in the second shell are left and no money can be raised to buy more raw materials.

8.10.2 Production process

The following three slides give an overview of the production process that was applied in the CAEX's factory the time the team visited the site. Implications from this experience for improvements of the process applied in the communities are recorded in annex 8.11.

Storage	Drying	Sorting	Thermal shock

▪ The Brazil Nuts are delivered in the second shell (without the ouriço)
▪ They are stored in a special building in a huge pile (see below)
▪ There has to be some air flow
▪ Up to two years
 
	▪ One day before the cracking process takes part
	▪ Rotating dryer with hot air
	▪ Twelve hours
		▪ Mechanically sorted by size
		▪ Three different classes
			▪ Autoclave:
			  ▪ 170 [kg/batch]
			  ▪ Three minutes steam
			  ▪ 300°C
			▪ Cold shower
			  ▪ Water shower on a belt-conveyor
			  ▪ Ambient temperature
			▪ In order to make the shell more brittle
			▪ Eases cracking process and decreases scrap in production

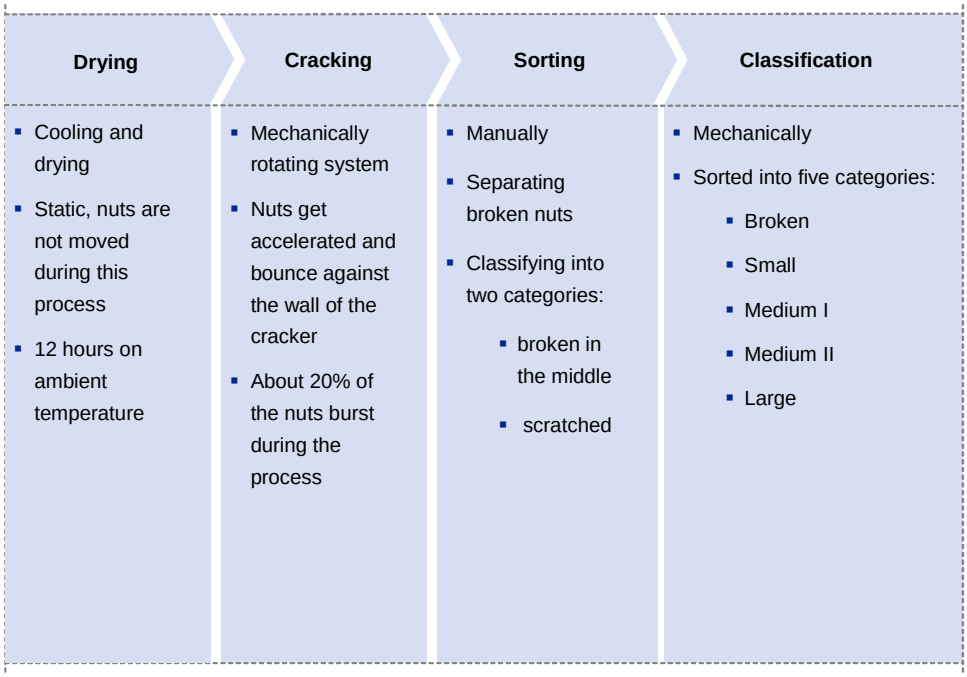


Figure 8.11: Production process Brazil Nuts, CAEX

8.10.3 Statements about forms of organization

CAEX is mainly a cooperative due to the ideas of Chico Mendes. His ideas of organization were highly related to communistic ideas and influenced by Marx. The actual president and the manager of CAEX stated the following opinions about it:

PRO:

- social issues like the support of the producers
- strategic role (the main competitors are on the Bolivian site. They want to put pressure on the buying price. Since collectors in the region can sell to both sides they want to offer a fair and democratic alternative to the “mean” Bolivians)
  - protecting producers
  - higher price

CON:

- management turned out to be bad
- bad governance
- difficult to control

8.11 Process improvement – Suggestions for the mini fabric

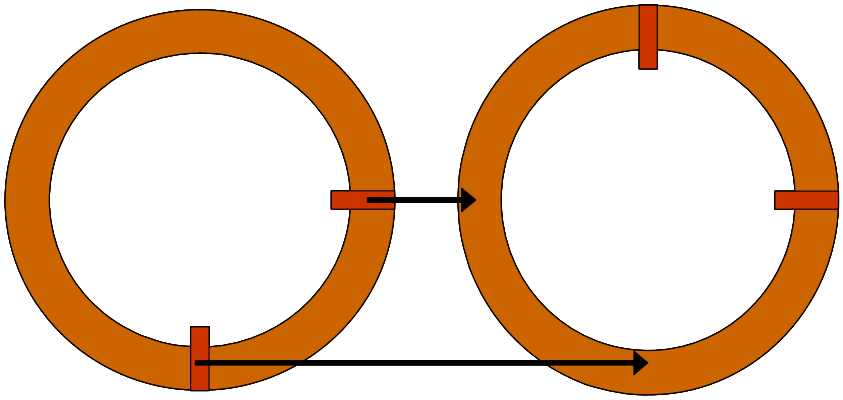
8.11.1 General production

- Clean your hands before starting to work
- Use gloves to protect your hands
- Use masks
- Use a hat or cap so hair cannot fall on foodstuff
- Do not sit on the tables where foodstuff is processed
- Work in an environment that is as clean as possible especially surfaces where you store foodstuff have to be clean
- Individual protection equipment should be considered
- Workers must be paid according to production
- Production improvement suggestions by workers that are implemented must be rewarded

- Keep in touch with market players checking new opportunities
- Children are not allowed in the production area Production processes must be standardized
- All workers must know the impact of every activity on the final product
- Make sure that all workers know the quality requirements
- Violation of production agreements should be sanctioned

8.11.2 Handcraft production

- Make sure that the wooden pieces glued to the top and the bottom part of the castanha-boxes are glued the right way (otherwise there are two possibilities to close it and only one will be the right one):



- Try to separate handcrafts from nuts. At this time the sawdust from preparing the shells is on the same table where cracked nuts are being stored.
- Do NEVER crack nuts with your teeth! It is a foodstuff and the hygiene is very important

8.11.3 Brazil nut production

- Do not use the boiling water for the Brazil nuts too many times. It is organic material and you never really know what happens chemically if it is boiled several times
- Boiling the nuts too long can lead to dangerous toxins in the nuts

- The construction used for pasteurizing the drinking water during our stay can be used for pre-heating the boiling water to save burning material and time
- Be careful with the quality of the water you are using during the production process.
- Brazil nut workers must keep nails always short
- Tools used to crack brazil nut must not be used for other purposes
- Animals are not to be tolerated in the brazil nut cracking area
- All the brazil nut activities must be finished before the bug spraying time
- The cracking process must be standardized
- All Brazil nut workers must be able to classify the nuts into whole, broken and scratched ones. Standard must be defined
- Cracked Brazil nuts that are not dehydrated must not be packaged in plastic bags due to spoilage.
- Track the success of your production:
  - Make a list of all incoming goods (for example one lata of Brazil nuts)
  - Note how many kilos of Brazil nuts in their different conditions have been produced
  - Note the time needed and possible labour costs
- To prevent spoilage a vacuum machine should be installed
- Store the Brazil nut in a closed room which is dry and clean and has a good airflow

8.12 Step-by-step guideline to commercialization

Introduction

This document specifies what should be the further steps to install a successful commercialization process in the communities. It was prepared especially in order to support key producers on how to start commercialization by themselves and to initialize a practical learning process in which they are going to gain experience and to be qualified to define a medium and long term strategy. In this regard, the guide also suggests NAPRA which should be the next steps for the project implementation.

The document is organized in two parts. The first section is addressed to NAPRA and refers to how the results of the project should be implemented in the community in order to achieve successful commercialization in the long run. The second section, divided by selected products, corresponds to the short term proceedings which communities should follow for benefiting from the market opportunities detected for the selected value chains.

Implementation steps are supported by the research database as well as by all the results described in chapter 5 of the project report. Key producers must also be able to update the information base and to use all the tools designed, but not right at the beginning of the process. NAPRA has the very important role to support project implementation and to consult communities for the proper use of the project deliverables.

All the steps are structured in 5 sub-items:

- When: Suggests time period for the step to be implemented.
- Goals: Details where should NAPRA or communities get by implementing the step.
- To do's: Details the main tasks to be accomplished.
- Expenses: Details the basic expenses necessary to implement the tasks. It is important to consider that these expenses were estimated separately for each step and the total expense does not correspond to the sum of all of them.
- Other considerations: Highlight critical aspects of the step.

It is believed that to follow these general instructions is an efficient way of improving the commercialization at the lower Madeira River, which today is incipient. According to the results, communities are going to gain experience and, with NAPRAs' support, NTFP are going to support enhancement in the livelihoods and environmental conservation.

Project implementation guideline – NAPRA

STEP 1: Presenting producers the project results

When

- Between November 2007 and December 2007

Goals

- Improve understanding about the potential of commercialization of NTFP to contribute to the socioeconomic development and environmental conservation
- Improve understanding about the goals of the project
- Validate the general strategy for project implementation with the key producers (Part 1 of this guideline)
- Present the short term proceedings for commercialization of the four defined products (Part 2 of this guideline)

To do's

1. Build a team to be in charge of the project implementation, including members of production and education areas of NAPRA, and a coordinator for this team
2. Define activities to be done with the key producers, according to their time availability and the team capabilities.
3. Prepare material for project presentation in the communities based on the following sections 5.1, 5.2, 5.3 and 5.9 of the project report and the second part of this guideline
4. Select NAPRA volunteers to go to Rondônia
5. Plan all necessary meetings with community members

Expenses

Item	Detail	Total (R$)
Flights to Rondônia	2 persons, 2 ways	3.000,00
Board and lodging	2 weeks, 2 persons, R$ 10,00/day	280,00
Material	Printing and designing	30,00
Other expenses		50,00
TOTAL		**3.360,00**

Other considerations

- Key producers should be qualified to benefit from the market opportunities identified.
- In this phase of the project implementation, NAPRA should be careful about the volume of information the key producers will be provided. The volume of information produced in the project has to be gradually transmitted to the communities, otherwise, key producers may get lost.
- This step has a strong link with the second part of this guideline, where all the proceedings for short term commercialization are detailed.

STEP 2: Raise funds

When

- Between November 2007 and December 2007

Goals

- Gather financial resources to make the project implementation possible

To do's

1. Define responsible of the implementation team to be in charge of fund raising

2. Consult section 5.7 of the project report and the Summarized Players Information to identify funding institutions
3. Make a diagnostic of current situation of commercialization in the lower Madeira river, based on section 1.2 of the report
4. Write a project proposal according to the requirements of the funding institutions and based on the projects results section of the report and on the steps of the first part of this guideline.

Expenses

Item	Detail	Total (R$)
Telefone	Phone calls among implementation team	30,00
TOTAL		**30,00**

Other considerations

- There are plenty of funding possibilities for project that has well defined goals, strategies and indicators for monitoring the results in the Amazon Forest.

STEP 3: Monitor negotiations

When

- From December 2008 to July 2008

Goals

- Provide necessary support to key producers during the implementation of the second part of this guideline
- Monitor the commercialization results
- Identify the needs of knowledge of the producers

To do's

- Set dates and terms for the monitoring and support activities.
- Select a member of the implementation team for monitoring the results of the project and support the key producers between November 2007 and July 2008.
- Control the results of the project using the indicators presented in Annex 1 – Monitoring indicators to be collected.
- Discuss and improve the monitoring and support activities monthly

Expenses

Item	Detail	Total (R$)
Telephone calls to Rondônia	Once a week, 10 minutes calls, for 8 months	R$ 200,00
Other phone calls		R$ 100,00
Scholarship	R$ 200,00/month, for 8 months	R$ 1.600,00
Other expenses	Mail, material	R$ 80,00
TOTAL		**R$ 1.980,00**

Other considerations

- As the task of monitoring requires discipline and commitment, it would make sense to pay a scholarship to the one member of the implementation team responsible for the monitoring. This member should report weekly to the implementation team coordinator.

STEP 4: Empower producers for business management

When

- From January 2008 to July 2008

Goals

- Improve understanding of key producers about business management tools
- Enable key producers to make their own decisions to define a medium and long term strategy for commercialization of NTFP
- Support the writing of a first version of a business plan
- Enable key producers to conduct market researches and to use the developed tools for selection of products and value chains
- Provide relevant information about certification, funding, carbon credits, organization and legal environment

To do's

- Build the team which is going to be responsible for the activities during July 2008, coordinated by the implementation team
- Promote activities with this group to share knowledge produced in this commercialization project
- Analyse the monitoring outputs to detect key producers demand for support
- Identify topics of business management to cover the knowledge gaps
- Review the pertinent literature about the topics
- Considering producers time availability and NAPRAs capabilities, define the activities assortment for July 2008
- Prepare material about all the business management topics identified, also covering market research techniques, the tools for selection of products and value chains presented at 5.1 and 5.3 of the report and strategic planning techniques.
- Prepare material about certification, funding, carbon credits, organization and legal environment based on the information of this report.
- Prepare practical activities for writing a first version of a business plan and an action plan with the key producers
- Plan activities for July with the key producers
- Establish a process to monitor the results and support the activities of the month in partnership

with key producers

Expenses

Item	Detail	Total (R$)
Telephone calls	6 months for preparing the work-shops (Rondônia and Sao Paulo)	500,00
Material		200,00
Transportation to Rondônia	5 person team, 2 ways, by bus	2.500,00
Board and lodging	5 person team, 30 days, R$ 10,00/day	1.500,00
Other expenses		1.000,00
TOTAL		**R$ 5.700,00**

Other considerations

- It is very important to prepare the material really carefully, making sure the content is adequate to key producers demand. Since NAPRAs students have easy access to professors and other specialists at universities and other institutions, they should take advantage of that.

STEP 5: Support the implementation of the medium and long term strategies

When

- From August 2008 to June 2009

Goals

- Provide necessary support to key producers during the implementation of medium and long term strategies defined by themselves

- Monitor the results according to the indicators established in partnership with the communities in the previous step
- Identify opportunities for improvements of NAPRAs activities

To do's

1. Set dates for the presentation of the reports of the monitoring process
2. Discuss the results of the monitoring monthly, identifying demands of support and acting to supply them
3. Select a member of the implementation team to be in charge of monitoring process
4. Discuss and improve the monitoring process monthly

Expenses

Item	Detail	Total (R$)
Telephone calls to Rondônia	Once a week, 10 minutes, for 12 months	R$ 300,00
Other phone calls		R$ 200,00
Scholarship	R$ 200,00/month, for 12 months	R$ 2.400,00
Other expenses	Mail, material	R$ 200,00
Flights to Rondônia	2 flights in 12 months	R$ 3.000,00
Board and lodging	2 weeks, 2 times in 12 months, R$ 10,00/day	R$ 280,00
TOTAL		**R$ 6380,00**

Other considerations

- As the task of monitoring requires discipline and commitment, makes a lot of sense to pay a scholarship to the one member of the implementation team responsible for the monitoring. This member should report weekly to the implementation team coordinator.

Short term business guideline - Communities

Copaiba oil

Copaiba oil was one of the selected products for commercialization at the communities. The strategy defined for it was to start commercialization with national market companies. All the decision making process that lead us to this strategy is described at 5.3 of the project report.

Among the companies researched, Beraca is appointed to be the preferred one for starting commercialization. The company is very interested in dealing directly with the communities and to take part in the development these new suppliers. To do that, the company would be flexible about the requirements and possibly fund and bring knowledge to the communities to increase production and build capabilities. Because of Beraca, the copaiba oil value chain got the best score of all the chains, so it is a great opportunity for the communities.

More information about Beraca is presented at the Summarized Player Information Spreadsheet.

The following items describe the step-by-step that communities should follow to take advantage of the opportunity to deal with Beraca.

STEP 1: Preparing for negotiations

When

- From November 2007 to December 2007

Goals

- Organize a first supplier network
- Structure information about supply capacity, costs and lead time.

To do's

1. Meet harvesters who deal with copaiba oil and make a business proposal for them for long term supply
2. Estimate the supply capacity using the Table 2121, presented in Annex 2 – Template for estimating supply capacity, expenses and lead-times.
3. Estimate the total Expense using Table 2222, presented in Annex 2 – Template for estimating supply capacity, expenses and lead-times.
4. Estimate lead-time using (Equation 22) presented in Annex 2 – Template for estimating supply

capacity, expenses and lead-times.

Expenses

Item	Detail	Total (R$)
Transportation	10 travels, 2 ways (visiting possible suppliers)	R$ 300,00
Labour	1 person, 2 months	R$ 800,00
Other Expenses		R$ 100,00
TOTAL		**R$ 1200,00**

Other considerations

- As key producers must be prepared and organized to start negotiating with Beraca. It also corresponds to the beginning of an organization process, which is critical to the success of the commercialization of NTFP

STEP 2: Negotiation

When

- January 2008

Goals

- Make a concrete commercialization proposal to Beraca
- Define basic terms for commercialization
- Verify which are the technical and financial support possibilities

To do's

1. Contact Joao Matos, the contact person of the team.
    - Present estimated supply capacity and lead time

- Negotiate price, payment terms, dates, product return conditions, transportation and verify legal requirements, keeping in mind the estimations from previous step.
- Verify how Beraca may support improvement of commercialization, supporting it financially or technically

Expenses

Item	Detail	Total (R$)
Telephone calls		30,00
TOTAL		**30,00**

Other considerations

- This step corresponds to the first contact producers will have with Beraca and they are prepared to show that they are potential suppliers and that the company should start investing in their business.

STEP 3: Plan and control the production

When

- Monthly starting at January 2008

Goals

- Produce information for decision making
- Develop new suppliers
- Support supplier network

To do's

1. Plan the volume and expenses of copaíba produced monthly using Table 2424 of Annex 3 – Templates for planning and controlling production, considering that transporting the products in bigger volumes is more cost effective.
2. Control volume and quality produced monthly using Table 2525 of Annex 3
3. Control costs of products purchased, payments and deliveries with Table 2626
4. Control other costs with Table 2727
5. Control year planned production, actual production, delivered products, stock and losses with Table 2828.
6. Analyse data monthly to support the decision making process
7. Continuously improve suppliers to increase supply capacity and quality of the products
8. Continuously look for new producers interested to join the network.

Expenses

Item	Detail	Total (R$)
Labour	1 person, monthly	400,00
TOTAL		**400,00**

Other considerations

- Information must be generated so that the business can be run the business properly. Is also strategic to continuously improve capacity and quality to get more competitive.

STEP 4: Send products

When

- According to demand starting at January 2008

Goals

- Deliver products to costumers efficiently

To do's

1. Negotiate with boat owners and find the best deal to send merchandise to Porto Velho
2. Take merchandise to Transpérola, the preferred national transportation company to send high volumes of products to São Paulo (check company trading info in the Summarized Players Information Spreadsheet)
3. Go to Receita Federal and get the tax receipt as an single producer or over the São Carlos Association
4. Go to IBAMA´s Office (check address in the Summarized Players Information Spreadsheet) and get the DOF (Documento de Origem Florestal)
5. Deliver documentation to Transpérola and pay for the service

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
Transportation to Porto Velho	1 person, 2 ways	40,00
TOTAL		**440,00**

Other considerations

- Special attention is necessary during this step due to the packaging of products. Key producers have to make sure the product is going to get to Beraca in proper conditions.

STEP 5: Document results

When

- Monthly starting at January 2008

Goals

- Control monthly expenses, incomes and profit

To do's

1. Summarize monthly expenses from Table 2626 and Table 2727 of Annex 3 – Templates for planning and controlling production on Table 2929 of Annex 4 – Template for results documentation
2. Summarize monthly incomes on Table 3030 of Annex 4 – Template for results documentation
3. Calculate profit with equation 2 of Annex 4 – Template for results documentation
4. Organize monthly results at Table 2929 of Annex 4 – Template for results documentation

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
TOTAL		**400,00**

Other considerations

- Information is necessary to run the business properly and can be generated from the data control. Is also strategic to continuously improve capacity and quality to get more competitive.

Açaí

Açaí is a product which communities currently commercialize and the strategy defined aims to improve conditions for producers linking them with local processors. The logistical complications of açaí and the lack of infrastructure for stocking and transporting it are the main barriers to reach different markets. Also, good opportunities for working in partnership with local processors were identified. This guideline describes the proceedings to skip local intermediates in Cai n' água, Porto Velho. All the decision making process that leads to this strategy is described at items 5.1 and 5.2 of the project report.

Açaí Cremoso and Açaí da Amazônia are the two companies indicated for starting commercialization. Due to high demand for the product, both companies look for suppliers which are able to deliver high volumes with good quality. Besides their reservation of dealing with communities because of previous experiences, they are considered to be potential partners. To build a long term partnerships, the key producers will have to focus on product quality.

More information about the companies is presented at the Summarized Players Information Spreadsheet.

The following items describe the step-by-step that communities should follow to build a win-win partnership with these companies.

STEP 1: Preparing for negotiations

When

- From November 2007 to December 2007

Goals

- Organize a first supplier network
- Structure information about supply capacity, costs and lead times.

To do's

1. Meet harvester who deal with açaí and offer them business for the whole harvesting season
2. Estimate the supply capacity using the Table 2121, presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times

3. Estimate the total cost using Table 2222, presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times

4. Estimate lead-time using (Equation 22), presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times

Expenses

Item	Detail	Total (R$)
Transportation	Visit possible suppliers at surrounding communities	R$ 150,00
Labour	1 person, 2 months	R$ 800,00
Other Expenses		R$ 100,00
TOTAL		**R$ 1050,00**

Other considerations

- Key producers must be prepared and organized to make a good impression for the açaí companies, since it is assumed that they are not secure to deal with harvesters. It also corresponds to the beginning of an organization process, which is critical to the success of the commercialization of NTFP.

STEP 2: Negotiation

When

- January 2008

Goals

- Make a concrete commercialization proposal to the companies

- Define basic terms for commercialization and verify the possibility to have a contract

To do's

1. Meet Wanderley (Açaí Cremoso) and Ribeiro (Açaí da Amazônia), the contact persons, in order to:
    - Introduce to them the context of negotiation and make clear you are trying to build a long term partnership
    - Negotiate price, terms of payment, dates, product refusing conditions, transportation and verify legal requirements, keeping in mind the estimations made in the previous step
2. Decide on which is the best strategy: commercialize with both companies or with one of them.

Expenses

Item	Detail	Total (R$)
Telephone calls		10,00
Transportation to Porto Velho	2 trip, 2 ways	80,00
Labour	1 person, 1 month	400,00
TOTAL		**490,00**

Other considerations

- This step corresponds to the first contact producers will have with the companies and they must be prepared to show that they are a potential liable suppliers and can offer a product with good quality.

STEP 3: Plan and control of the production

When

- Monthly starting at January 2008

Goals

- Plan and control the volume, cost and quality of açaí produced monthly
- Develop new suppliers
- Support supplier network

To do's

1. Plan the volume and expenses of açaí produced monthly using Table 2424 of Annex 3 – Templates for planning and controlling production, considering that transporting the products in bigger volumes is more cost effective.
2. Control volume and quality produced monthly using Table 2525 of Annex 3 – Templates for planning and controlling production
3. Control costs of product purchased, payments and delivers with Table 2626
4. Control other costs with Table 2727
5. Control year planned production, actual production, delivered products, stock and losses with Table 2828
6. Analyse data monthly for subsidise decision making process
7. Continuously improve suppliers, investing on increasing production capacity and quality
8. Continuously look for new producers interested to join the network

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
TOTAL		**400,00**

Other considerations

- All the information to run the business properly can be generated from the data control. It is also strategic to continuously improve capacity and quality to get more competitive

STEP 4: Send products

When

- According to demand and starting at January 2008

Goals

- Deliver products to costumers efficiently

To do's

1. Negotiate with boat owners and find the best deal to send merchandise to Porto Velho
2. Take the merchandise to the buyers, considering what was negotiated in Step 2.
3. Go to Receita Federal and get the tax receipt as an single producer or over the São Carlos Association, if it is required

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
Transportation to Porto Velho	1 person, 2 ways	40,00
TOTAL		**440,00**

Other considerations

- Key producers have to make sure the product is going to be delivered in proper conditions and for that to happen the packaging process is critical.

STEP 5: Document results

When

- Monthly starting at January 2008

Goals

- Control month expenses, incomes and profit

To do's

1. Summarize monthly expenses from Table 2626 and Table 2727 of Annex 3 – Templates for planning and controlling production on Table 2929 of Annex 4 – Template for results documentation
2. Summarize monthly incomes on Table 3030 of Annex 4 – Template for results documentation
3. Calculate profit with equation 2 of Annex 4 – Template for results documentation
4. Organize results of months at Table 2929 of Annex 4 – Template for results documentation

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
TOTAL		**400,00**

Other considerations

- All the information to run the business properly has to be generated from the data control. Is also strategic to continuously improve capacity and quality to get more competitive.

Brazil nut

Brazil nut is a product which communities may sell with difference levels of value added. The shelled nuts can be sold in high volume, as a commodity, and the dehydrated nuts can be produced using the very limited capacity of the mini-factory. Our proposal for the moment to improve conditions for producers is linking them with local retailers, which buy both types of products.

Between the companies identified in Porto Velho, Floresta, Profac and the small shops in the Porto Velho Municipal Market are pointed to be the target ones. These stores have different characteristics and requirements but, in general, they were considered potential partners for commercialization. All information about the companies is presented at the Summarized Players Information Spreadsheet.

All the decision making process that lead us to this strategy is described at items 5.1 and 5.3 of the project report.

The following items describe the step-by-step that communities should follow to start commercialization with these companies.

STEP 1: Preparing for negotiations

When

- From November 2007 to December 2007

Goals

- Organize a first supplier network for shelled nuts
- Structure information about supply capacity, costs and lead times
- Structure information about processing capacity, costs and lead times

To do's

1. Meet harvesters who deal with Brazil nuts and offer them business for the hole season
2. Estimate supply capacity for the shelled nuts using the Table 2121, presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times
3. Estimate the production capacity for the dehydrated nuts using (Equation 11), presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times
4. Estimate the expenses for the shelled nuts using Table 2727, presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times
5. Estimate the expenses for the dehydrated nuts using Table 2222 and Table 2727, presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times
6. Estimate lead times using (Equation 22), Annex 2 – Template for estimating supply capacity, expenses and lead-times

Expenses

Item	Detail	Total (R$)
Transportation	Visits to possible suppliers at surrounding communities	R$ 150,00
Labour	1 person, 2 months	R$ 800,00
Other Expenses		R$ 100,00
TOTAL		**R$ 1150,00**

Other considerations

- Key producers must estimate this information in order to be prepared to make a concrete proposal to the companies and guarantee that the deal they get is reasonable. This step also corresponds to the beginning of an organization process, which is critical to the success of the commercialization of NTFP.

STEP 2: Negotiation

When

- January in 2008

Goals

- Make a concrete commercialization proposal to the companies
- Define basic terms for commercialization and verify the possibility to have a contract

To do's

1. Meet Rosana and Irene or Leonardo, the contact persons from Floresta and Profac respectively, and the retailers from the City Market to:
    - Make clear you are trying to build a long term partnership
    - Negotiate price, payment terms, dates, product return conditions, transportation and verify legal requirements, keeping in mind the estimations made in the previous step
2. Decide on which is the best strategy: commercialize with all interested companies, some of them or with one of them. Terms of trade negotiated and production capacity have to be considered to define that.

Expenses

Item	Detail	Total (R$)
Telephone calls		10,00
Transportation to Porto Velho	2 trip, 2 ways	80,00

	Labour	1 person, 1 month	400,00	
	TOTAL		**490,00**	

Other considerations

- This step corresponds to the first contact producers will have with the companies and they should be prepared to show that they are a potential liable suppliers and can offer a product with good quality.

STEP 3: Plan and control of the production

When

- Monthly starting at January in 2008

Goals

- Plan and control the volume, cost and quality of shelled and dehydrated nuts produced monthly
- Develop new suppliers
- Support supplier network

To do's

1. Plan the volume and expenses of shelled nuts and dehydrated nuts produced monthly using Table 2424 of Annex 3 – Templates for planning and controlling production, considering that transporting the products in bigger volumes is more cost effective.
2. Control volume and quality produced monthly for shelled and dehydrated nuts using Table 2525 of Annex 3 – Templates for planning and controlling production
3. Control costs of product purchased and processed by workers in the communities, payments and delivers with Table 2626
4. Control other expenses with Table 2727
6. Control year planned production, actual production, delivered products, stock and losses with

Table 2828.

5. Analyse data monthly to support decision making process
6. Continuously improve suppliers, investing on increasing production capacity and quality
7. Continuously look for new producers interested to join the network

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
TOTAL		**400,00**

Other considerations

- Information to run the business properly can be generated from the data control. Is also strategic to continuously improve capacity and quality to get more competitive.

STEP 4: Send products

When

- According to demand and starting at January in 2008

Goals

- Deliver products to costumers efficiently

To do's

1. Negotiate with boat owners and find the best deal to send merchandise to Porto Velho
2. Take the merchandise to the buyers, considering what was negotiated in Step 2.

3. Go to Receita Federal and get the tax receipt as an single producer or over the São Carlos Association, if it is required

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
Transportation to Porto Velho	1 person, 2 ways	40,00
TOTAL		**440,00**

Other considerations

- Special attention is necessary during this step with products packing. Key producers have to make sure the product is going to be delivered in proper conditions.

STEP 5: Document results

When

- Monthly starting at january/2008

Goals

- Control month expenses, incomes and profit

To do's

1. Summarize monthly expenses from Table 2626 and Table 2727 of Annex 3 – Templates for planning and controlling production on Table 2929 of Annex 4 – Template for results documentation
2. Summarize monthly incomes on Table 3030 of Annex 4 – Template for results documentation
3. Calculate profit with equation 2 of Annex 4 – Template for results documentation

7. Organize results of months at Table 2929 of Annex 4 – Template for results documentation

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
TOTAL		**400,00**

Other considerations

- Information to run the business properly can be generated from the data control. Is also strategic to continuously improve capacity and quality to get more competitive.

Handcrafts and bio jewels

In the case of handcrafts and bio jewels, the key producers are just getting started to acquire capabilities and it is clear that there is a huge potential to be developed. A lot of opportunities in the market were identified and the value chain analysis led to the exploring the international market is the best decision to the moment (section 5.3 of project report).

Among the companies identified, Terra Art and Amazonia Shop were identified as the ones community should start doing business with. The both contact persons in these companies speak fluent Portuguese Both companies are in the handcraft business and are looking for liable suppliers for good quality products. For more details about this company, check the Summarized Players Information Spreadsheet.

The following steps are to be followed to take advantage of these opportunities in the short term.

STEP 1: Preparing for negotiations

When

- From November 2007 to December 2007

Goals

- Define a product portfolio
- Organize a first supplier network for raw materials
- Organize a first craftsmen network
- Structure information about supply capacity, costs and lead times
- Structure information about processing capacity, costs and lead times

To do's

1. Meet potential interested persons for crafting in the communities
2. Define an initial product portfolio cross checking communities capabilities and demands identified for Amazonia shop and Terra art
3. Design a catalogue for the products defined previously with NAPRA support.
4. Meet harvesters who deal with raw materials necessary for crafting and offer them business
5. Estimate supply capacity for the raw materials using the Table 2121, presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times
6. Estimate the production capacity for each product defined using Table 2121, presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times
7. Estimate the expenses for each product using Table 2121 and Table 2727, presented at Annex 2 – Template for estimating supply capacity, expenses and lead-times
8. Estimate lead times using (Equation 22) of Annex 2 – Template for estimating supply capacity, expenses and lead-times

Expenses

Item	Detail	Total (R$)
Transportation	Visits to possible suppliers at surrounding communities	R$ 150,00
Labour	1 person, 2 months	R$ 800,00
Other Expenses		R$ 100,00
TOTAL		**R$ 1050,00**

Other considerations

- This is a very important step, since all production is going to be set up. Key producers must have a clear view of their supply capacity to contact the business partners.

STEP 2: Negotiation

When

- January 2008

Goals

- Make a concrete commercialization proposal to the companies
- Define terms for commercialization

To do's

1. Call Armando (Terra Art) and Hartmut Edelmann (Amazonia shop), the contact persons:
   - Make clear you are trying to build a long term partnership
   - Negotiate price, payment terms, dates, product return conditions, transportation and verify legal requirements, keeping in mind the estimations made in the previous step
2. Decide which the best strategy is: commercialize with either companies or only one of them

Expenses

Item	Detail	Total (R$)
Telephone calls	International call, about 2 hours	70,00
Labour	1 person, 1 month	400,00
TOTAL		**470,00**

Other considerations

- This step corresponds to the first contact producers will have with the international companies and it is important they do it by themselves, since the contact persons speaks Portuguese. Key producers should provide a good impression, showing they are prepared to be liable suppliers of products with good quality. For that, the previous step is of great importance.

STEP 3: Plan and control the production

When

- Monthly starting in january/2008

Goals

- Plan and control the volume, cost and quality of the handcrafts produced
- Develop new suppliers and craftsmen
- Support supplier and craftsmen network

To do's

1. Plan the volume and expenses of raw materials and handcrafts produced monthly using Table 2424 of Annex 3 – Templates for planning and controlling production, considering that transporting the products in bigger volumes is more cost effective.
2. Control volume and quality of raw material harvested and handcrafts produced using Table 2525

of Annex 3 – Templates for planning and controlling production

3. Control expenses of product purchased and processed by workers in the communities, payments and delivers with Table 2626
4. Control other expenses with Table 2727
5. Control year planned production, actual production, delivered products, stock and losses with Table 2828.
6. Analyse data monthly to support decision making process
7. Continuously improve suppliers and craftsmen to increase production capacity and quality
8. Continuously look for new producers interested to join the network

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
TOTAL		**400,00**

Other considerations

- All information to run the business properly can be generated from the data control. Is also strategic to continuously improve capacity and quality to get more competitive.

STEP 4: Send products

When

- According to demand. Initially starting in January 2008

Goals

- Deliver products efficiently

To do's

1. Go to Receita Federal and get the tax receipt as an single producer or over the São Carlos Association
2. Go to a Correios Agency, full fill AWB Form, according to considerations in Annex 5 - AWB form and post it.

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
Transportation to Porto Velho	1 person, 2 ways	40,00
TOTAL		**440,00**

Other considerations

- Special attention is necessary during this step with products packing. Key producers have to make sure the product is going to be delivered in proper conditions.

STEP 5: Document results

When

- Monthly starting at january/2008

Goals

- Control month expenses, incomes and profit

To do's

1. Summarize monthly expenses from Table 2626 and Table 2727, of Annex 3, on Table 2929, of Annex 4 – Template for results documentation
2. Summarize monthly incomes on Table 3030 of Annex 4 – Template for results documentation

3. Calculate profit with equation 2 of Annex 4 – Template for results documentation
4. Organize results of months at Table 2929 of Annex 4 – Template for results documentation

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
TOTAL		**400,00**

Other considerations

- All the information to run the business properly can be generated from the data control. Is also strategic to continuously improve capacity and quality to get more competitive.

STEP 6: Promote innovation

When

- Monthly starting in January 2008

Goals

- Stimulate the development of new products

To do's

1. Define a strategy to promote product development, considering the possibility to compensate financially the producers who come up with successful problems.
2. Communicate the benefits offered for the craftsmen who develop new products
3. Provide useful information about the market for the craftsmen to support product development
4. Monitor the results of the strategy
5. Continuously improve the strategy

Expenses

Item	Detail	Total (R$)
Labour	1 person	400,00
Material		50,00
TOTAL		**450,00**

Other considerations

- This step is very important, since innovation is a way to build competitive advantages.

Annex to the guideline

Annex 1 – Monitoring indicators to be collected

All the indicators presented here should be collected once a week to monitor the commercialization. It may easily be done via telephone and the person who is selected to do it should fix a weekly appointment with the key producers to avoid communication problems.

The following indicators are relevant for a good overview of the results of the project:

Quantitative data:

- Volume of products produced
- Volume of products sold
- Buying price for each transaction
- Selling price for each transaction
- Number of suppliers
- Number of customers

Qualitative Information

- Considerations about product quality
- Problems with suppliers
- Problems with buyers
- Problems to manage operations
- Other issues

Data about people involved

- Name
- Age
- Gender
- Other economic activities

Annex 2 – Template for estimating supply capacity, expenses and lead-times

Producer name	Location	Amount to be produced (per week)	Price (R$)/quantity	Transportation expense (R$)
TOTAL		Supply capacity	E1	E2

Table 2121 – Supply capacity estimation

For dehydrated Brazil nuts, production capacity (C) can be estimated using the following equation, considering the oven (dehydratation process) is the bottleneck:

$$C = n.q.30/d$$

(Equation 11)

In which:

n – Number of ovens

q – Capacity of each oven (Kg or latas)

d – Number of days the oven is going to be working during one month

Obs.: This estimation is only accurate for the case the oven is permanently operated.

Activity	Expense items description	Amount	Expense/amount	Expense
TOTAL				

Table 2222 – Production expenses estimation

Expenses	Description	Total (R$)
Product/raw material		E1+E2
Labour		
Packing expenses		
Transportation		

Product processing		
Taxes		
DOF		
(…)		
TOTAL		**Expense**

Table 2727 – Expenses estimation

Lead-time (weeks) = (amount to be delivered) / (supply or production capacity per week)

(Equation 22)

Annex 3 – Templates for planning and controlling production

Harvester/worker name	Location	Week 1		Week 2		Week 3		Week 4		MONTH	
		Amount	Price	Amount	Price	Amount	Price	Amount	Price	AMOUNT	QUALITY
										X	
										X	
										X	
TOTAL											

Table 2424 – Product volume and expenses plan

Harvester/worker name	Location	Week 1		Week 2		Week 3		Week 4		MONTH	
		Amount	Quality	Amount	Quality	Amount	Quality	Amount	Quality	AMOUNT	QUALITY
										X	
										X	
										X	
TOTAL											

Table 2525 – Product volume and quality control

Har-vester/worker name	Location	MONTH				
		Amount/production	Price	Total payment	Deliver status	Payment status
		X				
		X				
		X				
TOTAL				Y		

Table 2626 – Product purchase, payments and delivers control

Item	Expense/quantity	quantity	Total
TOTAL			Z

Table 2727 – Other expenses control

	January	February	March	April	May	June	July	August	September	October	November	December
Planned												
Produced												
Delivered												
Stock												
Lost												

Table 2828 - Planned production, actual production, delivered products, stock and losses control

Annex 4 – Template for results documentation

Description of expense	Total (R$)
TOTAL	

Table 2929 – Summarized expenses

Description of income	Total (R$)
TOTAL	

Table 3030 – Summarized incomes

$$\textbf{Profit} = \text{Total income} - \text{Total expense}$$

(Equation 33)

Year	Total in-comes	Total ex-penses	Profit

January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

Table 3535 – Year results

Annex 5 - AWB form

DE / *FROM*

1 Remetente / *Sender*

Endereço / *Address*

CEP / *Zip Code* | Cidade-UF / *City-State* | País / *Country*

Pessoa de Contato / *Contact Person* | Tel - Fax / *Phone - Fax* | *E-MAIL*

PARA / *TO*

2 **DESTINATÁRIO / *ADDRESSEE***

ENDEREÇO / *ADDRESS*

CIDADE-UF / *CITY-STATE* | **PAÍS / *COUNTRY***

CEP / *ZIP CODE* | **TEL - FAX / *PHONE - FAX*** | ***E-MAIL***

EXPORTAÇÃO COMERCIAL

11 CNPJ / CPF DO REMETENTE

12 Registro no SISCOMEX - Solicita emissão de DSE pela ECT ☐ SIM

Já registrado - Tipo: ☐ DDE (regime comum) ☐ DSE (regime simplificado)

Nº

Nº Seqüêncial: *Sequencial Number:*	Nº do pacote *Number of the item*	Nº total de pacotes *Total number of items*

3 **INFORMAÇÕES PARA ALFÂNDEGA / *CUSTOMS INFORMATION***

Descrição do Conteúdo *Description of Contents*	QTD *QTY*	Valor Declarado Declared Value (US$)	Valor Declarado Declared Value (R$)	Peso Líquido Net Wweight (In kg)	Código NCM do Produto *Tarif Nr.*	Unidade de Comercialização *Commerce Unit*	Código do País de Fabricação *Origin Country Code*
		0,00					
		0,00					
		0,00					
		0,00					
		0,00					
		0,00					
Total ➡	0	0,00	0,00	0,000			

4 FOLHA SUPLEMENTAR *SUPPLEMENTARY SHEET* ☐ SIM / YES

5 Peso Bruto / *Gross Weight (kg)*

6 Valor do Seguro (US$) / *Insured Value* (US$)

13 CÓDIGO DO PAÍS DE DESTINO / *ADDRESSEE COUNTRY CODE*

7 OBSERVAÇÕES / COMMENTS

14 Códido da Moeda de Negociação/ *Business Currrency Code*

15 Tipo Exportador (Código)

Natureza da Operação (Código)

Prazo Exportação Temporária (em dias)

8 TIPO DE REMESSA

☐ Mercadorias (Venda) Merchandises (Sale) ☐ Presentes Giffs

☐ Amostras Samples ☐ Documentos Documents

9 ORIENTAÇÃO PARA O CASO DE NÃO ENTREGA. / INSTRUCTION IN CASE OF NON-DELIVERY.

☐ Devolver Return to the sender ☐ Abandonar Treat as abandoned

Pode incidir taxa. ***Subject to fee.***

10 Contém produtos sujeitos à quarentena, inspeção sanitária / fitosanitária ou outras restrições: *If cotains goods subject to quarantine, sanitary / phytosanitary inspection or other restrictions:*

☐ Sim Yes ☐ Não No

16 Taxa Postagem / Tarifa *Postal Charges / Fees*

17 Número da Nota Fiscal *Bill of Sale Number*

18 Nº da Licença de Exportação / *Exportation Licence Nº*

19 Nº do Certificado de Origem / *Certificate of Origin Nº*

20 Nº da Fatura Comercial / *Commercial Invoice Nº*

DOBRA

21 **CATEGORIA** ☐ EMS Mercadoria ☐ Mercadoria Econômica ☐ Leve Econômico ☐ Leve Prioritário

22 Deseja contratar seguro?

☐ SIM

R$ _____ Valor por Extenso (R$) _____

☐ NAO O cliente declara que **NÃO** deseja fazer **SEGURO** da remessa.

Assinatura do Remetente

23

O abaixo assinado (REMETENTE) nomeia a ECT como depositária dos bens declarados nesse formulário. Afirma que todas as informações prestadas são verdadeiras e que a remessa não contém produto perigoso ou proibido. Aceita o disposto no TERMO DE CONDIÇÕES GERAIS DE PRESTAÇÃO DOS SERVIÇOS DE REMESSA DE OBJETOS POSTAIS INTERNACIONAIS, disponível nas agências e no site dos Correios (www.correios.com.br), cujo resumo encontra-se no verso da 4ª via desse formulário, destinada ao remetente.

__/__/__ Data

Assinatura do Remetente

USO EXCLUSIVO DOS CORREIOS

24 **SE FOR A FATURAR**

CÓDIGO DA UNIDADE | CÓDIGO ADMINISTRATIVO | GRUPO DE PAÍS

NÚMERO DO CONTRATO | DIA / MÊS | SERV. ADICIONAIS

25 NÚMERO DA ETIQUETA ID MUMBER B R

26 PESO TARIFADO (kg)

27 CÓDIGO DO SERVIÇO

28 CARIMBO UNIDADE DE POSTAGEM

29 TARIFAÇÃO / PRINCING (R$)

1. Valor do Porte (Frete): Freight rate:
2. Seguro (30): Insurance (30):
3. Aviso de Recebimento (28): Advice of Receipt (28):
4. Embalagem: Packing:
5. Coleta Domiciliária (07): Collection (07):

TOTAL (R$): 0,00

1ª VIA: DESTINATÁRIO 2ª VIA: AGÊNCIA 3ª VIA: ADUANA (DESTINO)

4ª VIA: REMETENTE

Considerations about items to be filled:

- Item 3: Describe the exact content sent and use currency rate provided by Correios
- Item 4: Have to be marked if the number of lines in item 3 is not enough and if you are going to use the supplementary sheet
- Item 8: Mark “Mercadorias/venda”

- Item 9: Calculate what is the best thing to do, considering merchandise value and cost of merchandise return before filling this item.
- Item 10: Mark No.
- Item 11: Evaluate if the having an insurance is worth.
- Item 12: Register at SISCOMEX at first time you export over Exporta Fácil in the Correios Agency and keep the required data.
- Items 12, 13, 14, 15: Check codes on the following tables.
- Items 18 and 19 do not have to be filled.

CÓD.	EXPORTADOR TYPE
01	**Pessoa Jurídica**
11	**Pessoa Física**
12	Pessoa Física domiciliada no exterior sem CPF
13	Pessoa Física residente no país sem CPF

Table 3636 – Type of exportator codes

CÓD.	OPERATION NATURE
01	Pessoa Física com cobertura cambial
02	Pessoa Física sem cobertura cambial
03	Pessoa Jurídica com cobertura cambial
04	Pessoa Jurídica sem cobertura cambial
30	Doação em caráter de ajuda humanitária
31	Bagagem desacompanhada
41	Bens de carácter cultural - exportação temporária
42	Exportação temporária de material para emprego Militar
43	Feiras e exposições comerciais ou industriais
44	Conserto, reparo ou restauração
45	Outras exportações temporárias
61	Bens submetidos a regime de admissão temporária
71	Erro de exportação
72	Não atendimento de exigência de controle-fiscal
73	Indeferimento de regime aduaneiro especial
74	Outros motivos - portaria MF-306/95

Table 3737 – Operation nature codes.

CÓD.	COUNTRY
0132	AFEGANISTÃO
0175	ALBÂNIA, REPÚBLICA DA
0230	ALEMANHA
0310	BURKINA FASO
0370	ANDORRA
0400	ANGOLA

0418	ANGUILLA
0434	ANTIGUA E BARBUDA
0477	ANTILHAS HOLANDESAS
0531	ARÁBIA SAUDITA
0590	ARGÉLIA
0639	ARGENTINA
0647	ARMÊNIA, REPÚBLICA DA
0655	ARUBA
0698	AUSTRÁLIA
0736	AZERBAIJÃO, REPÚBLICA DO
0779	BAHAMAS, ILHAS
0809	BAHREIN, ILHAS
0817	BANGLADESH
0833	BARBADOS
0850	BELARUS, REPÚBLICA DA
0876	BELGICA
0884	BELIZE
0906	BERMUDAS
0930	MIANMAR (BIRMANIA)
0973	BOLIVIA
0981	BÓSNIA-HERZEGOVINA (REPÚBLICA DA)
1015	BOTSUANA
1058	BRASIL
1082	BRUNEI
1155	BURUNDI
1198	BUTÃO
1279	CABO VERDE, REPÚBLICA DE
1376	CAYMAN, ILHAS
1414	CAMBOJA
1457	CAMARÕES
1490	CANADÁ
1504	GUERNSEY, ILHA DO CANAL (INCLUI ALDERNEY E SAR)
1508	JERSEY, ILHA DO CANAL
1511	CANÁRIAS, ILHAS
1538	CAZAQUISTÃO, REPÚBLICA DO
1546	CATAR
1589	CHILE
1600	CHINA, REPÚBLICA POPULAR
1619	FORMOSA (TAIWAN)
1651	COCOS(KEELING),ILHAS
1694	COLÔMBIA
1732	COMORES, ILHAS
1775	CONGO, REPÚBLICA DO
1830	COOK, ILHAS
1872	CORÉIA, REP.POP.DEMOCRÁTICA
1902	CORÉIA, REPÚBLICA DA
1937	COSTA DO MARFIM
1953	CROÁCIA (REPÚBLICA DA)
1961	COSTA RICA
1988	COVEITE

1996	CUBA
2291	BENIN
2321	DINAMARCA
2356	DOMINICA,ILHA
2402	EGITO
2437	ERITREIA
2445	EMIRADOS ÁRABES UNIDOS
2453	ESPANHA
2461	ESLOVÊNIA, REPÚBLICA DA
2470	ESLOVACA, REPÚBLICA
2496	ESTADOS UNIDOS
2518	ESTÔNIA, REPÚBLICA DA
2534	ETIÓPIA
2550	FALKLAND (ILHAS MALVINAS)
2593	FEROE, ILHAS
2674	FILIPINAS
2712	FINLÂNDIA
2755	FRANÇA
2810	GABÃO
2895	GANA
2917	GEÓRGIA, REPÚBLICA DA
2933	GIBRALTAR
2976	GRANADA
3018	GRÉCIA
3050	GROENLÂNDIA
3093	GUADALUPE
3131	GUAM
3174	GUATEMALA
3255	GUIANA FRANCESA
3298	GUINÉ
3310	GUINÉ-EQUATORIAL
3344	GUINÉ-BISSAU
3379	GUIANA
3417	HAITI
3514	HONG KONG
3557	HUNGRIA, REPÚBLICA DA
3573	IEMEN
3595	MAN, ILHA DE
3611	ÍNDIA
3654	INDONÉSIA
3697	IRAQUE
3727	IRÃ, REPÚBLICA ISLÂMICA DO
3751	IRLANDA
3794	ISLÂNDIA
3832	ISRAEL
3867	ITÁLIA
3883	IUGOSLÁVIA, REP.FED.DA
3913	JAMAICA
3964	JOHNSTON, ILHAS
3999	JAPÃO
4030	JORDÂNIA

4111	KIRIBATI
4200	LAOS, REP.POP.DEMOCR.DO
4235	LEBUAN,ILHAS
4260	LESOTO
4278	LETONIA, REPÚBLICA DA
4316	LÍBANO
4340	LIBÉRIA
4383	LÍBIA
4405	LIECHTENSTEIN
4421	LITUÂNIA, REPÚBLICA DA
4456	LUXEMBURGO
4472	MACAU
4499	MACEDÔNIA, ANT.REP.IUGOSLAVA
4502	MADAGASCAR
4553	MALASIA
4588	MALAVI
4618	MALDIVAS
4642	MALI
4677	MALTA
4723	MARIANAS DO NORTE
4740	MARROCOS
4766	MARSHALL,ILHAS
4774	MARTINICA
4855	MAURÍCIO
4880	MAURITÂNIA
4901	MIDWAY, ILHAS
4936	MÉXICO
4944	MOLDÁVIA, REPÚBLICA DA
4952	MÔNACO
4995	MICRONÉSIA
5010	MONTSERRAT,ILHAS
5053	MOÇAMBIQUE
5070	NAMÍBIA
5088	NAURU
5118	CHRISTMAS,ILHA (NAVIDAD)
5177	NEPAL
5215	NICARÁGUA
5258	NIGER
5282	NIGERIA
5312	NIUE,ILHA
5355	NORFOLK,ILHA
5380	NORUEGA
5428	NOVA CALEDÔNIA
5452	PAPUA NOVA GUINÉ
5517	VANUATU
5568	OMÃ
5665	PACÍFICO,ILHAS DO (POSSESSAO DOS EUA)
5738	PAÍSES BAIXOS (HOLANDA)
5754	PALAU
5762	PAQUISTÃO
5800	PANAMÁ

5860	PARAGUAI
5894	PERU
5932	PITCAIRN,ILHA
5991	POLINÉSIA FRANCESA
6033	POLÔNIA, REPÚBLICA DA
6076	PORTUGAL
6114	PORTO RICO
6238	QUÊNIA
6289	REINO UNIDO
6408	REPÚBLICA CENTRO-AFRICANA
6475	REPÚBLICA DOMINICANA
6602	REUNIÃO, ILHA
6653	ZIMBABUE
6700	ROMÊNIA
6750	RUANDA
6769	RÚSSIA, FEDERAÇÃO DA
6777	SALOMÃO, ILHAS
6781	SAINT KITTS E NEVIS
6858	SAARA OCIDENTAL
6874	EL SALVADOR
6904	SAMOA
6912	SAMOA AMERICANA
6955	SÃO CRISTÓVÃO E NEVES,ILHAS
7005	SÃO PEDRO E MIQUELON
7056	SÃO VICENTE E GRANADINAS
7102	SANTA HELENA
7153	SANTA LÚCIA
7200	SÃO TOMÉ E PRÍNCIPE, ILHAS
7285	SENEGAL
7315	SEYCHELLES
7358	SERRA LEOA
7412	CINGAPURA
7447	SÍRIA, REPÚBLICA ÁRABE DA
7480	SOMÁLIA
7501	SRI LANKA
7544	SUAZILANDIA
7560	ÁFRICA DO SUL
7595	SUDÃO
7676	SUÍÇA
7706	SURINAME
7722	TADJIQUISTÃO, REPÚBLICA DO
7765	TAILÂNDIA
7803	TANZÂNIA, REP.UNIDA DA
7820	TERRITÓRIO BRIT.OC.INDICO
7838	DJIBUTI
7889	CHADE
7919	TCHECA, REPÚBLICA
7951	TIMOR LESTE
8001	TOGO
8052	TOQUELAU,ILHAS
8109	TONGA

8150	TRINIDAD E TOBAGO
8206	TUNÍSIA
8249	TURCOMENISTÃO, REPÚBLICA DO
8273	TURQUIA
8281	TUVALU
8311	UCRANIA
8338	UGANDA
8451	URUGUAI
8478	UZBEQUISTÃO, REPÚBLICA DO
8486	VATICANO, EST.DA CIDADE DO
8508	VENEZUELA
8583	VIETNÃ
8630	VIRGENS,ILHAS (BRITÂNICAS)
8664	VIRGENS,ILHAS (E.U.A.)
8702	FIJI
8737	WAKE, ILHA
8885	CONGO, REPÚBLICA DEMOCRÁTICA DO
8958	ZONA DO CANAL DO PANAMÁ
9903	PROVISÃO DE NAVIOS E AERONAVES
9946	A DESIGNAR
9950	BANCOS CENTRAIS
9970	ORGANIZAÇÕES INTERNACIONAIS

Table 3838 – Country codes

CÓD.	CURRENCY	ABREVIATION	COUNTRY
5	AFEGANE/AFEGANIST	AFA	AFEGANISTAO
9	BIRR/ETIOPIA	ETB	ETIOPIA
10	AUSTRAL	ARG	ARGENTINA
15	BATH/TAILANDIA	THB	TAILANDIA
20	BALBOA/PANAMA	PAB	PANAMA
25	BOLIVAR/VENZUELA	VEB	VENEZUELA
30	BOLIVIANO/BOLIVIA	BOB	BOLIVIA
35	CEDI/GANA	GHC	GANA
40	COLON/COSTA RICA	CRC	COSTA RICA
45	COLON/EL SALVADOR	SVC	EL SALVADOR
51	CORDOBA OURO	NIO	NICARAGUA
55	COROA DINAM/DINAM	DKK	DINAMARCA
57	COROA/ESTONIA	EEK	ESTONIA, REPUBLICA DA
58	COROA ESLOVACA	SKK	ESLOVACA, REPUBLICA
60	COROA ISLND/ISLAN	ISK	ISLANDIA
65	COROA NORUE/NORUE	NOK	NORUEGA
70	COROA SUECA/SUECI	SEK	SUECIA
75	COROA TCHECA	CZK	TCHECA, REPUBLICA
90	DALASI/GAMBIA	GMD	GAMBIA
95	DINAR ARGELINO	DZD	ARGELIA
100	DINAR/KWAIT	KWD	COVEITE
105	DINAR/BAHREIN	BHD	BAHREIN, ILHAS
115	DINAR/IRAQUE	IQD	IRAQUE
125	DINAR/JORDANIA	JOD	JORDANIA
130	DINAR/LIBIA	LYD	LIBIA

132	DINAR/MACEDONIA	MKD	MACEDONIA, ANT.REP.IUGOSL
133	DINAR SERVIO/SERV	CSD	-
134	DINAR/SUDAO	SDD	SUDAO
135	DINAR/TUNISIA	TND	TUNISIA
138	DIREITO ESPECIAL	SDR	-
139	DIRHAM/MARROCOS	MAD	MARROCOS
145	DIRHAM/EMIR.ARABE	AED	EMIRADOS ARABES UNIDOS
148	DOBRA/S.TOME/PRIN	STD	SAO TOME E PRINCIPE, ILHA
150	DOLAR AUSTRALIANO	AUD	AUSTRALIA
155	DOLAR/BAHAMAS	BSD	BAHAMAS, ILHAS
160	DOLAR/BERMUDAS	BMD	BERMUDAS
165	DOLAR CANADENSE	CAD	CANADA
170	DOLAR DA GUIANA	GYD	GUIANA
173	DÓLAR DA NAMÍBIA	NAD	NAMIBIA
175	DOLAR/BARBADOS	BBD	BARBADOS
180	DOLAR/BELIZE	BZD	BELIZE
185	DOLAR/BRUNEI	BND	BRUNEI
190	DOLAR/CAYMAN	KYD	CAYMAN, ILHAS
195	DOLAR/CINGAPURA	SGD	CINGAPURA
200	DOLAR/FIJI	FJD	FIJI
205	DOLAR/HONG-KONG	HKD	HONG KONG
210	DOLAR/TRIN. TOBAG	TTD	TRINIDAD E TOBAGO
215	DOLAR/CARIBE	XCD	-
217	DOLAR/ZIMBABUE	ZWD	ZIMBABUE
220	DOLAR DOS EUA	USD	ESTADOS UNIDOS
230	DOLAR/JAMAICA	JMD	JAMAICA
235	DOLAR/LIBERIA	LRD	LIBERIA
245	DOLAR/NOVA ZELAND	NZD	NOVA ZELANDIA
250	DOLAR/IL SALOMAO	SBD	SALOMAO, ILHAS
255	DOLAR/SURINAME	SRD	SURINAME
260	DONGUE/VIETNAN	VND	VIETNA
275	DRAM/ARMENIA REP	AMD	ARMENIA, REPUBLICA DA
295	ESCUDO/CABO VERDE	CVE	CABO VERDE, REPUBLICA DE
320	ESCUDO/TIMOR LEST	TPE	TIMOR LESTE
325	FLORIM/ANT. HOLAN	ANG	ANTILHAS HOLANDESAS
328	FLORIM/ARUBA	AWG	ARUBA
345	FORINT/HUNGRIA	HUF	HUNGRIA, REPUBLICA DA
365	FRANCO/BURUNDI	BIF	BURUNDI
368	FRANCO/COMORES	KMF	COMORES, ILHAS
370	FRANCO/COM.FIN.AF	XAF	-
380	FRANCO COL FRANC	XPF	-
390	FRANCO/DJIBUTI	DJF	DJIBUTI
398	FRANCO/GUINE	GNF	GUINE
405	FR.MALGAXE/MADAGA	MGF	MADAGASCAR
420	FRANCO/RUANDA	RWF	RUANDA
425	FRANCO SUICO	CHF	SUICA
440	GOURDE/HAITI	HTG	HAITI
450	GUARANI/PARAGUAI	PYG	PARAGUAI
460	HYVNIA/UCRANIA	UAH	UCRANIA
470	IENE	JPY	JAPAO

482	LARI/GEORGIA	GEL	GEORGIA, REPUBLICA DA
485	LAT/LETONIA, REP	LVL	LETONIA, REPUBLICA DA
490	LEK/ALBANIA, REP	ALL	ALBANIA, REPUBLICA DA
495	LEMPIRA/HONDURAS	HNL	HONDURAS
500	LEONE/SERRA LEOA	SLL	SERRA LEOA
503	LEU/MOLDAVIA, REP	MDL	MOLDAVIA, REPUBLICA DA
505	LEU/ROMENIA	ROL	ROMENIA
510	LEV/BULGARIA, REP	BGN	BULGARIA, REPUBLICA DA
520	LIBRA CIP/CHIPRE	CYP	CHIPRE
530	LIBRA/GIBRALTAR	GIP	GIBRALTAR
535	LIBRA/EGITO	EGP	EGITO
540	LIBRA ESTERLINA	GBP	REINO UNIDO
545	LIBRA/FALKLAND	FKP	FALKLAND (ILHAS MALVINAS)
560	LIBRA/LIBANO	LBP	LIBANO
565	LIRA/MALTA	MTL	MALTA
570	LIBRA/STA HELENA	SHP	SANTA HELENA
575	LIBRA/SIRIA, REP	SYP	SIRIA, REPUBLICA ARABE DA
585	LILANGENI/SUAZIL	SZL	SUAZILANDIA
600	LIRA/TURQUIA	TRL	TURQUIA
601	LITA/LITUANIA	LTL	LITUANIA, REPUBLICA DA
603	LOTI/LESOTO	LSL	LESOTO
607	MANAT/ARZEBAIJAO	AZM	AZERBAIJAO, REPUBLICA DO
612	MARCO CONV/BOSNIA	BAM	BOSNIA-HERZEGOVINA (RE-PUB
620	METICAL/MOCAMBIQ	MZM	MOCAMBIQUE
625	NAKFA/ERITREIA	ERN	ERITREIA
630	NAIRA/NIGERIA	NGN	NIGERIA
635	CUANZA/ANGOLA	AOA	ANGOLA
640	NOVO DOLAR/TAIWAN	TWD	FORMOSA (TAIWAN)
645	NOVO PESO/MEXICO	MXN	-
646	NOVO PESO/MEXICO	MXN	-
650	NOVO PESO URUGUAI	N$	-
651	NOVO PESO URUGUAI	NCÇ	-
660	NOVO SOL/PERU	PEN	PERU
665	NGULTRUM/BUTAO	BTN	BUTAO
680	PAANGA/TONGA	TOP	TONGA
685	PATACA/MACAU	MOP	MACAU
706	PESO/ARGENTINA	ARS	ARGENTINA
715	PESO/CHILE	CLP	CHILE
720	PESO/COLOMBIA	COP	COLOMBIA
725	PESO/CUBA	CUP	CUBA
730	PESO/REP. DOMINIC	DOP	REPUBLICA DOMINICANA
735	PESO/FILIPINAS	PHP	FILIPINAS
738	PESO/GUINE BISSAU	GWP	GUINE-BISSAU
741	PESO/MEXICO	MXN	MEXICO
745	PESO/URUGUAIO	UYU	URUGUAI
755	PULA/BOTSWANA	BWP	BOTSUANA
760	QUACHA/MALAVI	MWK	MALAVI
765	QUACHA/ZAMBIA	ZMK	ZAMBIA
770	QUETZAL/GUATEMALA	GTQ	GUATEMALA
775	QUIATE/BIRMANIA	MMK	MIANMAR (BIRMANIA)
778	KINA/PAPUA N GUIN	PGK	PAPUA NOVA GUINE

779	KUNA/CROACIA	HRK	CROACIA (REPUBLICA DA)
780	QUIPE/LAOS, REP	LAK	LAOS, REP.POP.DEMOCR.DO
785	RANDE/AFRICA SUL	ZAR	AFRICA DO SUL
790	REAL/BRASIL	R$	BRASIL
795	IUAN RENMIMBI/CHI	CNY	CHINA, REPUBLICA POPULAR
800	RIAL/CATAR	QAR	CATAR
805	RIAL/OMA	OMR	OMA
810	RIAL/IEMEN	YER	IEMEN
815	RIAL/IRAN, REP	IRR	IRA, REPUBLICA ISLAMICA D
820	RIAL/ARAB SAUDITA	SAR	ARABIA SAUDITA
825	RIEL/CAMBOJA	KHR	CAMBOJA
828	RINGGIT/MALASIA	MYR	MALASIA
829	RUBLO/BELARUS	BYB	BELARUS, REPUBLICA DA
830	RUBLO/RUSSIA	RUB	RUSSIA, FEDERACAO DA
835	RUBLO/TADJIQUISTA	TJR	TADJIQUISTAO, REPUBLICA D
840	RUPIA/MAURICIO	MUR	MAURICIO
845	RUPIA/NEPAL	NPR	NEPAL
850	RUPIA/SEYCHELES	SCR	SEYCHELLES
855	RUPIA/SRI LANKA	LKR	SRI LANKA
860	RUPIA/INDIA	INR	INDIA
865	RUPIA/INDONESIA	IDR	INDONESIA
870	RUFIA/MALDIVAS	MVR	MALDIVAS
875	RUPIA/PAQUISTAO	PKR	PAQUISTAO
880	SHEKEL/ISRAEL	ILS	ISRAEL
893	SOM/UZBEQUISTAO	UZS	UZBEQUISTAO, REPUBLICA DO
895	SUCRE/EQUADOR	ECS	EQUADOR
905	TACA/BANGLADESH	BDT	BANGLADESH
911	TALA/SAMOA OC	WST	SAMOA
913	TENGE/CASAQISTAO	KZT	CAZAQUISTAO, REPUBLICA DO
914	TOLAR/ESLOVENIA	SIT	ESLOVENIA, REPUBLICA DA
915	TUGRIK/MONGOLIA	MNT	MONGOLIA
918	UNID.MONET.EUROP.	XEU	-
920	VATU/VANUATU	VUV	VANUATU
925	WON/COREIA NORTE	KPW	COREIA, REP.POP.DEMOCRATI
930	WON/COREIA SUL	KRW	COREIA, REPUBLICA DA
946	XELIM/TANZANIA	TZS	TANZANIA, REP.UNIDA DA
950	XELIM/QUENIA	KES	QUENIA
955	XELIM/UGANDA	UGX	UGANDA
960	XELIM/SOMALIA	SOS	SOMALIA
975	ZLOTY/POLONIA	PLN	POLONIA, REPUBLICA DA
978	EURO/COM.EUROPEIA	EUR	-
995	BUA	BUA	COSTA DO MARFIM
996	FUA	FUA	COSTA DO MARFIM
998	DOLAR OURO	XAU	-

Table 3939 – Currency codes.

CÓD.	SERVICE
45020	Documento Econômico

45039	Documento Prioritário
45012	EMS Documento
45110	EMS Mercadoria
45187	Leve Econômico
45209	Leve Prioritário
45128	Mercadoria Econômica

Table 4040 – Service code.