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ASSESSING THE IMPACT OF THE MICRO AND SMALL ENTERPRISE TRADE-LED GROWTH PROJECT OF USAID/BRAZIL

BASELINE RESEARCH REPORT

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The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS

AAPI	Associação dos Apicultores da Micro Região de Simplício Mendes / Beekeepers Association from Simplício Mendes Micro Region
ADECIP	Associação para Desenvolvimento Comunitário de Inhuma / Inhuma Community Development Association
ABIT	Associação Brasileira da Indústria Têxtil e de Confecção / Textile and Garment Brazilian Industry Association
BNDES	Banco Nacional de Desenvolvimento Econômico e Social / National Development Bank
CAMPIL	Cooperativa Apícola da Microrregião de Picos / Apiculture Cooperative from Picos Region
CNPq	Conselho Nacional de Desenvolvimento Científico e Tecnológico / National Council for Science and Technological Development
CESFA	Centro Educacional São Francisco de Assis / São Francisco de Assis Educational Center
CODEVASF	Companhia de Desenvolvimento do Vale do São Francisco / The São Francisco Valley Development Company
COOAPI	Cooperativa Apícola da Grande Picos / Grandes Picos Beekeeping Cooperative
EMATERCE	Empresa de Assistência Técnica e Extensão Rural do Ceará / Ceará State Region Technical Assistance and Rural Extension Enterprise
EMBRAPA	Empresa Brasileira de Pesquisa Agropecuária / Brazilian Agricultural Research Corporation
FBB	Fundação Banco do Brasil / Bank of Brazil Foundation
FENIT	Feira Internacional da Indústria Têxtil / Woven Industry International Fair
FNE	Fundo Nacional para Desenvolvimento do Nordeste / National Fund for the Development of the Northeast
FEAPI	Federação de Entidades Apícolas do Piauí / Piauí State Region Federation of the Beekeeping Entities
HACCP	Hazard Analysis and Critical Control Points
HMF	Hexametilfurfural
IEL	Instituto Euvaldo Lodi / Euvaldo Lodi Institute
IBAMA	Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis / Environmental and Natural Resources Brazilian Institute
IBDF	Instituto Brasileiro do Desenvolvimento Florestal / Forest Development Brazilian Institute

LCC	Líquido da Castanha de Caju / Cashew Nut Liquid
MSE	Micro and Small Enterprise
NGO	Non-Governmental Organization
PCPR	Programa de Combate à Pobreza Rural/ Program for Combating Rural Poverty
PROINCO	Programa de Investimentos Coletivos Produtivos/ Program for Collective and Productive Investment
PRONAF	Programa Nacional de Fortalecimento da Agricultura Familiar/ National Program for Household Agriculture Strengthening
PROMO	Centro Internacional de Negócios da Bahia/ Bahia International Business Center
SEBRAE	Serviço Brasileiro de Apoio às Micro e Pequena Empresa/ Brazilian Service Support for the Micro and Small Enterprises
SEBRAE-PI	Serviço Brasileiro de Apoio às Micro e Pequena Empresa do Piauí/ Brazilian Service Support for the Micro and Small Enterprises of the Piauí State Region
SECOM	Secretária de Estado de Comunicação Social/ Social Communication State Office
SENAI	Serviço Nacional de Aprendizagem Industrial/ National Service for Industrial Learning
SINDIVEST	Sindicato das Industrias do Vestuário/ Garment Industry Labor Union
SINCAJU	Sindicato dos Produtores de Caju do Estado do Ceará/ State of Ceará Cashew Producers Labor Union
SINDICAJU	Sindicato das Industrias de Beneficiamento de Castanha de Caju e Amêndoa Vegetal do Ceará/ Ceará State Region Cashew Nut and Vegetable Almond Processing Industry Union.
SUDENE	Superintendência do Desenvolvimento do Nordeste/ Northeast Region Development Agency
USAID	U.S. Agency for International Development
WTO	World Trade Organization

1. INTRODUCTION

This report presents the impact assessment methodology and baseline data of the Micro and Small Enterprise Trade-Led Growth Project (referred to hereafter as the “Project”), of the U.S. Agency for International Development, Brazil (USAID/Brazil). Designed to run two years and three months, the Project’s primary objective is to promote export-led growth among micro-and-small enterprises (MSEs) in Northeast Brazil, resulting in increased incomes and employment.

The Project’s activities focus on four regional sub-sectors: beachwear in Salvador, Bahia; cashew nuts in Barreira, Ceará; honey in the municipality of Simplício Mendes in the state of Piauí; and açai in Belém, Pará.¹ Selected based on their potential and readiness to export, these sub-sectors will undergo a series of Project interventions over two years in an effort to increase their access to international markets. The present baseline assessment aims to comprehend the organization and functioning of each value chain, as well as to understand the characteristics of each group of participating firms, or “case”, indicating what impacts the Project might have.

The Project was initially selected to be the subject of one of four impact assessments of USAID-supported private sector development projects under the AMAP Business Development Services Knowledge and Practices (BDSK&P) Project to test the application of USAID’s impact assessment methodology to enterprise development projects.² The Project was selected because it (1) is a relatively small, focused activity (\$1.7 million over a two-year period), (2) has a strong value-chain orientation that involves large numbers of poor, both as microproducers and as employees in the value chains, (3) is taking an integrated approach to enterprise development, including non-financial services and linkage activities, (4) is being implemented by a DAI affiliate, guaranteeing full project management support, and (5) was scheduled to coincide with the timing requirements of the AMAP BDSK&P project.

Because the Project’s reduced scope and short timeframe which limit the ability to generate broad based results that can be measured quantitatively, the use of quantitative questionnaires at a large scale was deemed inappropriate. Small-sample qualitative research methods (interviews with lead firms and key informants and focus group discussions) were adopted to identify and understand the nature of benefits to lead firms and microenterprise participants in the value chains. The Project will test this methodology as an option for analyzing the impact of projects with focused activities and limited resources.

The data presented here come from the baseline interviews and focus group discussions (FGDs), conducted with actors at several levels of the value chains in each of the three sectors. The main conclusions of the impact study will be presented at the end of the second phase when the results of the companies both before and after Project intervention can usefully be compared and contrasted.

The report is organized as follows:

- Section 2 begins with a summary of the general economic context in which the Project has been designed, followed by a description of the Project and the design of the impact assessment.

¹ The açai sector, however, is not included in the impact study. At the time of the design of the impact assessment, the activities in the açai sector were being rethought due to a tense political situation in the producing region. As a result, it was not possible to create a clear causal model of activities and expected outcomes in that sector until a later date. As the time available for the impact assessment is short, the possibility of research to study possible impacts in this sector must be reserved for future consideration.

² The other three impact assessments are of private sector development projects in Kenya, Zambia, and India.

- Section 3 presents the results of the baseline study for each sub-sector in roughly the same format. Following a brief introduction justifying the selection of each regional sub-sector and the intervention design, the targeted value chain will be described to provide the reader with a basic understanding of the actors and processes involved. Next the participating firms, or demonstration “case” will be described in some detail, followed by the findings at the firm and producer level. Each section which describes the lead firms and producers supported by the Project will conclude with a summary of key findings from the impact assessment and their implications for the Project.

The conclusion in Section 4 will present the key findings and challenges observed with regard to the project design and impact methodology and their implications for the second round of data collection.

2. DESIGN OF THE PROJECT AND IMPACT ASSESSMENT

2.1 BRAZILIAN ECONOMIC ENVIRONMENT

Brazil's dimensions, both in terms of size and population, situate the country as a regional leader and one of the main economic powers of Latin America. The country once had the eighth largest economy in the world but has since dropped to the 14th largest.³ This drop is the result of two decades of low growth and inferior economic performance in comparison to other Latin American and (in particular) Asian nations.

Brazil is nonetheless a very different country today from what it was in 1990. The past 15 years have brought major improvements in economic management in Brazil. Macroeconomic stabilization has brought down inflation. Trade policy reform has stimulated productivity growth and helped integrate Brazil into the global economy. Privatization succeeded in reducing the fiscal burden and, in general, increasing the efficiency of the divested enterprises.

Brazil's presence on the global market is still small (the country is responsible for only about 0.9% of the world's international commerce),⁴ but it is growing. Liberalization measures adopted in the early 90s started to show significant results in the country's trade balance by early 2000. This is primarily due to the economic policy adopted in 1994 that lowered inflation from around 2000% a month to less than 10% a year. The policy was based on an indexed exchange rate which maintained the value of the Brazilian real close to that of the dollar for almost four years. In 1999, successive international shocks and pressure on the country's international reserves led Brazil to abandon its fixed exchange rate for a flexible one. In the wake of this devaluation, Brazilian firms began looking at external markets and creating international strategies. In 2002, the year that brought the leftist Luiz Inácio "Lula" da Silva to power, a new monetary crisis depreciated the exchange rate by 53% over a 12 month period, giving even more stimulus to Brazilian exports. In 2003, Brazil achieved its first trade surplus since 1992 and export records have been successively broken ever since.

These export records, however, have been achieved by a small exporting base; only 18,000 of the 4.7 million registered businesses in Brazil currently export. Moreover, MSE participation in export markets is extremely low. Although MSEs represent 62% of exporting firms, they are responsible for only 2.4% of export value.⁵

A series of internal and external obstacles limit MSE participation in foreign markets. Internally, microeconomic obstacles hamper Brazilian competitiveness, including heavy taxes, elevated financing costs, deficient transportation infrastructure, and expenses linked to customs and public administration bureaucracy. Externally, obstacles to accessing global markets include lack of information about market and product standards and product standards that are hard for small firms to meet, even when they are equipped with information.⁶

It is within this context that USAID Brazil launched the Micro and Small Enterprise Trade-Led Growth Project, The Project falls under USAID/Brazil's "Strategic Objective 11," which is related to economic growth and free trade.⁷ Within this Objective, USAID states its intention to support interventions that aim

³ World Bank (2005).

⁴ World Trade Organization, base year 2004.

⁵ SEBRAE (2004).

⁶ CNI (2002), World Bank (2004).

⁷ Projects developed by USAID Brazil focus on five strategic areas: environment, energy, health, assistance to disadvantaged youth and economic growth. See Annex 1 for a description of USAID Brazil's strategic objectives.

to “improve the regulatory environment and government policies, access to credit and market information, and related technical assistance to ignite micro and small enterprise led growth.” The Project was designed with these aims in mind. It is described in more detail in the next section.

2.2 THE USAID/BRAZIL MICRO AND SMALL ENTERPRISE TRADE-LED GROWTH PROJECT

The Micro and Small Enterprise Trade-Led Growth Project is a two-year project launched by USAID/Brazil in October 2004. The Project’s objective is to support trade-led MSE growth, competitiveness and increased employment. Initially, the Project planned to promote the insertion of MSEs into the global market in three ways: (1) improving the business environment, (2) promoting commercial linkages, and (3) facilitating MSE access to financial services.

The first phase of the Project concentrated on identifying promising sectors with a high quotient of MSE participation and, within these, selecting regional subsectors, defined as either geographically grouped enterprises that were already exporting one or more of a set of related products or firms that had the potential but were not yet exporting due to obstacles (such as access to information, a product inadequate for export and access to credit) that could be remedied via direct assistance from the Project. The idea was that the Project would supply the “missing ingredient” necessary for increasing market access for these enterprises.

The Project team carried out a rigorous selection process, beginning with secondary data analysis of all export industries in the Northeast. It developed a list of 92 geographical groupings of firms with MSE participation and eventually winnowed the list down to four sub-sectors to be supported by the Project: beachwear in Bahia, honey in Ceará, cashew nuts in Piauí, and açai in Pará.

Based on the information culled during the sector selection process, the Project team designed a series of interventions to improve the position MSEs occupy within the relevant value chains so as to encouraging longer-term win-win relationships between all entities within the value chains. The interventions spanned the following areas: (1) product and package adjustment (2) productivity enhancement, (3) increased access to financial services for individual firms, (4) product marketing, and (5) market linkages.

Parallel to these five areas of direct intervention, the Project team formulated two additional cross-cutting interventions to promote MSE development. One aimed to address financial service access from a larger perspective by developing new methodologies for providing credit to small export-oriented firms. The other aimed to improve the business environment by identifying regulatory barriers to MSE development and organizing advocacy efforts to promote reform.

Once the Project began, however, it became clear that these latter two interventions would be very difficult to implement. Their success depended heavily on the participation of other Brazilian institutions that, although interested in principle, have very little flexibility and resources, thus making it difficult to achieve results within the Project’s two-year timeframe. Therefore, it was decided to reduce the scope of activities and concentrate primarily on the interventions to be carried out directly with the four regional MSE sub-sectors.

Another discovery that was made once Project implementation had already begun was the existence of barriers within each of the four sectors that were compromising the competitiveness of the sector as a whole. A decision was made to invest in detailed sector analyses to identify the challenges to long-term competitiveness. These analyses would be disseminated among public and private actors within each sector in an attempt to mobilize efforts to address these obstacles.

In sum, the Project is currently promoting the insertion of MSEs into global markets via (1) commercial linkages, (2) upgrading, i.e. improving the products, processes and functions of MSE exporters and their suppliers, (3) facilitating access of individual firms to financial services and (4) identifying barriers to sector competitiveness. This impact evaluation concentrates on results obtained from the first three activities, which are being conducted directly with MSEs in the selected regional sub-sectors.

2.3 IMPACT ASSESSMENT DESIGN

The design of the impact assessment sought to answer two main questions:

1. To what extent is the Project successful in promoting access to the global market?
2. What, if any, are the eventual impacts on job and income creation in the value chains where these interventions occur?

To answer these questions, the impact assessment analyzes two levels of the value chain in depth: exporting firms and microproducers (described in more detail below). It uses a mixed-method approach, collecting quantitative and qualitative data. Due to the short timeframe and limited resources, however, the assessment relies heavily on small-sample qualitative methods.

In order to demonstrate that observed changes would not have occurred in the absence of the Project, the design includes a control, or comparison, group. Control groups are solely used at the lead firm level, for two reasons: (1) exporting firms are the Project's principal locus of intervention, and (2) the use of different research tools to collect data in the each level (questionnaires for firms, focus groups for microproducers⁸).

This impact evaluation will be carried out in two phases. The first round of data collection occurred at the beginning of the Project's implementation phase (September-October 2005)⁹ and will serve as a baseline. The second round will take place in October 2006. The principal impacts of the Project will thus only be identified after this second phase of research.

2.3.1 THE CAUSAL MODEL AND HYPOTHESES

A causal model is a logical framework that aims to illustrate how project activities will lead to outputs, outcomes and impacts. The development of such a model is a critical first step to conducting an impact assessment. It is also useful for program management and monitoring. Normally, a causal model is built at the beginning of a project and treated as a work-in-progress throughout the implementation period.

The causal model is useful in depicting a series of hypotheses regarding the Project's impact on the insertion of small and micro enterprises in the global market, especially regarding impacts on employment and income. The Project's principal hypotheses are the following:

⁸ Control groups were not applied for the focus group discussions since the purpose of these was not to assess impact but to understand how and why impact may or may not occur.

⁹ In the case of honey, some firm-level and producer-level interventions had already started. In the case of beachwear, some firm-level activities had already begun at time of data collection; none had begun at the producer level. In the case of cashew nuts, some interventions had begun at the firm level but not at the producer-level, as none are planned.

1. Targeted assistance to commercially link MSEs through horizontal and vertical linkages along a value chain is critical to the success and growth of a sub-sector, as well as for the sub-sector to compete in the global market.
2. Project activities contribute to help MSEs access markets and increase sales through:
 - adapting products to demand;
 - marketing MSEs' products;
 - promoting commercial contacts;
 - improving access to financing for production and/or commercialization;
 - increasing productivity.
3. Increasing small enterprise access to export markets stimulates sales volume and, hence, production, and this create more jobs within the supported firms, both in terms of intensity of work and the number of people employed.
4. Because the lead firms selected for assistance involve large numbers of microproducers, (as suppliers of finished and semi-finished products) and hire low income workers, the increased sales will benefit small microproducers and the poor through expanded opportunities to supply goods and services to the lead firms, increased employment and income.

With these hypotheses in mind, it is possible to define which outputs, outcomes and impacts are expected to result from Project activities. As each of the sectors deals with distinct products and firms at different stages of export readiness, the challenges of entering the global market and the activities designed are different. Therefore, a separate causal model was developed for each, as shown in Tables 1, 2 and 3. The causal model for each of the three cases follows the same logic as described below, using the cashew nuts case as an example.

In Table 1, the causal model for the cashew nuts intervention, the first column shows the activities carried out by the Project: (1) an assessment of cashew nuts value chain; (2) product adjustment; (3) access to financing; (4) promotion of market linkages; and (5) support for production and logistics. These activities lead to the following outputs as listed in column two: development and dissemination of a value chain vision and strategy and product upgrading. The facilitation of credit access will also allow firms to buy more inputs and increase their production, while the promotion of commercial linkages should increase orders and promote access to new market channels [also a form of upgrading]. The outcome or result of such activities and products is listed in the third column and include: increased awareness of the constraints to the value chain's long-term competitiveness, increased sales of higher value added products, increased export volumes and increased sustainability of exports.

Expected impacts of the Project are shown in the fourth column and include increased producers' income and employment at firm (mini-mill) level. In such a model, indicators like the number of firms' employees and prices paid to producers per unit of production are used to gauge impacts.

TABLE 1: CASHEW NUTS CAUSAL MODEL

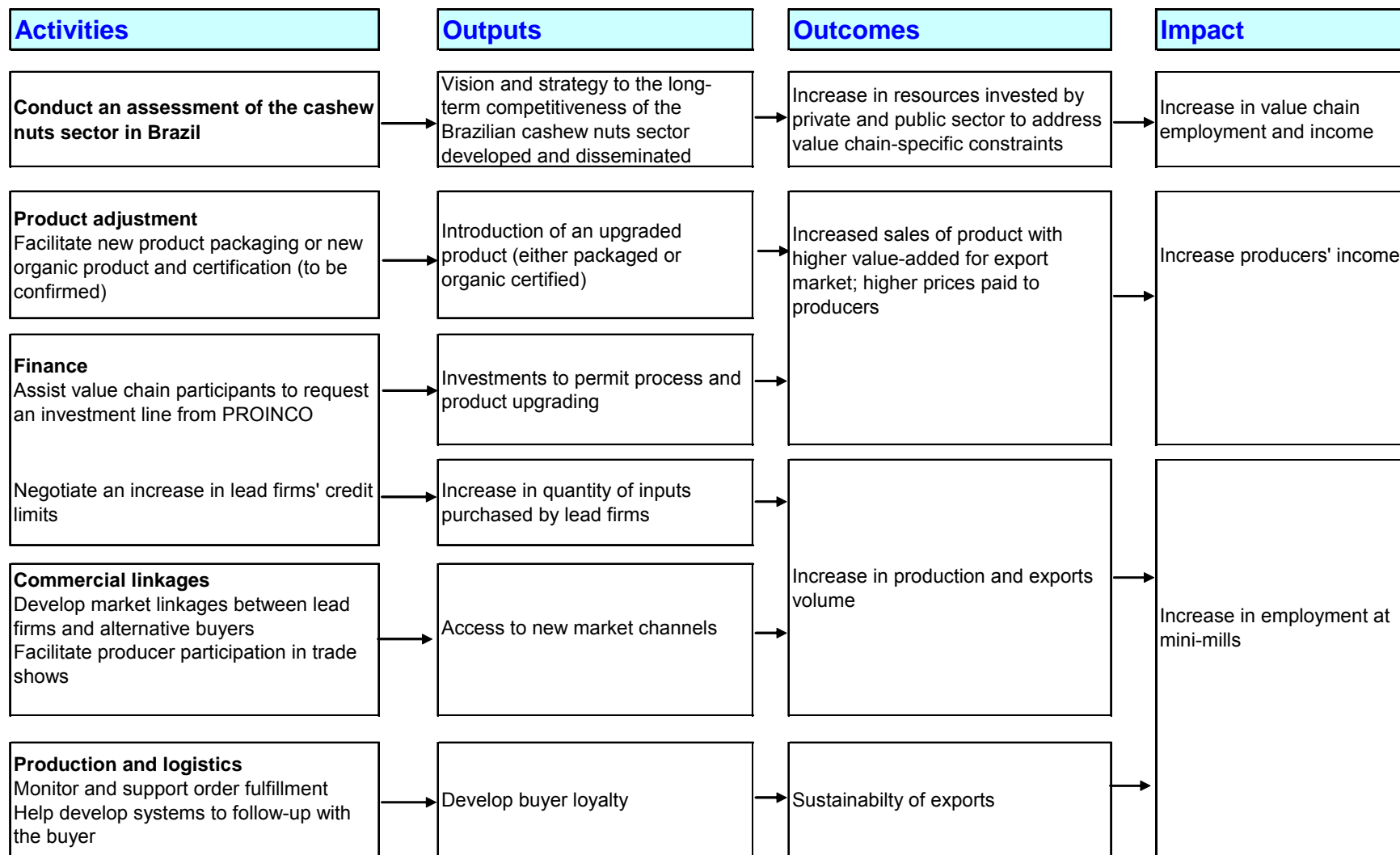


TABLE 2: HONEY CAUSAL MODEL

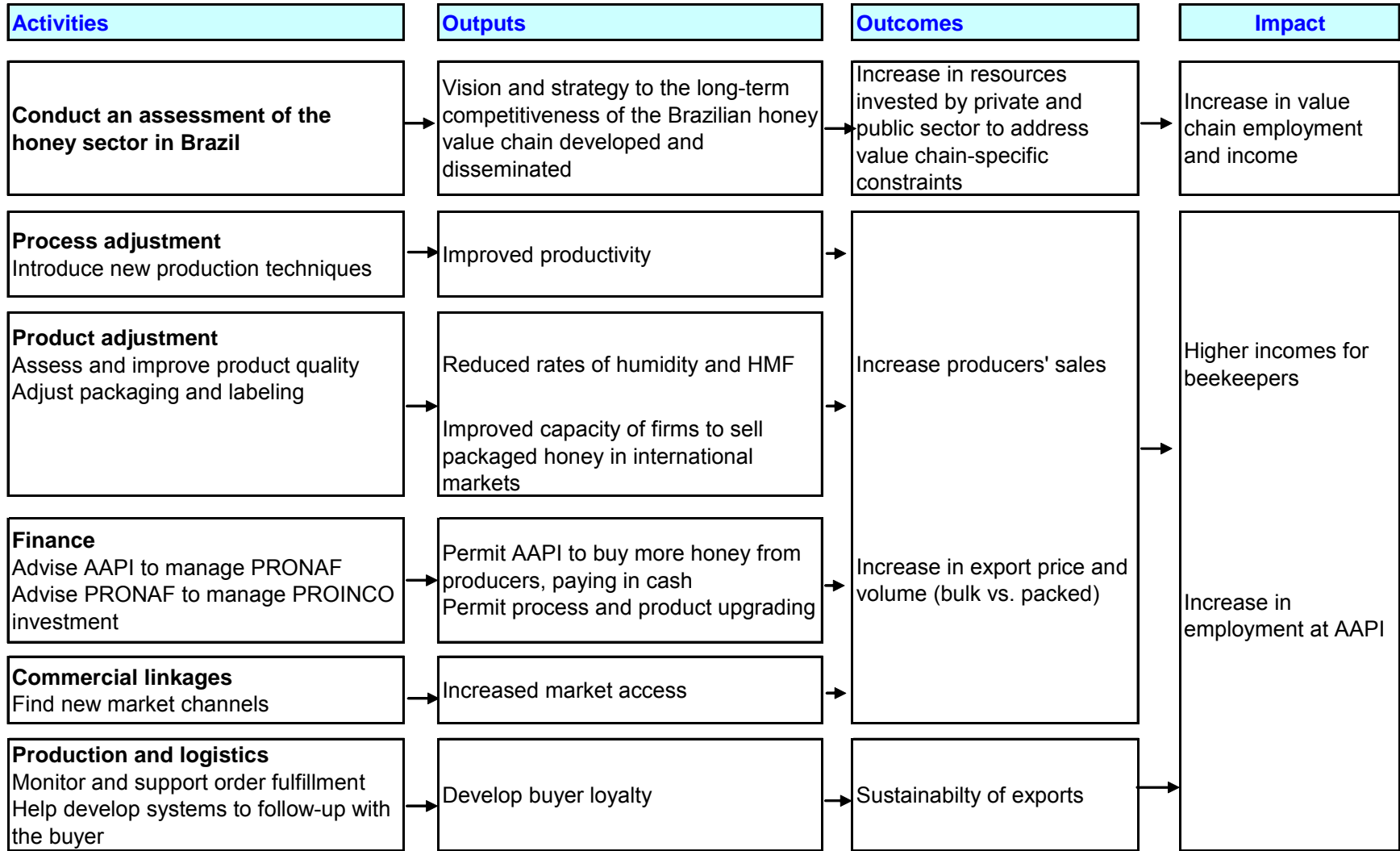
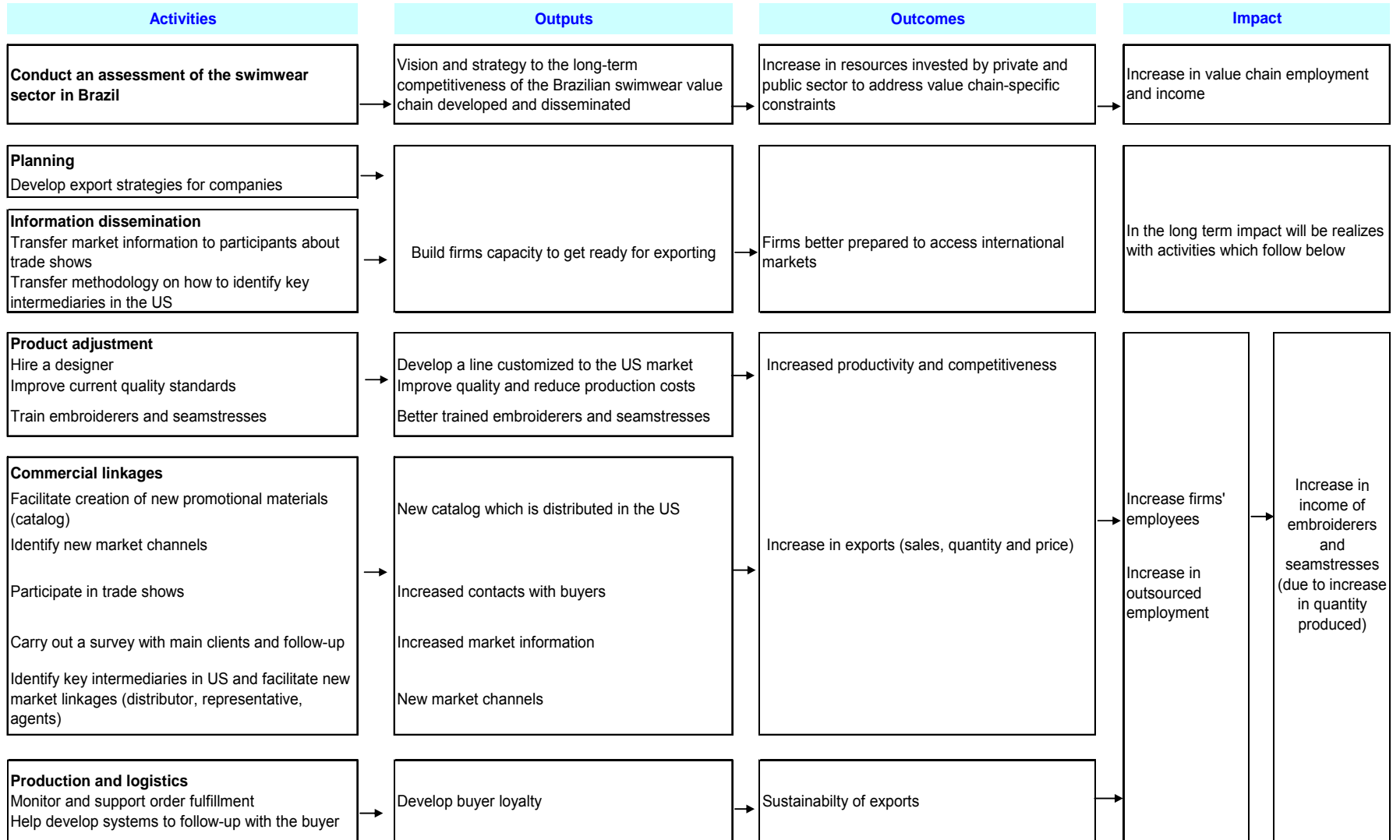


TABLE 3: BEACHWEAR CAUSAL MODEL



2.3.2 FRAMEWORK FOR ANALYSIS

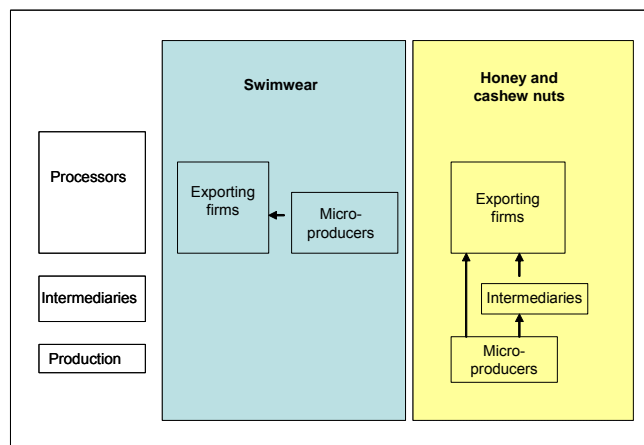
To test hypotheses 1-4, analysis was conducted at the two levels of the value chain where direct impact is expected: exporting firms and microproducers.

Exporting firms are the lead firms within the sub-sectors selected for the Project. They are considered leaders because they are already exporting or demonstrate a strong potential and readiness to export.

The primary expected impact at this level is improved linkages (both in quantitative and qualitative terms) between the firms and exporters/importers as a result of the interventions conducted by the Project.

Microproducers are the firms that provide the principal goods to the exporting firms (in the case of honey and cashew nuts, this production occurs *in natura*) or that are contracted to produce for the exporting firms, as in the case of beachwear. There are similarities and differences among the micro producers in these three cases. The similarities have to do with the fact that in all three cases, an increase in exports is expected to translate into increased orders for the goods produced by these microproducers. The differences have to do with the relationship between the microproducers and exporting firms in each case. As Figure 1 shows, linkages between honey and cashew producers and exporting firms are organized vertically. In other words, the producers work in a production phase, which comes before that of the exporting firms. In beachwear, the producers are embroiderers and seamstresses who work *at the same stage* of production as the exporting firm. These are, in fact, outsourced employees who work according to demand.

FIGURE 1: POSITION OF MICROPRODUCERS IN THE VALUE CHAIN



With regard to microproducers, the primary expected impact is increased demand by the lead firms (as a direct consequence of their new export markets) for products produced by microproducers and thereby increased income and employment.

Because impact might occur or be explained by changes in the power relationships among key actors in the value chain, other levels of the value chain—middlemen and large firms of the same sector—were also investigated where relevant. The concern here is not with quantifying the Project's impacts on these actors, but with understanding how relationships develop along the chain, the sustainability of these relationships and how they may be altered, if necessary.

Table 4 presents the level of analysis, the domains of impact, the indicators of change and the data collection method used to gather information at each level of analysis. The following subsection describes the data collection strategy and information sources in detail.

Levels of Analysis	Domains of Impact	Indicators of Change	Sources of Information
Exporting firms	Exports	Quantity of exports Average sales price Types of products exported Number of clients and /or sales channels Access to different markets (countries) The position of the clients within the commercialization chain	In-depth interviews
	Employment	Number of regular employees Intensity of work throughout the year Percentage of women in the employed labor force Number of outsourced workers	In-depth interviews
	Access to credit	Volume of new loans	In-depth interviews
Microproducers	Income	Average sale price of goods produced Perceptions of changes to income flows Relative importance of the activity as a contributor to household income	FGDs Individual data forms
	Production	Quantity of goods produced Intensity of work throughout the year Incentives for investment in production	FGDs Individual data forms
	Power relationships	Diversification of buyers Perceptions of level of dependence on middlemen	FGDs

2.3.3 DATA COLLECTION STRATEGY

This impact assessment has been designed to be used by projects with restricted resources. As such, instead of being based on large-scale collection of quantitative data, the data collection strategy is to gather both qualitative and quantitative data from a smaller number of companies.

Three main data collection instruments have been used: in-depth interviews, FGDs and individual data forms designed to complement information from FGDs.

In-depth interviews were conducted with exporting firms, both those supported by the Project and those of the comparison group, and with intermediaries and larger firms using a structured questionnaire. Quantitative data for the impact indicators at the producer level were culled from these interviews. Nonetheless, **FGDs** were carried out with producers to gather qualitative data regarding: (1) perceptions about income, employment and production; (2) their perceived role in the value chain; and (3) the social processes that may explain impact (or lack thereof). The purpose of these FGDs is not to assess impact, which is why there are no comparison groups at this level of analysis, but to understand the “how” and “why” of impact.

Individual data forms were also designed primarily to gather personal information from each focus group participant to facilitate the process of contacting them in the second phase of the impact assessment. Ultimately, however, the forms were used in an ad hoc way to collect basic quantitative information on education, income and production levels of the participants.

The general format of each questionnaire used for the in-depth interviews is the same in all three cases, but naturally there are specific differences due to the type of product, the form of production and organization of the value chain. In addition, a special questionnaire for the large firms was constructed, since these firms have different production processes and are less open to data collection. The Annex presents the four questionnaires for lead firms (one for each case plus the large firm), the two intermediary questionnaires (for cashew nuts and honey), the three focus group discussion guides and the three individual data forms.

In addition, data from secondary research (internet, business literature, gray literature) and the sector analyses were used to give more depth to the analysis.

2.3.4 SAMPLE SELECTION

The sample for each of the three cases under consideration differs both in terms of size and selection strategies. While the ideal technical criterion were always kept in mind, there were often constraints related to feasibility, notably the non-existence of a critical mass of firms with similar characteristics.

In the case of **beachwear**, the sample was formulated based on the list of beachwear companies appearing in the database maintained by the State of Bahia Industry Federation¹⁰ and by Bahia Export¹¹. All of the companies in Salvador, Lauro de Freitas and Feira de Santana were selected. A total of 24 companies were contacted, but 6 refused to be interviewed.

In the case of **cashew nuts**, the sample drew on the nut processing mills operating in rural areas of Ceará and Piauí cited by the Brazilian agricultural research institution, EMBRAPA(*Empresa Brasileira de Pesquisa Agropecuária*), SEBRAE (Serviço Brasileiro de Apoio aos Micro e Pequenas Empresas), owners of processing mills and sector specialists.

In the case of **honey**, the sample is based on the existing companies and cooperatives in the state of Piauí as cited by local specialists in the sector.

Table 5 presents the number of firms and producers interviewed in each of the cases:

¹⁰ <http://www.fieb.org.br/>

¹¹ <http://www.bahiaexport.com.br/>

TABLE 5: SIZE AND DIVISION OF SAMPLE

	Beachwear	Cashew Nuts	Honey
Project-supported firms	11	21	1
Control firms	18	3	2
Intermediaries	0	3	0
Large companies	0	1	1
Focus Groups	8	11	8
Individual data forms	57	77	68

The sample includes the entire population of supported exporting firms, except for three beachwear companies whose key members were unavailable during the period in which research was being conducted.

Selection of the exporting firms for the control group was based, to the extent possible, on the following criteria:

- Having a similar size as the Project supported firms in terms of number of employees and income;
- Having a similar degree of insertion in the international market;
- Not being supported by other projects, which seek to improve market access.

There were, however, some cases in which there simply were no firms that met these selection criteria. Thus the pragmatic selection of companies utilized for the comparison group was made according to criteria that differ from case to case. These criteria are described for each case in the following section.

Intermediaries in the cashew nut sector were selected according to indications made by local people. The large companies were chosen according to the indications of specialists and their willingness to meet with the evaluators.

Lastly, producers were selected based on listings encountered in the associations they belong to and in the communities where they are located (in the case of research conducted in rural areas), as well as on indications made by Project-supported exporting firms.

3. RESULTS OF THE BASELINE STUDY

3.1 CASHEW NUTS

The first sub-sector addressed by the Project is the cashew nut sector in the municipality of Barreira in the state of Ceará. More specifically, the Project is supporting the principal nut processing mills in this region, where some 80% of the town's population depends in some way on cashew nut production.

The cashew nut sector proved attractive to the Project because of its export potential. Over the last four years, global demand for cashew nuts has grown more than 50 percent, reaching 345,000 tons in 2004. Brazil has positioned itself as one of the major suppliers, along with India and Vietnam. About 98% of the cashew nuts offered on the world market come from these three countries. The state of Ceará currently houses almost 90% of Brazil's cashew nut processing capacity and accounts for almost 80% of the volume of and income from cashew nut exports. It was thus a natural choice for an export promotion project.

Almost all exports consist of semi-processed nuts (i.e. nuts that are still raw, unroasted and unsalted), which are acquired through buyers in Brazil and then shipped to local roasters in the importing countries. The processing is done by large and small processing mills. The municipality of Barreira, the center of the Project's intervention, has the largest concentration of small processing facilities, known as mini-mills, in the state.

There are 24 units in the municipality that function intermittently. Almost all are linked to the three largest mini-mills in Pa-Rural, Única and Bcaju, which are the only firms to have access to foreign markets. The Project's activities seek to promote the direct exports of these three mini-mills, but as they are linked to the others, it is expected that the expansion of their exports will benefit all the mini-mills.

The main challenge faced by these firms is access to working capital to purchase raw materials. Working capital is crucial in a sector in which unprocessed cashews are an expensive input, requiring high amounts of money available for turnover. Since the necessity of working capital is much greater than the processing units' owners financial capacities, the demand cannot be fulfilled with private resources, nor is it met by banks, which impose collateral requirements that mini-mill owners cannot meet. As result and with few exceptions, mini-mills stay closed for most of the year due to the lack of raw cashews to process.

According to the mini-mills interviewed, access to working capital is the main bottleneck for their export expansion, since they have a series of orders that they cannot fulfill due to low production levels. Although access to the market does not appear to be a major challenge, the mini-mills are currently exporting the same product through the same channels as large companies, and thus appear to suffer from disadvantages of scale.

With these barriers in mind, the Project team designed the following activities for the cashew nut sub-sector:

- Negotiation of credit limit increases for the supported mini-mills with commercial banks;
- Technical assistance in order to assist firms to solicit an investment project financed by the Brazil development bank for the sector in the municipality;
- Promotion of access to alternative channels for processed nut purchase, especially those that involve higher added value;
- Increased added value of the products produced by the *cluster* through organic certification or packaging;

- Supervision of product delivery.

The goal, results and desired impacts of these activities are presented in the causal model found in Table 1. The parameters selected in order to indicate change at the level of the mini-mills are presented in Table 4, which details the framework of analysis and include (1) access to credit, (2) value and quantity of exports, (3) number of clients and /or sales channels, (4) average sales price of the processed nuts, (5) number of employees in the mini-mills and (6) intensity of labor by employees in the mini-mills.

Before presenting the assessment's finding with regard to these parameters, the value chain and its main actors will be described, drawing from secondary research and findings from the sector analysis. A brief characterization of the mini-mills subject to intervention will follow, using the same two sources in addition to information gleaned from in-depth interviews as source material. The results of mini-mills interviews in terms of exports, employment and access to credit will then be presented, followed by a discussion of the different relationships within the value chain that may influence eventual impacts.

3.1.1 DESCRIPTION OF THE VALUE CHAIN

Production and commercialization of cashew nuts involves a series of steps that begins with cultivation on rural properties, followed by the separation of the nut from the cashew apple,¹² cracking the shell, nut extraction, nut processing, and finally marketing of the product. Buyers are mainly roasters and packagers from importing countries, along with some local industries that sell nuts on the national market in fried and salted forms. At several points along the cashew nut production chain, there are middlemen who put producers into contact with buyers.

The principal actors in this chain are thus farmers, middlemen and the companies that process and export cashew nuts.

Cashew producers are quite fragmented, and the sector is marked by the presence of small and medium-sized producers. The small producers (those with properties of less than 10 hectares) and the medium-sized producers (with properties of between 10 and 100 hectares) comprise some 94% of the 57,000 cashew nut producers in the country and are responsible for 52% of the harvest. The rest is produced in large-scale cashew plantations.

Most of the large cashew plantations are the property of the cashew processing industries, the majority of which have integrated agriculture into their production. Some of these companies produce up to 40% of the nuts they process on their own properties. The remaining raw materials are acquired from small, medium and large independent producers. Contact between these farmers and the companies is undertaken by middlemen who play an important role in the sector.

Middlemen are an important link between the producers and the market. These are generally people who have worked in the market for years and have long-term relationships with both producers and the industry. They generally have a network of employees or even contract their work out to others who go to the rural zone to purchase produce.

These actors collect any and all cashew nuts available. They tend to offer a single predetermined price, which is set by the large processing companies (their clients). The cashew industry's union meets every year with that of the cashew producers and a minimum purchase price is established at the beginning of the harvest, based on cost structures, international prices for the product and the exchange rate. The price the producer receives is formally based on this minimum purchase price, though it may also vary

¹² The cashew is composed of two parts: the nut and the pseudofruit.

according to the time of year, distance from the production source and level of intermediation (some middlemen work with other middlemen).

Middlemen buy nuts using their own resources and those they receive from the large processing companies. Generally, they begin the harvest using their own funds, but after a few deliveries, use resources provided by the companies.

Processors include mills that range from very large (1000+ workers) to very small (1-2 workers). Practically the entire harvest of raw cashew nuts is channeled through the processing mills. Two methods of processing are used to get the nut out of its shell, with substantial differences in the resulting numbers of broken nuts: the traditional mechanized method and that of the mini-mills. In the traditional process, practiced by the large firms, the nuts are cooked inside their shell in their own liquid, then dried before being subjected to deshelling via an impact process. In the mini-mills the nuts are autoclaved, soaked and then manually deshelled (though this last phase can also be mechanized).

The process employed by the mini-mills is labor intensive and labor costs are thus higher than in the big companies. This higher cost, however, is compensated by the lower numbers of broken cashews resulting from the process. Large processing firms produce around 50% whole nuts while the mini-mills produce around 80%. As a result, the price obtained by the mini-mills for their product is higher.

Mini-mills buy nuts from associated producers or from intermediaries. But their direct access to raw materials is complicated by the fact that they need to compete with intermediaries and thus need on-hand capital in order to pay for nuts up front. The vast majority of Brazilian cashew nut processing is thus done by the big companies.

Exporters include six dominant cashew nut exporters located in the capital of Ceará, Fortaleza. These exporters buy nuts from Brazilian firms in the name of foreign importers, roasters or food companies and guarantee delivery to the importer without any additional processing of the product.

Importers are the first actor in the marketing chain within the destination market. Importers receive the nuts from the Brazilian exporter and distributes them within their own internal market. The nuts are then sold to the food industry (e.g. companies producing cookies, chocolate or breakfast cereal) or to roasters and packagers.

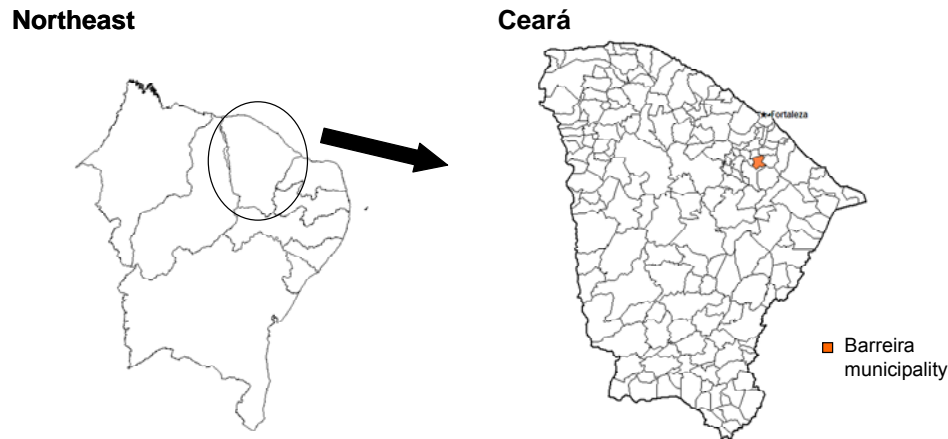
Roasters are the second actor in the marketing chain within the destination market. Roasters buy semi-processed cashews for roasting. They then package and distribute these throughout the market.

After describing the main actors and processes involved in the value chain, the next section details the case supported by the Project, describing briefly its history and organization features. Next, the findings at the firm and producer level will be described in some detail. Both sections conclude with a summary of key findings from the baseline research and their implications for the Project.

3.1.2 THE CASE: MINI-MILLS OF BARREIRA

Barreira is a municipality with some 20,000 inhabitants located 100km from the city of Fortaleza. It is one of the few municipalities in Ceará – if not the only one – in which the processing of cashew nuts by mini-mills is a driving force in the local economy.

FIGURE 2: BARREIRA LOCATION



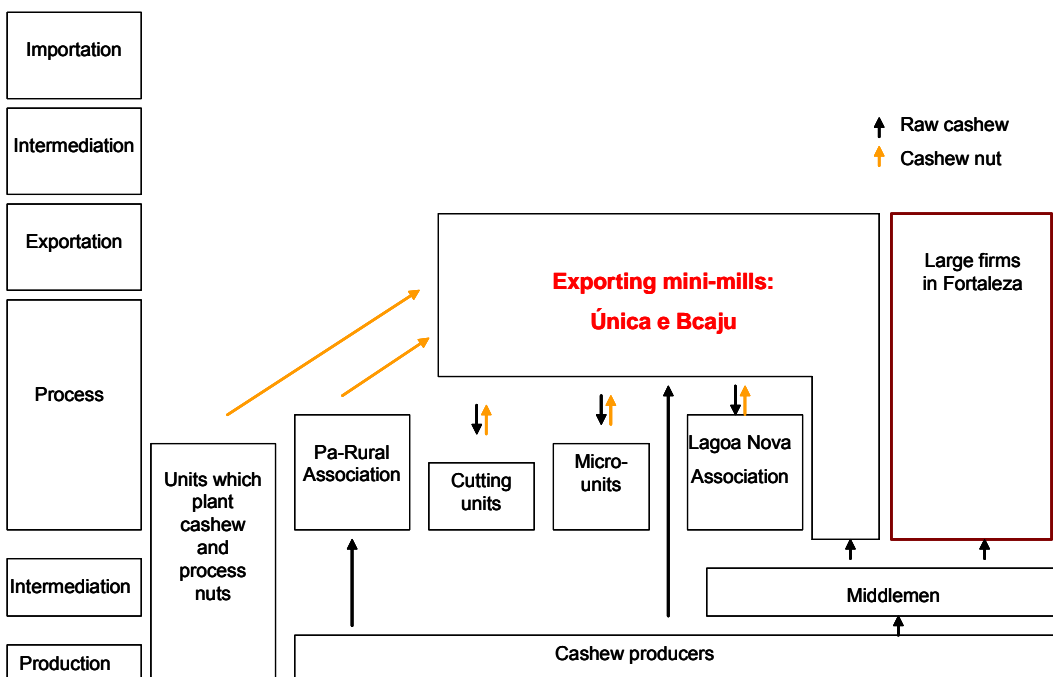
Barreira's mini-mills were founded in 1989, stimulated by a federal government project that created 15 Rural Community Centers in Ceará. Barreira was chosen as one of these centers, and the project was called Pa-Rural (Rural Action Project). At the same time, The Ministry of Industry and Commerce donated equipment for cashew nut processing and, together with Pa-Rural, set up five processing mills. These units were guaranteed resources by *Banco do Nordeste* and the World Bank through the Project for Combating Rural Poverty (Projeto de Combate a Pobreza Rural), which goes by the name São José Project in Ceará (formerly PAPRI). In order to obtain these resources, however, it was necessary to form an association and set up a project that had to be approved by both the community and the state.

Though state agencies counted only ten mini-mills in the municipality, in the course of the research for this assessment the evaluators identified a total of 24 production units in Barreira, of which only four were fully operative. Most of the 24 units nonetheless function intermittently, and all have a physical structure and some sales flow to the cashew market.

The three largest mini-mills Pa-Rural, Única and Bcaju are the indisputable leaders and the only ones to export. The remaining mini-mills possess some kind of relationship with the exporting mills, either in terms of supplying raw materials or in commercializing their products. These units possess different productive organizations and distinct relationships with the exporting mini-mills, which lead the evaluators to create a typology to better understand the cashew processing sector in the municipality. The five types identified are: (1) exporters, (2) associations, (3) micro units, (4) units that combine planting and processing and (5) cutting units.

Figure 3 presents a map of the cashew processing sector within the municipality.

FIGURE 3: STRUCTURE OF THE CASHEW PROCESSING SECTOR IN THE MUNICIPALITY OF BARREIRA



What differentiates each type from the next is the number of steps it performs in producing and processing nuts. The total process involves fourteen steps:

1. Cashew cultivation
2. Harvest
3. Brute classification
4. Autoclaving/cooking
5. Cutting
6. Soaking
7. Skinning
8. Cleaning
9. Pre-classification
10. Classification
11. Soaking at 50°
12. Final revision
13. Vacuum sealing
14. Export

Figure 4 shows the production stages executed by each mini-mill. Micro-units execute stages 5 through 9. Only Bcaju and Única deal with the last three steps of production in which export quality is insured.

FIGURE 4: PRODUCTION STAGES EXECUTED BY EACH MINI-MILL

Steps	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Exporter units														
Associations														
Planting and processing units														
Micro-units														
Cutting units														

OBS: Dotted borders indicate that not all mini-mills of the indicated class participate in the activity.

Because the exporters are the main focus of intervention, these are described in some detail below.

Única and Bcaju/Barreira Amêndoas are the two main units in the municipality of Barreira in terms of revenues.¹³ They perform all steps of nut processing, from selecting unprocessed cashews to exporting. They are the property of Rogério Almeida and Antonio Peixoto respectively, the two main leaders of the sector in the town and the ones most responsible for its development. They do not own cashew plantations and acquire their raw materials either by creating partnerships with producers or by purchasing from intermediaries. They have their own capital and access to credit and are thus able to buy nuts during the harvest.

Pa-Rural is an association that possesses a complete processing structure, similar to that of Única and Bcaju, but differs from these in that profits must be reinvested in the mill or used by the community. It is a driving force in the municipality and it engages in several activities that go beyond cashew nut processing. It operates a hospital, a community radio station and a tractor it loans to producers to plow their land. It also trains laborers, gives courses on cooking with cashews and organizes meetings regarding production techniques. Pa-Rural has 120 associated members, 70% of whom are cashew producers. It is estimated that some 40% of the cashews processed by Pa-Rural are produced by its associate members; the rest is purchased from other producers. Up until 2003, Pa-Rural exported in its own name. However, beginning in 2004, its production began to be marketed via Bcaju or Única. Antonio Peixoto is the president of Pa-Rural.¹⁴

¹³ Both Bcaju and Barreira Amêndoas are run by Antonio Peixoto; they specialize in marketing and processing respectively. This report generally uses the name Bcaju to refer to both sets of functions, in order to simplify things and facilitate reader comprehension.

¹⁴ Antonio Peixoto is the president of Pa-Rural and his mandate will run to 2008. Peixoto is also a city council member and President of the Municipal Council, now in his third mandate.

3.1.3 FIRM-LEVEL FINDINGS

This section presents the results of the in-depth interviews conducted with mini-mill owners. Project activities are designed to support growth of the sub-sector through increased exports. However, since all the other actors are linked to the three exporters, it is expected that results in terms of employment and income will have a positive effect on all the other processing units. Therefore the results presented here are for 21 of the 24 units identified.¹⁵ The remaining three units were not included here because one has no relationship with the exported units and is thus part of the control group, and the two others could not be interviewed for logistical reasons.

As laid out in the Framework for studying impact in Table 4, the areas of impact for analysis at the firm level are (1) exports (2) employment and (3) access to credit. In addition to presenting the findings with regard to these three areas, this section describes findings concerning relationships between the supported mini-mills and other actors in the value chain, considered key for understanding the channels for transmitting impact. The data presenting the parameters selected to measure Project success at the level of mini-mills for both supported and comparison mills are summarized in Table 6.

3.1.3.1 Export

Most of the nuts produced in the Barreira cluster are marketed through Única and Bcaju. Pa-Rural also possesses an export registry but did not export during the last harvest (August - December 2004). The two exporting units are the only ones that perform the final selection process, quality control and vacuum sealing for the external market. They export their own production and also that of the other processing units. The other mini-mills send their nuts to Única or Bcaju, which have the product available to fill orders as they arrive. In general, payment for the other mills' nuts is only made on export, with the units being paid in accordance with the contract terms (which establishes the price and the exchange rate to be used), and a sales commission is deducted from the payment.

All production is sold for export according to the same specifications: raw, selected cashew nuts vacuum sealed in 22 kg bags. Each bag contains only one type of nut, classified according to size and whether it is whole or in pieces. Vacuum sealing permits the nuts to be stored for up to a year.

Bcaju sells its nuts domestically and to foreign customers (60%). The unit previously only sold to the internal market, but it began to export through Única and today sells overseas independently through a commercial agent in Fortaleza.

The average price received for these nuts is R\$ 13 (US\$ 4.40) per kilo,¹⁶ but it varies from US\$ 1.70/pound to US\$ 2.80/pound by type. Bcaju has clients in the USA, Middle East, and Colombia/Chile. The majority of sales are made via credit although 80% of the Middle Eastern purchases are pre-paid. With the exception of the Middle Eastern client, all clients are roasters-distributors.

¹⁵ Of the 21 units whose data is presented here, 16 were interviewed. Data for five others was obtained from third parties, mainly the owners of neighboring mini-mills.

¹⁶ 2004 Brazilian currency (Real) values were converted to US dollars using the exchange rate of R\$ 2,93/US\$ (2004 average). For 2005 values, an exchange rate of R\$ 2,57/US\$ (2005 first semester average) was used.

Única has buyers in the U.S., Canada and Middle East. The U.S. clients are importers who distribute product to American companies. They are responsible for 90% of Única's sales. In the other countries, the clients are roasting companies. Sales prices vary from US\$ 1.20 to US\$ 3.50 per pound, depending, once again, on cashew quality. All sales negotiations are done by the company's owner and the dispatch process is farmed out to third parties.

The companies interviewed emphasized that 60 containers (16 tons each) have been sent overseas since exporting began in 1999 and no complaints have ever been received from the clients, nor have orders ever been cancelled.

3.1.3.2 Employment

Employment in the mini-mills is seasonal. Generally, the units begin hiring in September (only the larger ones, though, which buy nuts in Piauí) and hiring reaches its peak in November. From January on, the number of employees begins to fall and many of the mini-mills close down due to lack of raw materials (see Figure 5). The service-providing units close down completely, while the exporters maintain a low level of production.

During the last harvest's production peak (Nov.-Jan.), the mini-mills employed a total of 455 people. The lowest level of employment was reached in July, with only 236 people working in the units, a drop of nearly 50% in relation to the harvest period. Considering the working and idle months, the Barreira mini-mills employed an average of 350 people. This can be considered as the employment level in full-time equivalent employment terms, and it is what will serve as the basis for analyzing possible employment expansion in 2005 and 2006.

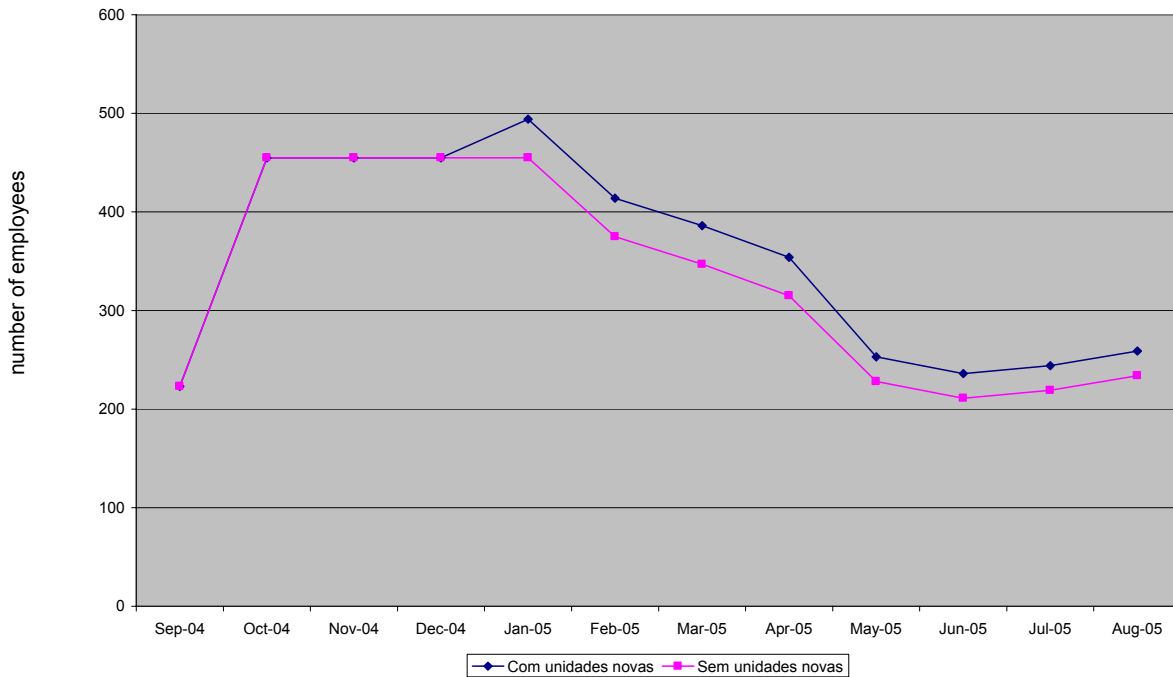
The workers labor 44 hours per week and are paid according to production, with the average wage being the equivalent of one minimum wage.¹⁷ Some 60-70% are women and their educational level varies between 4 and 12 years of schooling. Age runs from 18 to 40 and no disabled persons are employed.

3.1.3.3 Financing

The owners of the mini-mills report they do not have enough capital to invest in production. Only Única has used a credit line from the banks where it holds accounts. Access to financing depends on the use of credit, investment or working capital. While there is cheap and accessible financing for setting up mini-mills, access to working capital financing is very rare and this is one of the main obstacles that mini-mills face.

¹⁷ Employees are paid according to production, with the per kilogram values varying according to the processing stage: around R\$ 0,65/kilo is paid to each couple working at cutting; R\$ 0,60/kilo per person is paid to those who work at skinning and R\$ 0,15/kg is paid to each person classifying nuts. These values are defined in such a way that a person with an average productivity level ends up receiving the national minimum wage at the end of the month.

FIGURE 5: EMPLOYMENT IN THE BARREIRA MINI-MILLS¹⁸



the blue line is "with new mills" and the pink line is "without new mills"

With regards to financing for equipment and mill installation, PRONAF¹⁹ offers a special credit line that guarantees very favorable conditions: a guarantor as guarantee, three years grace period, 4% interest and a 25% rebate on the principal if the loan is repaid on time. There are also resources available from the São José Project, which offers up to US\$ 50,000 for associations which present plans for setting up mini-mills.²⁰

There is not much available in the way of financing for working capital. The credit lines that currently exist typically ask for guarantees of up to 130% of the loan's value. Mini-mill owners simply cannot come up with these sorts of guarantees.

¹⁸ The graph presents two sequences, as one of these leaves out two production units (Paulo Rufino and Jeová), which only began operation in January 2005. The inclusion of these two units ends up obscuring some of the sector's seasonal aspects.

¹⁹ The Family Agricultural Project (Projecta Familiar de Agricultura Familiar) offers a credit line subsidized by the government through state banks (*Banco do Brasil* and *Banco do Nordeste*) or savings and loans. This allows farmers to gain credit at interest rates below market values.

²⁰ In 2004, the Banco do Brasil Foundation (Fundação Banco do Brasil) launched a revitalization and installation project for 50 mini-mills in the Northeast. The units would receive financing from the following institutions: (1) CONAB would advance payment to the producer before the harvest and collect subsidized interest at 2% a year, with the producer being obliged to deliver his cashews to a mini-mill; (2) the Banco do Brasil Foundation would furnish investment resources, an extension agent and would also loan producers up to the minimum price for their crop under the conditions established by CONAB; and (3) the Banco do Brasil would offer PRONAF credit to pay for production costs for those producers who had no access to CONAB credit and to associations, which managed mini-mills, in order to finance processing up to 150 tons a year (with a 90-day waiting period between delivery of the nuts and receipt of the sales income).

3.1.3.4 Relationships

The interviews revealed four types of relationships that are important for understanding how impact may take place: (1) the partnership system in purchasing and selling raw cashews, which is in operation between certain mini-mills and producers, (2) the relationship between producers and intermediaries, (3) the breaking and processing services micro-units offer to the exporting mills and (4) the sales made by the exporting units (Bcaju and Única), which sell not only their own produce but also that of other mini-mills.

Relationships between Cashew Producers and Mini-Mills

The relationships between mini-mills and cashew producers vary according to the mini-mill in question. Pa-Rural is the mini-mill that has consolidated the greatest number of relationships with producers, seeing as how many of its associates are cashew producers who bring their produce to the association for processing. In exchange, these producers gain access to courses and preferential use of the association's tractor at a lower price than the market would normally stipulate with payment due during the harvest (which gives them eight months of leeway).

Aside from this, Pa-Rural also promotes several investment schemes so that producers will find it advantageous to sell to them. This practice is also utilized by Única and Bcaju. The producer delivers his nuts to the mini-mill and prices are tallied up only at the end of the year. This gives the mill two or three months to make payment. The producer's advantage is that nut prices traditionally rise over the season and with this form of accounting, they receive the higher final harvest price for their entire production.

This kind of agreement is only possible, however, if the producers have a significant amount of land or are engaged in other activities that permit them to save some money to get through the harvest. Hence, Peixoto's partners are generally medium-sized producers or people with fewer financial limitations due to income flows from other activities. Only these types of individuals can afford to wait until the end of the harvest to receive a higher price. The same applies to Única's direct suppliers.

Other mini-mills acquire nuts through their own production (4 units), small purchases from intermediaries (2), or simply do not buy due to lack of resources with which to acquire nuts, functioning instead as service providers (13). There are also three units in the municipality, which have not functioned for at least two harvests.

Relationships between Producers and Intermediaries

Most producers sell cashews before, during and/or after the harvest to intermediaries. Intermediaries provide services to producers to guarantee their purchases, such as advancing cash (taking a bit out of the final purchase payment in order to pay for the loan), collecting cashews on rural properties and the financing agricultural inputs needed for cashew cultivation. This theme will be further detailed in the section on Producer-level findings.

Relationships between Intermediaries and Mini-Mills

Bcaju, Única and Pa-Rural also buy cashew nuts from intermediaries, particularly after the harvest when processed nut sales are good. Única also buys nuts from producers and intermediaries in Piauí, where the harvest begins in August, two months earlier than in Ceará.

Relationships between Exporting Mini-Mills and other Units

Exporting mini-mills contract the services of another 10 mini-mills in the municipality. The service-providing process functions as follows. The exporting firms buy brute cashews and sends

them to the other units for cutting, soaking and sorting. They then collect this processed material for final quality control and commercialization. Often, payment for these services is only made when the nuts are finally sold, but the exporting firms always advance enough resources to pay for production costs (including labor). Without these partnerships, the service providing units would probably not survive, as their owners do not have the resources to buy raw materials.

Aside from guaranteeing the operation of several service providing units, the three mini-mill leaders channel cashew nut production. The mini-mill owners can receive payment when they turn in their cashews, but in this case the price is discounted because Única assumes a risk with the exchange-rate indexed final price. More commonly, mini-mills only receive cash when an export deal is closed and they then are paid according to that day's exchange rate. There are reports of complaints made by the other mini-mills regarding prices and deadlines for the receipt of payment. Some people claim that Única prioritizes its own nuts when the final sales contracts are particularly advantageous. In some cases, owners of mini-mills report having waited up to six months to receive their payment from the moment they put their nuts up for sale.

Relationships between Mini-Mills and the Big Companies

The mini-mills have no relationship with the big companies. Only the owner of Única knows people within these firms and has some degree of contact with them. He does not, however, conduct commercial transactions with them.

3.1.3.5 Comparison Group

In order to create a baseline for comparison of the supported mills, efforts were made to identify mini-mills with similar employment and productive structures, similar insertion into the international market and that were not the target of a sector support project. This proved impossible, as there are no companies that meet these requirements. First of all, there are few units of similar size that are fully functioning, and of those that are, about half are part of a project developed by the Banco do Brasil Foundation, which plans to refurbish or construct 50 mini-mills throughout the Northeast. Moreover, very few units export.

Nonetheless, data was collected from three mini-mills with relatively similar characteristics to the supported mills: ADECIP, Verde Vale and Cajulinda.²¹ Two of the three do not function in the same state and only one of the three exports.

- **ADECIP** is an association along the lines of Pa-Rural. The mini-mill was in operation between the months of October 2004 and May 2005, processing 250 tons of nuts during this period and employing 48 people. Access to the American client was through an agent in Fortaleza, while the Italian client was contacted through the *Libero Mundo* market solidarity network. The rest of the produce was sold to packers in Brazil.

The unit has enough capacity to process 3000 kilograms per day. After May 2005, the unit returned to activity between August and September, closing once again in October due to lack of raw materials. In the last harvest ADECIP acquired raw materials from some 100 producers and four intermediaries via partnerships and negotiations, which delayed but increased payment, as described above. However, lack of working capital blocked the company from acquiring enough raw material to be able to function for a greater period of time.

- **Verde Vale** is located in Picos in the state of Piauí. It is the property of Chico Bombeiro, whose main business is the sale of dwarf cashew tree saplings. The mini-mill functioned

²¹ A fourth was identified, *Castanha Classe A*, located in Aracoíaba, Ceará, but the owner refused to be interviewed.

throughout the entire year last year, processing some 8 to 10 tons a month. About 80% of the raw materials were acquired through partnerships with producers. Several types of partnerships were employed here, the most common being payment via saplings with a guarantee of technical assistance for up to five years. All other costs (such as pruning the trees) are the producer's responsibility. During the first five years, cashew production from the dwarf trees is split 50/50 between the company and the producer. After this period, it belongs entirely to the producer who may sell it to whom he wishes. This type of partnership is recent, and no one has yet reached the five-year deadline. There are already several cases, however, where producers are happy with the arrangement, and have asked to begin a new five-year agreement by planting a new set of saplings on their property.

This company's overseas market experience is small, Verde Vale has the seventh largest processing capacity among the mini-mills of Piauí at one ton a day, but it is the only one which has been able to function all year long. According to Verde Vale's owner, no mini-mills operated during the 2004 harvest aside from his company and ADECIP.

- **Cajulinda** is located in Barreira and is the property of an associate-founder of Pa-Rural, a man who is also a merchant and an intermediary in the municipality. It was set up in 2001 and uses its own resources to buy nuts from producers and intermediaries. The company sold its production to clients in other states of Brazil. It processes 10 tons of brute cashews per month, selling the nuts for R\$ 15 (5.12) per kilo.

3.1.3.6 Conclusions on Firm-Level findings

The following section offers some preliminary conclusions concerning the cashew sub-sector based on the interviews conducted with mini-mills owners as well as the sector analysis and secondary research.

Access to credit is the primary challenge. The greatest difficulty confronted by the owners of the mini-mills appears to be access to working capital to purchase raw materials. Nearly 85% of the interviewees²² pointed to the lack of working capital as the greatest barrier to the full functioning of their company. Only those processors who have their own cashew plantations avoid this problem. Working capital is crucial in a sector where brute cashews are an expensive and necessary input. The cost runs from R\$ 1.00 to 1.50 per kilo (US\$ 0.34-0.51), depending on the harvest. This, in turn, means that a small production unit of 15 workers needs to turnover some R\$10,000 (US\$ 3,400) per month, an unrealistic expectation given the financial capacities of the processing units' owners.

Even in the cases of larger units that are able to function all year long and that have access to the external market, the lack of working capital is cited as the greatest challenge to business growth. Several orders are left unattended due to lack of produce.

²² Including comparison firms.

TABLE 6: COMPARATIVE DATA REGARDING SUPPORTED AND UNSUPPORTED MINI-MILLS²³

	Supported	Unsupported
Number of interviewed firms	4	3
Processing in the last harvest	780 ton	470 ton
Processing steps ²⁴	3 a 14	1 a 14
Number of firms which exported directly during the last harvest	2	1
Number of firms which exported indirectly during the last harvest	4	1
Value exported (in thousands of US\$)	1,185	110
Number of foreign clients	11	2
Destination markets	USA, Canada, Middle East, Peru/Colombia	USA, Italy
Average export price	US\$ 5 per pound	N/A
Average number of people employed throughout the year	202	66
Origins of the nuts	Producers, intermediaries and other mini-mills	Own production, producers and intermediaries
Origin of resources used to buy nuts	Own capital, financing, partnerships with producers	Own capital, re-invested profits and partnership with producers
Number of firms which sell to internal market	1	3
Average sale price (internal market)	R\$ 14 (US\$4.8)	R\$ 14.2 (US\$4.5)
Number of firms which used credit in the last 12 months	1	0

²³ For the public version of this report, data has been aggregated to preserve the confidentiality of participating and control firms.

²⁴ See section on production.

Market access is a challenge. Access to the market appears to be the second main challenge for the mini-mills. Currently, they export the same product through the same channels as large companies, and thus appear to suffer from disadvantages of scale. Indeed, the greatest portion of exports appears to be concentrated in the hands of a few foreign buyers who dictate the rules of the market and exert pressure on exporters to lower their margins.

Strong management and good relationships between mini-mills and producers are a key ingredient for business success. The success of the mini-mills is strongly linked to their capacity to establish partnerships with cashew producers and, through these, to obtain raw materials. There is not, however, one set formula for successful partnerships. All the units identified that work on their own, whether located in Barreira or somewhere else, have particular characteristics that make their work possible.

The exchange rate is a critical variable. Although not addressed by the questionnaire, interviewees repeatedly referred to the recent changes in the exchange rate as being a threat to their businesses. The Brazilian currency has been undergoing a continuous appreciation for almost two years now. From October 2004 (when the Project began) to September 2005, the value of the real has appreciated 20% against the dollar. This has had a significant effect on the sector's profit margins. Some mini-mills claimed that with the current exchange rate (referring to October 2005), it is not worth exporting. In truth, however, cashew nuts prices are volatile, and for this reason profit margins vary greatly from year to year. The big companies, with their extensive market experience, are more accustomed to and prepared for periods of low profitability. For mini-mills, however, which are only beginning to engage with the external market in a sporadic fashion, such fluctuations are a threat to their permanence within the global market.

3.1.4 PRODUCER-LEVEL FINDINGS

The Project's activities are not designed to intervene directly at the producer level. However, it is expected that (1) increased mini-mill sales of a product with higher value-added for the export market and/or (2) increased mini-mill demand for cashews will result in increased income and production of producers. This assessment adopts a qualitative approach using focus groups and individual data forms to evaluate eventual variations in producer income and production levels that consists of assessing perceptions of the family's economic situation, the relative importance of the cashew-related income in the household, intensity of work and investments in production.

To help understand how and why impact may or may not occur, the focus groups also investigated the power relationships between producers and other actors in the value chain and the perceptions of producers regarding challenges to their sector.

Eleven FGDs were conducted with a total of 100 participants.

3.1.4.1 Profile of producers

In the region studied, cashew nut production is dominated by family farmers. The average age of the cashew producer is 55, which suggests the population in this sector is aging. This is reflective of an overall trend in rural areas in Brazil, as children leave the family farm to work and study in metropolitan areas. The average property size is small, some 8.2 hectares. Households are relatively large, and it is common for extended family members to live and work together producing cashew and subsistence crops.

3.1.4.2 Income

Families perceive themselves as extremely cash poor and, as noted above, rely primarily on government transfers.²⁵ For the overwhelming majority, the principal source of income outside of cashews is a monthly retirement pension of R\$ 300 (US\$ 117) from the federal government, which represents roughly half of participant's total income. Nonetheless, they generally perceive cashews as the main source of household income (and not pension payments).

Farmers suggest that the lack of financial resources is the cause of low productivity, due to lack of resources needed to intensify production, and their high level of dependency on middlemen. Both points will be detailed below.

3.1.4.3 Production

Family members are involved in all production phases, from maintenance to collection/separation. As with most agricultural activity, cashew cultivation is seasonal. Table 7 presents the main stages of the production cycle as they occur throughout the year.

TABLE 7: DISTRIBUTION OF CASHEW NUTS PRODUCTION CYCLE ALONG THE YEAR

Time frame	Jan-Feb-March	April-May-June	July-August-Sept	Oct-Nov-Dec
Activities	Pruning of cashew trees and first cares (mulching, inputs)	Cultivation of subsistence crops: corn, beans, cassava	Harvest of subsistence crops	Harvest and marketing of cashew nuts via middlemen
	Land preparation (elimination of weeds) with tractors or <i>enxada</i>	Pruning and mulching	Clearing of dead leaves from below trees	Separation of cashew nuts from cashew apple; occasional processing of apple (for juice, jams)
			Production of cassava flour with family labor	

October – December are the harvest months and the only period during which cashew production generates revenue. During the other months, the main activity consists of cultivating crops for household consumption, which rarely generates any income. It should be emphasized that although families engage in subsistence farming, production is usually not sufficient to meet household needs. Middleman and small store owners often play a (usury) role in this respect, supplying producers with staple goods on credit, to be repaid in cashews or cash at harvest time.

²⁵ In Brazil, all rural workers over 60 years old (55 in the case of women) have a right to a monthly minimum wage upon retirement as long as they can prove that they have no other source of income.

3.1.4.4 Investment and Intensification

Discussion regarding investment and intensification of cashew production focused mainly on increasing productivity and processing the cashew fruit (and not just the nut).

Most producers are aware of several ways they could intensify cashew production. They mention the need to take better care of existing trees by pruning, treating the soil, fertilizing, and applying “new techniques.” Although they do not know exactly what these techniques are, they are convinced that they exist.

Another is to replace existing trees (*cajueiro gigante*) with dwarf cashew trees (*cajueiro anão*), reputed to produce up to 1000 kg per hectare compared to 150-300 kg. According to the participants, the kernels (i.e. nuts) from dwarf cashew trees are easier to extract and peel. The kernels are less perishable than those from *cajueiros gigantes*, and it is possible to extract more kernels from the cashews nuts of a dwarf tree than the *gigante*. During the extraction process, one kilo of cashew nuts from the *cajueiro gigante* yields roughly 250 gram of kernels, while the dwarf tree yields some 310 grams per kilo. Moreover, pruning the *cajueiro gigante* costs more (R\$15/hour; US\$ 5.1), as the branches are high off the ground, while the cost of pruning the shorter dwarf tree is only R\$12/hour (US\$ 4.1/hour).²⁶

Despite this discourse, few are actually taking these steps to intensify production. They cite lack of financial resources to purchase inputs and insufficient knowledge of innovative production techniques as reasons for not doing so. According to the participants, there are no realistic credit options for producers wanting to invest. While a handful have managed to access the federal government’s credit line aimed at family farmers, PRONAF, they complain of excessive bureaucracy and untimely disbursement. Likewise, participants have not been satisfied with technical assistance from agricultural specialists (from institutions like EMATER-CE, *Banco do Nordeste*) whose job is to orient producers. The few that have had some contact with these specialists have been unhappy with the service, complaining of misinformation and total absence of follow-up.

Numerous participants mentioned that processing the cashew fruit (and not just the nut) to produce other by-products such as juice or jam could also improve the situation of producers. Nonetheless, they lack the resources to do so. A few participants felt mini-mills could develop this activity, to the benefit of all.

3.1.4.5 Relationships with Other Actors in the Value Chain

The main actors in the sector value chain are producers, middlemen, processors (mini-mills), exporters, importers/distributors, roasters, and end consumers. The participants have direct contact with the middlemen and processors.

Relationships between Producers and Middlemen

The relationship between the producers and middlemen is central to cashew production and is characterized by dependency. Indeed, the overwhelming majority of producers in the region sell their production to middlemen. Many sell production even before the harvest, because they need money for food, agricultural inputs or an emergency. The majority of the participants say they would prefer to sell to mini-mills, because at least they generate local jobs and income. However, mini-mills do not pay higher prices than the middlemen and are not always able to pay up front. Since producers consider up front

²⁶ One producer, however, said that it is a “false debate” to compare the *gigante* and dwarf trees: the main problem is producers do not care for their trees well, which he estimates decreases productivity by 30%. An in-depth technical study is necessary in order to establish whether it is advantageous to substitute dwarf trees for *gigantes*, and under what conditions.

payment the most important attributes for selling production, they end up negotiating with middlemen. Moreover, mini-mills do not have the capacity to lend producers money when in need.

In most cases, the middleman does not fix a price to buy cashews in advance. He simply lends money (at 10% interest per month) and has the guarantee that the producer will sell to him. Producers are a double disadvantage; in addition to paying high interest rates, they are forced to sell production at the price the middleman/moneylender sets. Small shop owners are also middlemen: producers buy merchandise on credit prior to harvest time, and once the cashews are collected, are obliged to pay back in produce. Sometimes, the producer does not even know for how much he is selling.

Middlemen collect the harvest directly from the farm, which the producers consider to be an advantage, since it relieves them of having to find a way to transport their harvest. The relationship with middlemen also provides some stability, since middlemen return to the same regions year after year. Further, producers are well aware that the totality of their harvest will be purchased, as middlemen pay one price only, regardless of quality.

Overall, however, the relationship between producers and middlemen is highly asymmetrical, with few advantages for the producers. Middlemen possess market information, the power to establish prices, determine time of purchase and define conditions for reimbursing loans. The producers consider them a “cancer,” and attest to feeling exploited, but have no alternative for selling their production.

Relationships with Mini-Mills

None of the participants sell to mini-mills. Based on informal discussions outside of the focus groups, however, it appears that the relationship between mini-mills and producers is characterized by higher standards of quality. Mini-mills pay more attention to the quality of nuts, although this is not reflected in the price they pay to producers, as the price is established by the large companies that process and export nuts.

3.1.4.6 Perceived Problems

Lack of credit. Producers deem lack of financial resources their primary problem. Banks ask for real guarantees that they are unable to provide, and the credit lines that do exist for producers of their economic status usually end up disbursing the loan after the harvest.²⁷ Lack of capital prevents producers from intensifying production, while at the same time pushing them into exploitative and dependent relationships with middlemen.

Insufficient capitalization of mini-mills. Many producers feel mini-mills have the potential to strengthen the producers’ situation by offering an alternative to middlemen and developing by-products, but realize that they do not have the working capital to pay producers up front or make loans.

Stocking cashews. In September of the last harvest, the participants sold production for an average of R\$ 1,20/kg (US\$0.4/kg). This price goes up as the harvest comes to an end, and reaches R\$1,70 - R\$ 1,80 (US\$ 0.58-0.61) in the months of March and April. Participants have divided opinions with regards to whether it is worth it to stock nuts and sell them post-harvest. Some consider it worthwhile, but do not because their financial needs are too pressing. Others argue that even if they could, they would not because the nuts lose their weight over time, and this does not compensate the price difference.

Lack of quality. Some producers claim that they are the ones who are the most hurt by lack of quality control, because this insures that the market price is always set to the lowest common denominator, as if it were only low quality nuts which were being traded. Because of this when selling to middlemen, no one

²⁷ The value chain analysis carried out as part of the Project’s intervention identified bad credit history as the main reason producers cannot access credit. This was not mentioned in focus groups.

separates out the good quality nuts from the bad. Often times, producers will add water and sand to the sacks to increase weight, as the middlemen do not verify. Only one participant pointed out it was in the interest of the producers to select nuts, since bad quality nuts could ruin their reputation and that of the state of Ceará, an assertion he had heard from the local rural producers' union representative.

Lack of technical assistance. Many producers express frustration regarding the lack of regular technical visits. They believe the government should be providing more assistance to family farmers. Many producers feel creating a cooperative or strengthening mini-mills could provide a solution to most of these problems. They cite lack of organization, unity and courage as obstacles to founding a cooperative.

3.1.4.7 Conclusions of Producer-Level Findings

This section offers some conclusions regarding the producer-level findings and their implications for the Project.

Excessive concentration of power in the hands of the middlemen. Because of the excessive power of middlemen, it may be difficult to transmit an eventual price increase from the buyer side down to the producer. The power of middlemen is pervasive, namely due to their money lending activities. While enabling the mini-mills to purchase production in cash by facilitating access to credit lines (as the Project intends) may diminish the stronghold of intermediaries, it may be difficult to decrease producers' dependency on these actors.

Indiscriminant pricing of good and bad quality cashews is hurting producers. The quality issue has implications for the Project in that it could eventually pose a risk to the cashew sector in Ceará. The fact that middlemen pay no attention to quality leads the producers to ignore the selection process and "traffic" (adulterate) the nuts they do sell by added sand, dirt and water to increase weight. In the long run, it is possible this will have an impact on the sector as a whole, as one participants indicated, since the state of Ceara could earn the reputation as producing poor-quality cashews. Furthermore, the lack of consideration for quality provides no incentive for producers to improve agricultural techniques, some which can directly affect the quality of nuts.

Cashew producers are extremely cash poor. This finding has implications for the Project because increasing the producers income requires either (1) increasing the value-added of cashews, to increase the price of the product or (2) increase the quantity sold via an increase in productivity, both of which require investment that producers are incapable of making. With regard to the former, valued-added could come from certifying organic,²⁸ a process which producers report comes with a cost. With regards to the latter, the only alternative is to improve agricultural techniques, which again requires investment in fertilizers, seedlings and tractors (to improve soil conditions). The producers do not have the resources to make these investments.

Mini-mills are perceived positively by most participants. This finding is good news for the Project. If the participants know the mini-mills are being assisted, it is likely they will make efforts to prioritize relationships with them rather than the middlemen when the situation permits (i.e. when they are not obliged to deal with the middleman for moneylending reasons).

²⁸ Another way of increasing value-added would be to select high quality nuts, but the governance in the value chain is such that an increase in price of high quality cashews sold to big industry may not necessarily trickle down to the producer level.

3.2 HONEY

The Project's second intervention focuses on the honey sector. More specifically, the Project is supporting an association of bee-keepers in their attempts to increase exports. This association is known as AAPI, and it is located in the municipality of Simplicio Mendes in the state of Piauí.

AAPI was selected for intervention because it is well structured and organized and has already begun to export its produce. It also participates in a market that is characterized by increasing competition and falling prices in relation to historic levels achieved in 2003. Even though demand perspectives are not considered to be encouraging, the association was chosen for intervention because the opening up of honey exports may present an alternative for the many other honey producing associations and cooperatives spread across the Brazilian Northeast.

The activity arrived in the Northeast by the end of 1970's and has proved to be viable in the poor and semi-arid regions of the Northeast. A window of opportunity was opened in 2003 when China and Argentina, the two world production leaders, were removed from the market due to sanitary problems and anti-dumping measures. The absence of these two countries led honey prices to triple in 2003, stimulating the emergence of new producers on the global market, including new northeastern small producer associations. The new producers contributed to increase the world supply which, together with the gradual recovery of China and Argentina, has brought world supplies of honey back to their original levels and the price back to US\$ 1.00/kg in 2004.

With the increase in supply, new challenges emerged for the Northeastern associations and cooperatives. But one can argue that the main challenge faced is related to marketing. Market access is restricted for the Northeastern co-ops. Though they possess a processing infrastructure, they do not export and instead sell almost all of their production to larger companies that have better access to external markets. This occurs because the co-ops generally do not have a production infrastructure that allows them to bring their product up to international standards²⁹ and also because they simply do not have information regarding global commerce. Some co-ops have tried to sell packaged honey on the internal market, but this has so far been only a small fraction of total sales.

Based on this context, the Project seeks to make the export of jarred honey a viable option in order to increase sales of higher value products and decrease producers' dependency on fluctuations in the price of honey as a commodity. This presupposes a series of activities, of which increasing product quality to meet international market standards is the most important, along with the search for clients ready to buy jarred honey. Other interventions are planned that involve increasing producer's productivity, accompanied by the use of new financing lines and supervision of deliveries in order to insure that the honey is properly delivered to customers. The main activities of the Project are listed below:

- Introduce new production techniques to improve productivity.
- Assess and improve product quality.
- Adjust packaging and labeling.
- Advise AAPI to manage PRONAF and PROINCO investment.
- Find new market channels.
- Search for distributors of packed honey.

²⁹ The two main co-ops in Picos – CAMPIL and COOAPI – were not able to profit from good market conditions in 2003 because they did not have their international SIF, a certificate issued by the Ministry of Agriculture which guarantees that the sanitary criteria for export have been met. Both co-ops were certified in 2004.

- Monitor and troubleshoot production to ensure on-time delivery.
- Monitor and support order fulfillment.
- Follow-up with buyers.

The goal, results and desired impacts of these activities are presented in the causal model found in Table 2.

Based on these objectives, the parameters selected to measure the Project's success on the level of AAPI are the following: (1) increase in production (through increases in productivity verified at the producer level); (2) improvement in the honey's quality (humidity and HMF); (3) increases in the value and amounts of honey exported; (4) increases in the number of clients/sales channels; (5) increases in the types of products exported; (6) increase in the average sales price of honey; and (7) increase in the number of AAPI's employees.

The values of these baseline indicators are listed in Tables 9-11. Many of the impacts of the honey sector project will be felt directly at the producer level, as producers belong to an association that passes along all price variations directly to them.

3.2.1 DESCRIPTION OF THE VALUE CHAIN

Production of honey follows more or less the same process for both large- and small-scale producers and processors. Production is based on the distribution of beehives in areas near flowering species of wild native vegetation or cultivated flowering species. As soon as flowers bloom, bees begin to produce honey, and when the cells of the combs are finally shut³⁰ the bee-keepers remove the comb frames from the hive. Honey extraction is undertaken by hand or via centrifuge. Honey extracted in this first manner is called "pressed honey," and it is generally hygienically compromised by residues. The better way to separate honey is via a centrifuge, which is generally installed in what is known as a *casa de mel* (honey houses)³¹ or in producers' homes.³²

After centrifuging, the honey is placed in a decanter to "rest." It is then purchased by intermediaries or employees of big companies who collected in the communities by truck and brought to the big companies' processing outposts. In the case of those producers who belong to cooperatives, honey is collected in the cooperative's *casa de mel* and later taken to their own processing facilities, where these exist, or sold to big companies' processing units.

Inside the processing units, the honey is filtered, decanted (e.g., all impurities are removed) and homogenized.³³ Once processed, the honey is packaged for sale. Most of it is destined for foreign markets in 280kg drums. The main clients for this sort of product are food industries or reprocessors who blend honey from several different countries according to consumers' tastes. After reprocessing, the honey is divided into smaller units and distributed for wholesale.

³⁰ The bees close the combs' cells with a thin layer of wax and when this occurs, it is an indication that the honey is mature and can be collected. Beekeepers verify whether the cells are closed by color.

³¹ Small installations generally located in honey producing agricultural communities

³² In this case, the centrifuge is own by a large producer or by a group of small farmers

³³ Homogenization is necessary in order to obtain a stable honey quality and it generally involves mixing honeys from several different origins and producers.

The principal actors in this value chain are thus the producers or bee-keepers, intermediaries, honey cooperatives, big companies and importers and honey reprocessors.

Honey producers can be divided into small, medium and large sized according to the number of beehives they possess. Though there has not yet been a systematic and reliable study of how many bee-keepers there are in each of these categories, it is estimated that small-scale producers dominate in all the main honey-producing states. According to a sector specialist, a beekeeper with up to 100 hives is considered to be a small producer while one with anywhere from 100 to 300 hives is medium-sized. A beekeeper with more than 300 hives is considered to be a large-sized producer.

Small Northeastern producers face productivity problems. Productivity is low due to underdeveloped techniques and inadequate maintenance of the hives. In addition, small producers are generally poorly trained in separating honeys produced from different flowers. Thus, most of the honey produced in the Northeast can only be sold as a multi-floral variety even though it is estimated that in some cases, such as Picos and Simplício Mendes region, more than 70% of production comes from one flower alone (the marmeleiro). This is a distinct disadvantage as multi-floral honey has a lower commercial value than mono-floral brands, with these varieties receiving prices 10% to 15% higher than those made from multi-floral types.

Bee-keepers sell their produce to intermediaries, cooperatives or to agents of the bigger companies. Sales options vary from region to region and depend on the amount produced. Larger producers tend to have direct access to industry outposts while smaller producers sell to intermediaries or cooperatives, where these exist.

Intermediaries work for themselves, linking small producers to the processors. Generally, the industry sets a purchase price and then finances intermediaries to buy raw materials. Based upon this price, the intermediary establishes his own purchase price and attempts to extract the highest profit margin possible. Intermediaries do not perform any sort of quality inspection and tend to buy all the honey available. They are thus the largest purchasers of pressed honey. The typical intermediary is also the owner of a small store where he can buy honey with foodstuffs and other basic supplies, stocking it up until he has enough to send on for processing.

In order to better organize purchasing, the big mills also send their agents into the producing regions to buy honey during the harvest period. These generally do business with intermediaries, medium- and large-scale producers.

There are some 15 **large honey processors** in Brazil, and most of them are concentrated in the country's South and Southeast regions. The large processors are the main purchasers of honey in all regions of the country.

These companies function vertically, organizing everything from honey production³⁴ on up through processing and sales. The main sales channels Brazilian processors utilize for their honey are the large foreign importers and reprocessors, who buy bulk honey and bring the product up to the standards of local packagers. In some cases, sales are made directly to the packaging industry itself.

Those processors that are able to sell honey already packaged for final consumers to foreign markets use arrangements with trading firms, which specialize in alternative markets. These sales are generally limited in volume. The biggest exporters have avoided selling pre-packaged honey to those markets that buy their bulk product in order to avoid competing with their established contacts and thus risking retaliation, seeing as how these importers are also generally selling to packagers in their country.

³⁴ They usually produce some of their own raw material, although most is bought from other producers.

Producer cooperatives acquire a significant portion of the honey available for processing, although most producers also sell honey to big processors via buyers.

The co-ops generally maintain *casas de mel* in agricultural areas and a central processing unit. The cooperative offers a purchasing and processing infrastructure and also certain services such as transport and the cheap sale of pre-formed wax honeycombs³⁵ and packaging. They do not, however, have exclusive access to the honey of their associates. Not all co-op members sell their produce to the cooperatives and these, in turn, acquire honey for processing from both members and non-members. Often, co-ops are not able to compete with intermediaries because the latter tend to pay producers quicker than co-ops do.

According to cooperative managers, cooperatives' main role is to guarantee a minimum level of organizational structure for the producers and to provide an alternative sales channel to the intermediaries. They thus exercise an important influence on honey prices and assure that small producers will be remunerated for their labors.

Importers and reproducers possess most of the power in the honey value chain. Importers acquire honey from several different countries, reprocess and homogenize it through mixing, and deliver it to the packagers who, in turn, use food product distributors to put the honey on supermarket shelves.

After describing the main actors and processes involved in the value chain, the next section details the case supported by the Project, describing briefly its history and organization features. Next the findings at the firm and producer level will be described in some detail. Both sections will be concluded with a summary of key findings from the baseline research and their implications for the Project.

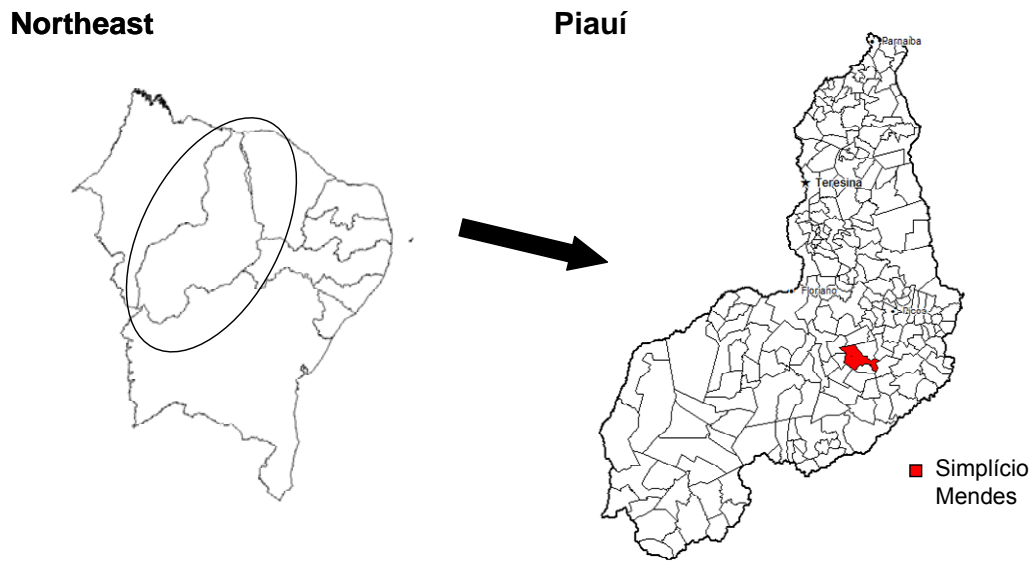
3.2.2 THE CASE

The *Associação dos Apicultores da Micro Região de Simplício Mendes*, more commonly known as AAPI, is located in the municipality of Simplício Mendes in Piauí, a municipality of some ten thousand inhabitants situated 416 kilometers to the south of the state capital Teresina.

AAPI was founded in 1994, but its story really begins in 1989, when Father Geraldo, the representative of the Catholic Diocese based in Floriano (the region's main municipality), began social work in order to improve the life conditions of the region's inhabitants.

³⁵ These are wax sheets pressed with honeycomb cells. They are placed in the hive and the bees deposit their honey in them. Because they are ready-made and are uniform in size and shape, beekeepers can increase honey production by up to 100 percent by using these preformed combs.

FIGURE 6: LOCATION OF SIMPLÍCIO MENDES



Originally Father Geraldo thought of supporting honey production as a foodstuff; only later did it come to be seen as a source of income. Hive distribution began in 1989 in three communities. The Father gave each group of producers between three and eight hives, which were to be paid for with profits from honey production. If there were production downturns, the debt would be carried over to the following year. At the same time, the producers received technical assistance and training in honey production. As the project prospered, new hives were distributed to both old and new producers.

However, with the success of the project came the need to commercialize the fruits of its production. As producers continued to develop the new activity, production increased and soon the community was not able to absorb the entire production. The idea of creating AAPI was thus born. This entity would be responsible for selling the honey produced by its members.

The association's infrastructure was set up in 1994 with resources from Father Geraldo's Sagrado Coração de Jesus parish. Originally possessing 125 associates, AAPI now has 930 members, though only 630 of these are involved in bee-keeping. The remaining members work on other projects developed by the association, including the raising of goats, sheep and chickens.

AAPI functions like other honey co-ops, except it does not buy its producer's honey and it cannot collect and distribute profits. Producers turn their honey over to the association which pays them once the honey is sold based on the sales price, minus a small discount for processing fees. Because of this, any variation in honey prices is immediately passed along to the producer.

3.2.3 FIRM-LEVEL FINDINGS

This section describes AAPI. As the objective of this study is to compare AAPI's performance with that of other honey cooperatives, this section also presents the same data for two other honey cooperatives (CAMPIL and COOAPI), also located in Picos, Piauí. This region is responsible for over 60% of the state's honey production. The choice of these two co-ops as a basis for comparison is justified by the fact that, together with AAPI, they are the three main agglomerations of honey producers in the South of

Piauí. There are other small honey associations throughout the state, which bring several different kinds of producers together, but they present a very unstable level of performance.

As Table 8 shows, there are structural differences among the three entities studied here, above all in terms of the number of members and the average size of their production. All AAPI associates are small producers while CAMPIL principally contains large and COOAPI medium producers.

	AAPI	CAMPIL	COOAPI
Year of establishment	1994	1985	1995
Number of members	930 (630 bee-keepers)	98	96
Number of hives	7,000	35,000	15,000
Average number of hives per member	11	357	156
Number of honey suppliers	610 (all associates)	268 (68 associates)	100 (20 associates)

As laid out in the framework for studying impact in Table 4, the areas of impact for analysis at the exporting firm level are (1) exports, (2) employment and (3) access to credit. In addition to presenting the findings with regard to these three areas, this section describes findings concerning relationships between AAPI and other actors in the value chain considered key for understanding the channels for transmitting impact. The data presenting the parameters selected to measure Project success at the level of cooperatives for both AAPI and the two other cooperatives is summarized in Tables 10 and 11.

Before mentioning the export profile of AAPI, it is worth mentioning some details of its production capacity and the quality of honey produced. Although the honey prices are fixed as a commodity, and while the key factors involved in honey purchasing vary from country to country, they are always based on rigid quality standards regarding characteristics of the product, such as color, flavor, humidity, HMF (hexametilfurfural) and crystalline deposits. Thus it is important to assess the initial characteristics of the honey produced by AAPI in order to evaluate whether improvements have been made for the commercialization of jarred honey.

3.2.3.1 Production

AAPI's role in honey production begins with product collection in the *casas de mel* located in the communities. AAPI has two trucks that it sends out to pick up honey when local associations report they have enough to send in. The trucks take the honey to AAPI's processing center located in Simplício Mendes. There, it is filtered, homogenized, decanted and packaged for sale, either in barrels, which are either headed for the external market, or in flasks and sacks of 120, 250, 500 grams or 1 kg.

AAPI recently acquired a dehumidifier, but this is still being tested and has not been used in operations yet. The dehumidifier is necessary, seeing as how the region's hot climate raises the honey's humidity. It is hoped that the new equipment will reduce humidity levels, which are currently around 18-20%.³⁶

³⁶ The limit for the international market is 18.6% for industrial honey, but levels of 14-16% are insisted upon for honey sold to final individual consumers for personal use.

Another necessary change that has not yet occurred is an air-conditioned warehouse. The current storage area is not air conditioned, thus the honey's HMF levels (quite low at time of collection) increases drastically during storage. A sample taken in October showed an HMF level of 90 degrees, while the maximum level accepted by the international market is 10 degrees, with most importers demanding six.

The association has a processing capacity of 300 tons a year, but only used 120 tons of its capacity in 2005 and half that in 2004. About 70% of the honey is light colored and another 30% is dark, while the entire production is classified as "multi-floral."

Aside from processing honey, AAPI also produces wax sheets. These are produced more as a service for associates than as an income-generating product in their own right. Producers receive 70% of the weight of the brute wax they deliver to AAPI in wax sheets.

Table 9 presents AAPI's production data together with that of the other two cooperatives under analysis. AAPI's production capacity is less than that of the other two companies, and the honey it produces is the same quality overall, although AAPI extracts a higher percentage of light-colored honey.

	AAPI	CAMPIL	COOAPI
Honey processed in 2005	120 tons	300 tons (up to September)	180 tons
Maximum annual processing capacity	300 tons	1500 tons	500 tons
HMF in July	20 mg/kg	15-20 mg/kg	10-15 mg/kg
Humidity	18-20%	19-19.5%	19.5-20%
Percentage of light-colored honey	70%	50%	50%

3.2.3.2 Export

Analysis of AAPI's buyers detailed in Table 10 reveals that the association's market access is still quite restricted. It has only two clients in the external market and two in the internal market, aside from sporadic sales of individually packaged honey on the internal market. AAPI's exports are entirely bulk, and is not certified organic, even though it is produced organically. The co-op would like to export pre-packaged honey, but it lacks the necessary information and infrastructure to do this.

AAPI has only recently entered the foreign market. Its first exports were sold in 2002 to the fair trade NGO, Libero Mundo. Because it is a fair trade buyer, Libero Mundo pays a small premium on the honey it purchases, which in 2004 amounted to some 18% more than what other buyers were willing to pay. Its demand is low, only amounting to one container (19,600 kg) every two years.

In 2003, AAPI began to sell to the North American company Mel-O, which today buys up about 80% of the association's production. Mel-O is a reprocessor and packager located in the United States. It buys honey from several producers throughout the Americas, including Brazil, filtering, mixing and homogenizing everything it buys. After reprocessing, the honey is divided up, packaged and sold to supermarket chains or put into drums and buckets and sold to the food industry or bakeries.

This small number of clients is the result of AAPI's structure: no one in the association is responsible or trained for seeking out new markets and clients. Analyzing the history of the association's contracts and the way in which it has contacted purchasers, it can be observed that AAPI has traditionally adopted a very passive posture when it comes to finding clients. Contact with the two importers was completely serendipitous and in both cases the impetus came from the buyer.³⁷

TABLE 10: AAPI'S BUYERS AND SALES

Buyer	Position in the Sales chain	Quantity purchased (kg)	Type of product	Price received	Sales revenue in R\$
2004					
Mel-O	Importer	57,960	Bulk	US\$ 1.60	R\$ 343,040
Libero Mundo	Italian Fair Trade Network	19,320	Bulk	US\$ 1.89	R\$ 157,910
Mel do Sol	Brazilian processor	14,000	Bulk	R\$ 5.60	R\$ 78,400
Others	Diverse internal market clients	3,645	Packaged	R\$ 4,8	R\$ 17,529
Total		94.925			R\$ 596.879 (US\$ 203,713 ³⁸)
2005					
Mel'O	Importer	98,000	Bulk	US\$ 1.05	R\$ 240,000
Pão de Açúcar	Brazilian supermarket chain	1,200	Packaged	R\$ 10.00	R\$ 12,000
Ativa Vida	Brazilian processor	2,500	Bulk	R\$ 2.35	R\$ 5,875
Others	Diverse internal market clients	5,000	Packaged	R\$ 5.00	R\$ 25,000
	Stock	10,000	-	-	-
Total		115,700			R\$ 282,875 (US\$ 109,950 ³⁹)

Aside from its small number of clients, the association has encountered difficulties in selling value-added products. All of the association's bulk honey exports are bought and treated as if they were raw honey, even though they are processed.⁴⁰ Initiatives to export jarred honey have never been conducted, but the association has experience in selling more value-added honey in domestic markets.⁴¹

³⁷ Contact with Libero Mundo was made via the Lindolfo Silva Foundation, which introduced family farmers to Italian NGOs involved in promoting fair trade with Brazil when NGOs visited the country. In turn, contact with the North American company Mel-O was made through a Brazilian employee of the company who was vacationing in the country and saw a newspaper report about the association's participation in a commerce fair in Fortaleza.

³⁸ Based on an average exchange rate of R\$ 2,93/US\$ in 2004.

³⁹ Based on an average exchange rate of R\$ 2,57/US\$ for the first semester of 2005.

⁴⁰ Mel-O puts the honey through all stages of processing once it reaches the U.S necessary given that it acquires several different honeys from diverse producers and it must all be evenly mixed and processed to homogenize its properties.

⁴¹ Up until 2003, the greater part of its production was sold on the internal market as jarred honey. But price increases that year made honey too expensive to sell in stores in Brazil and many stores thus stopped buying it. Though prices have returned once again to a normal level, the wholesale honey market in Brazil is now complicated by increased competition.

The difficulties involved in exporting pre-packaged honey are reflected in the experiences of other companies involved in the sector. Neither CAMPIL nor COOAPI directly export. All their production is sold to large companies within the sector which take care of exports.

All the companies studied here saw honey prices drop between 2004 and 2005. The fall in international prices and the increase in the value of the real made the prices COOAPI received fall by half (from R\$ 4.00 per kilo in 2004 to R\$ 2.00 per kilo 2005). AAPI's honey, meanwhile, lost 37% of its dollar price, or 44% of its real price.

TABLE 11: AAPI, CAMPIL AND COOAPI HONEY PURCHASER

	AAPI	CAMPIL	COOAPI
Foreign clients	Mel-O, Libero Mundo	-	-
Brazilian clients	Pão de Açúcar, Ativa Vida, small buyers of pre-packaged honey	Realeira, Lambertuci, CEARAPI, Apiário Isis, Superbom, Nutricenter, Mina'Mel, Apiários Integração, small buyers of pre-packaged honey	CEARAPI, Floema
Average sales price in 2005 (R\$ per kg)	R\$ 2.76 (US\$ 1.07/kg) ⁴²	R\$ 2,40 (US\$ 0.93/kg)	R\$ 2.,00 (US\$ 0.78/kg)
Average sales price in 2004 (R\$ per kg)	R\$ 5.00 (US\$ 1.70/kg) ⁴³	n.a.	R\$ 4.00 (US\$ 1.55/kg)

3.2.3.3 Employment

AAPI regularly employs few people including three workers who conduct the processing and a financial manager. During the harvest, between the months of January and April, another eight employees are hired for processing and packaging.

Another two people regularly work for the association: Anchieta e Paulo José. Their salaries are paid by the Brotherhood of São Francisco de Assis, an NGO created by the Father in 2004 in order to raise funds for and invest in the association.⁴⁴ Their job is to accompany all the productive activities the Brotherhood supports. The two men play an important role in the association's operations, accompanying activities in the communities through regular visits where they pass along information, teach production techniques and educate producers.

CAMPIL employs seven full-time workers and another three between January and July.

COOAPI employs six regular workers and another four during and after the harvest months (February to July).

⁴² Based on an average exchange rate of R\$ 2,57/US\$ for the first semester of 2005.

⁴³ Based on an average exchange rate of R\$ 2,93/US\$ in 2004.

⁴⁴ The Brotherhood's creation was necessary in order to continue to attend to the 21 communities and eight municipalities covered by the project because the parish's area of responsibility was cut in half. This meant that Father Geraldo had to relocate to the municipality of São Francisco de Assis do Piauí.

3.2.3.4 Financing

Donations are the main source of finance to AAPI and the associated producers. Its equipment, which is assessed at R\$ 150,000 (US\$ 51,200) (not counting physical infrastructure) was bought with donations from Father Geraldo's *Sagrado Coração de Jesus* parish,⁴⁵ São Francisco Valley Development Company (CODEVASF) and the Program for Combating Rural Poverty (PCPR) of the World Bank.

Father Geraldo's *Sagrado Coração de Jesus* parish⁴⁶ is by far the main donor. It has financed the *casa de mel* infrastructure, equipment, work clothes and hives to beekeepers. *Casa de mels* are the only investment entirely subsidized, as the resources are donated by the Parish. All the other investments must be repaid within three years, without interest. In addition, this year, for the first time, Father Geraldo furnished AAPI with working capital by advancing some 60% of the honey's sale price so that the association could pay something to the producers on delivery of the honey for processing, with the rest being paid after sales.

AAPI is in advanced negotiations with the Banco do Brasil in order to acquire an agricultural familiar credit line (PRONAF) for bee-keepers and sheep and goat herders. Direct financing will be given to the producer to be used for new beehives, the maintenance of old ones (for feeding) and/or maintenance of beekeeper's families during between harvests.

AAPI has also begun negotiations with the national development bank (BNDES), using SEBRAE-PI as an intermediary, in order to access a PROINCO credit line that finances loans to associations. The proposal will be transmitted to the BNDES with no provision for when or whether it might be approved. If the proposal is accepted, the association will receive around R\$1.5 million (US\$ 613,000⁴⁷) in loans from the BNDES and another half million in loans from SEBRAE.

CAMPIL and COOAPI were set up with donations and financing from the National Fund for the Development of the Northeast (*Fundo Nacional de Desenvolvimento do Nordeste* (FNE), financed by the *Banco do Nordeste*. COOAPI set up its structure with resources from the FNE obtained in 1997 which financed the processing plant, equipment and truck and allowed for some resources to be passed along to bee-keepers in the form of the purchase of around 150 hives each and equipment for the *casas de mel* (table, centrifuge and decanter).

TABLE 12: ORIGIN OF THE RESOURCES USED IN SETTING UP THE THREE ENTITIES STUDIED

	AAPI	CAMPIL	COOAPI
Origin of resources	The Brotherhood PCPR CODEVASF	<i>Banco do Nordeste</i> Banco do Brasil	<i>Banco do Nordeste</i>

⁴⁵ Most of the parish's resources, in turn, were obtained by Father Geraldo on his frequent trips to Germany where he has presented the project and raised money on its behalf.

⁴⁶ Currently, the role of donor and program development is played by the Brotherhood of São Francisco de Assis.

⁴⁷ Based on an average exchange rate of R\$ 2,45/US\$ in 2005.

Neither AAPI nor the other cooperatives is sustaining. In the case of AAPI, production costs this year were higher than total sales, with the difference being made up by the Brotherhood. Operational costs are estimated at R\$1.00 per kilo of honey, which, when added to the price paid to producers for the raw material (R\$2.00 per kilo), is higher than the sales price for exported honey in 2005 (US\$ 1.05) when this is converted according to the exchange rate of April of that year (R\$ 2.58/US\$), the month which the goods were delivered.

CAMPIL and COOAPI make about R\$ 0.20 (US\$ 0.08) on each kilo of honey sold, which is not enough to pay for their operations. According to the president of COOAPI, it would be necessary to double sales in order to meet costs. Up to now COOAPI has covered its losses with profits obtained in 2003 and 2004 when honey prices were higher. However, if prices stay at the current level, the future of the cooperative is bleak.

3.2.3.5 Relationships

AAPI is relatively isolated from the other actors in the honey value chain. The association does not deal with middlemen or with the big producers. Even though the association is a member of the FEAPI, contact with the region's other cooperatives is based on personal contacts and through occasional sales to processors and other co-ops. AAPI only deals with the 21 community associations that are part of the Project, and it only buys honey from producers who are members of these associations. Many small and medium-sized producers have tried to associate themselves with or sell to AAPI, but as they do not belong to any association, nor wish to, they have been refused. These producers end up selling all their production to middlemen.

AAPI relates to CAMPIL and COOAPI with greater frequency due to the fact these two associations are located in Picos, the region of the state that produces the most honey. Contact is generally made through Federation of Bee-keeping Entities of Piauí (*Federação das Entidades Apícolas do Piauí* (FEAPI)), whose president is also the president of CAMPIL.

3.2.3.6 Conclusions of Firm-Level Findings

This section offers some preliminary conclusions concerning AAPI based on the interviews conducted with AAPI staff as well as the sector analysis.

The product does not meet international sales requirements. Though AAPI already exports most of its production, its honey still needs to be brought up to international standards, principally with regards to its HMF and humidity levels. Initiatives like the purchase of the dehumidifier and the attempts to stabilize the warehouse's climate should improve these characteristics.

This is an important finding for the Project, in that without product improvement, it will be impossible to sell jarred honey. Lower-cost bulk sales to processors will continue to predominate

AAPI has little experience in the global market. Since it began exporting, AAPI has only had two clients and neither of these was contacted through the association's efforts. This indicates that the association has little experience with foreign markets and could face problems that confront new-comers to export, such as difficulties with negotiating with clients, delivery delays and the non-fulfillment of orders.

As such, the Project should pay particular attention to not only acquiring new buyers but ensuring that these new orders are filled. It is also necessary to take some care in the manner in which these negotiations are conducted so that at the end of the Project they can continue to be carried out by someone within the association or by a third party who could carry out this task for a commission.

Apiculture is characterized by high price volatility. Given the fact that the product is currently sold in commodity form, the association is very vulnerable to price swings on the international market. Between 2004 and 2005 alone, dollar prices fell by 37%, although it is now believed that they have achieved a stable, normal level. The price fall in the real is even more accentuated since Brazilian money has been undergoing a continuous appreciation for almost two years now. These two negative factor (fall in international price and exchange rate appreciation) is contributing to a significant reduction in the association profit margins.

These price variations may discourage producers from investing in apiculture, especially if they are new to the activity. This lack of investment may result in the producers not implementing new bee-keeping techniques or acquiring new hives, which would have direct implications for AAPI's production levels.

The current success story has been the result of administrators' perseverance and the work of many years. AAPI is today a very organized and structured association, which is the fruit of more than a decade's work undertaken by a small group of local people who are extraordinarily committed to making the association work.

This implies that AAPI's experience will be a difficult one to replicate as it is due to the efforts of a small cadre and, more specifically, Father Geraldo and Anchieta. Aside from this, its success and expansion are strongly dependent on the Father and the resources of the Brotherhood, and it is doubtful whether the association could maintain itself in their absence.

AAPI, like the other cooperatives, is not sustainable. Analysis of the association's operational costs and sales prices reveals that at current price and exchange levels, the association will eventually fail. The high production costs are due to AAPI's extensive geographic spread, given that it covers 21 communities in eight municipalities. In addition, there are costs (such as staff salaries) currently paid for by the Brotherhood and thus not accounted for by AAPI.

This implies that the Project needs to support AAPI in seeking ways to increase producers' productivity and find new sales channels which offer more attractive prices, as there is little that can be done to restructure costs. At the current stage, it is not recommended that production be expanded into new communities as this will only increase logistical problems.

3.2.4 RESULTS OF PRODUCER-LEVEL FINDINGS

The Project intervention in the honey sector aims to increase income of the bee-keepers who are members of AAPI by introducing new production techniques to improve productivity and product quality.

This assessment adopts a qualitative approach using focus groups and individual data forms to evaluate eventual variations in producer income, production levels and technical knowledge that consist of assessing perceptions of the family's economic situation, the relative importance of the honey-related income in the household and intensity of work (see Table 4).

This section summarizes the results from eight focus group discussions with a total of 60 bee-keepers in the region of Simplicio Mendes in October 2005. The participants were selected based on their connection to AAPI. Both men and women were invited.

3.2.4.1 Profile of Producers

The average age of the producers interviewed was 40, and most have not completed primary education. Many were born in the municipality they currently live in, and a handful come from surrounding municipalities. The majority owns their land, or lives on land that belongs to a family member or in-law. Average property size appears to be large (an average of 52 hectares per person), but it is likely that

participants refer to their family's property when citing acreage, and thus the property is shared by several families.

3.2.4.2 Income

Most participants describe apiculture as an activity that complements their "main" work, which is cultivating rice and corn and animal husbandry. Indeed, the farmers report spending far less time on bee-keeping than traditional agricultural activities. Nonetheless, based on the information collected from the individual data forms after each focus group, apiculture appears to be the primary source of cash income for the overwhelming majority,⁴⁸ followed by animal husbandry. Income from selling crops is minimal, although the produce is fundamental for food security.

While apiculture appears to be the primary source of farm income, government transfers (retirement pensions, school and gas vouchers) are by far the most important source of revenue for the majority. A significant minority of families attest to receiving no cash income other than monthly government transfers and what they earn with honey.

3.2.4.3 Production and Employment

Apiculture in the Simplício Mendes is dominated by small, low-income family farmers.

It is primarily a seasonal activity that demands work mainly during the harvest period when bee-keepers must visit their hives regularly to collect the honey.⁴⁹ From the months April/May to November, producers only visit their hives every eight days.

By definition, the bee-keepers associated with AAPI must be organized at the producer level. AAPI is composed of associations, not individuals, and therefore one must be a member of an active community association in order to take advantage of services offered by AAPI. Most communities already have an association that offers diverse services to its members, like making bulk purchases of inputs or seeds.⁵⁰ Within each association, two people are chosen to monitor production and control quality. These two people may or may not be bee-keepers themselves, and are in charge of liaising with AAPI at harvest time.

Bee-keepers are organized into small working groups of 4-6 people who work together to collect honey from the individual and group hives. The hives of the group are those acquired via a project, while the individual hives are purchased independently.

Not all bee-keepers in a given community may be members of the association, although the overwhelming majority is.⁵¹ Reasons cited for not being involved were (1) lack of understanding of the importance of the association; (2) dislike for working in groups; (3) unwillingness to respect the rules of the association (attending meetings, paying dues of R\$1/month; US\$ 0.40/month); and (4) unwillingness to respect the quality norms demanded by AAPI. The participants repeatedly emphasized the importance

⁴⁸ This finding is corroborated by AAPI's own findings, which are based on data collected while processing individual loan applications for the PRONAF program.

⁴⁹ The harvest period depends on the rains, but usually falls between December and March.

⁵⁰ If there is no producer's association in vigor, AAPI will orient community members on how to create one, but requires the association to be in effect for two years before allowing it to associate with AAPI. AAPI's first intervention in a new community is usually to offer a course on *associativismo*. Not everyone who is a member of a producer's associations is necessarily a bee-keeper, however.

⁵¹ In one community, the research team asked to interview some bee-keepers who were not members of the association. There were none.

of the latter, which require them to bathe, use special suits and masks, keep their nails short, wash their hands and take off all jewelry and items from their pockets before processing honey in the *casa de mel*.

Both women and men work in apiculture; the men primarily as bee-keepers and the women in production at the *Casa de Mel*. This division is not rigid, however, and men also participate in the production process, as do women in the bee-keeping process. This year, AAPI encouraged the formation of women-only groups in several communities so as to get more women involved with hives.

The participants in the focus groups are well-organized. They emphasize the importance of solidarity and maintaining high quality standards as the keys to success. And despite difficulties of making ends meet, most participants demonstrated optimism with regard to their future, primarily because of the perspectives apiculture offers them.

The participants have a surprisingly accurate, if limited, vision of the honey market, given their relative degree of isolation. (Communities are located up to 16 kilometers from paved roads that are 10-20 kilometers from the urban center of Simplício Mendes, which is some 160 kilometers from the county seat Picos and 400 kilometers from the capital Teresina.) They are aware of their main export markets (USA, Italy, Germany), competitors (China, Argentina) and the risks of export (quality control, exchange rates), which influence the price they receive.

Producers underscore that high-quality honey is the reason they have been able to secure entry to the export market. *“The future depends on us and the quality of honey we produce.”* Efforts to keep quality up, like hygiene habits, and collection procedures, are constant and permeate the production process. The general consensus is that high-quality honey is worth the extra work, and that everyone must play their part. If one community does not take care with its honey, everyone is affected (*“one can affect all”*). Putting one 25 liter pail of “dirty” honey in the decanter of 1250 kilos at the main processing facility will contaminate the rest.

With regard to competition, most participants feel the more producers the better, as long as it is high quality honey. In their opinion, more honey means more buyers will be attracted to Simplício Mendes. But if the honey is of poor quality, it will effect the reputation of all the producers in the region, even in the state of Piauí or Brazil as a country. AAPI staff reminds producers of how cotton from Piauí earned a bad reputation when buyers realized farmers were wetting the cotton to increase the weight of sacks. There is no lack of honey on the market; the only way to stay in the export loop is to keep quality high.

3.2.4.4 Investment and Intensification

Discussion regarding investment and intensification focused mainly on increasing the number of hives and applying techniques to increase production.

Most producers feel they could be producing more honey if only they had more hives. When harvest time comes around, not all hives produce honey. The rationale of the producers is that more hives will necessarily increase the number of hives that produce, which would increase production.⁵²

As part of the Project, AAPI has started to train bee-keepers in production improvement techniques. This training began a month before the FGDs took place, and all the participants had already attended some meetings on the topic. As such, when questioned on other ways to increase production, other than acquiring more hives, the participants referred to the techniques of “Dr. Joail.”⁵³ Feeding the bees just before the first rains and substituting the queen were the most frequently mentioned techniques, although

⁵² Every four years, the diocese distributes more hives that are reimbursed in kind; however, producers can also buy hives on their own from a local bee-keeper Zezinho who commercializes hives.

⁵³ Joail, president of the Confederation of Bee-keepers in Brazil, was hired by DAI-Brasil to build the capacity of AAPI bee-keepers.

some participants also mentioned replacing wax and creating a shaded area for the hives to keep the temperature down. One participant mentioned that collecting honey during the day was better for production.

Feeding the bees. Nearly all the participants referred to the importance of feeding the bees before the first rains. Due to the lack of flora during the dry season, little honey can be produced. The bees become weak from not having honey to eat, and when the rains and flora do come, they end up eating the first honey they produce in order to regain their strength. It is thus common in apiculture to feed the bees before the first flora appear, usually with some mix of sugary water. Despite being a straight-forward⁵⁴ and practically zero-cost technique, few producers had begun to do it. Only one community⁵⁵ had been feeding for the last three years, because it had received some training from SEBRAE. When pressed, the participants that were not feeding as of yet said they wanted to see if it worked. AAPI technicians said that in their experience, new information needs some time to digest. The handful of diligent producers applies the techniques immediately, while the others usually come around once they see it can work.

Substituting the queen. The longer a queen is in a hive, the less honey is produced. Specialists say that changing the queen each year can increase production some 20%. This technique has not been applied because there are no queens available yet. AAPI has initiated a project this year to train two members of each community to raise queens, thus creating a “queen bank” where producers can purchase queens. Only the community with the longest experience in apiculture will be changing queens this year. They have been oriented by SEBRAE to produce virgin queens within the hives. AAPI deems this technique to be riskier than substituting with non-virgin queens, as it slows down honey production by 20 to 30 days, and there is the risk of the virgin queen leaving the hive for good when she flies out for her “nuptial flight.”

Changing the wax. This technique involves cleaning out the combs and changing the wax that accumulates on the bottom panel of the frames. Producers are taught that this is necessary for the good maintenance of the hives, and all producers are doing it. The wax sheets are made with the unprocessed wax that the producers themselves collect from their hives. For each kilo of raw wax, producers receive 70% of the weight in wax sheets (*cera alveolada*).

Shade and time of collection. These techniques had only one mention each, although they are considered important by specialists for maintaining good quality honey.

As mentioned above, honey is the main source of revenue for the participants. They consider it their “future,” because “*even when the price is low, it still brings in more money than traditional agriculture.*” Yet, while they report a desire to increase the quantity of hives and produce more honey, the overwhelming majority does not re-invest their earnings in apiculture. Rather, they use revenues first to satisfy household needs, and then to purchase assets such as motorcycles, televisions, electro-domestic goods and animals (goats, sheep, cattle, and chickens). Any left over cash will then go into “*a roça,*” the fields. Despite the low, indeed negative returns on traditional corn and bean crop systems, participants continue to prioritize this activity in terms of time and investment.

The focus groups pointed to several explanations to this seemingly paradoxical rationale. Firstly is the weight of tradition. Corn and beans have been cultivated for several generations. These crops provide not only sustenance; they are a way of life, part of the local identity. Secondly, the precarious nature of agriculture requires farmers to diversify. Put succinctly by one participant, “*it is hard to trust only in one or two activities as source of income*” Corn and beans may not provide income, but they do put food on the table, and as such represent food security. Honey, on the other hand, is lucrative, but risky; external

⁵⁴ The time of day and distance between hives also must be considered when feeding the bees.

⁵⁵ The community had been part of the “pilot test” of the Bishop, and thus had the most experience with apiculture.

factors that farmer have no control over, like rain, the international market and exchange rates, influence greatly production and prices. Furthermore, it is a relatively new activity, and although they express optimism, farmers show a certain reticence to prioritize apiculture over traditional agriculture as it has yet to prove its long-term worth. Only time will unveil a possible demonstration effect.

One AAPI staff expresses frustration with the lack of priority given to honey, despite its profitability. They deem the region is destined for apiculture, given the abundant flora and the presence of high quality and productive honey bees that are most commonly found in the region. They consider it part of their work to convince farmers that apiculture is worth investing in, and hope that an increase in sales will have an impact on the dominant mindset.

With regard to training, the participants receive technical assistance from AAPI, whose staff visit the communities on a regular basis, as well as SEBRAE and CESFA (*Centro Educacional São Francisco de Assis*), a non-profit institution financed by the German NGO Miseror, and which has offices in Floriano, Piauí.

3.2.4.5 Relationships with other actors in the value chain

The value chain is comprised of producers, intermediaries, firms/cooperatives, importers, packagers and distributors and buyers. The producers interviewed here have direct relationships with cooperatives and intermediaries.

Relationship between AAPI and Members

AAPI supports its members at every level of the production process: training, access to raw material (hives and wax used for maintaining hives), orientation, processing, quality-control and commercialization. Nonetheless, the balance of power between the two actors does not appear disproportionate; on the contrary, members express a high level of approbation. As one participant declared clearly, “we are AAPI,” a sentiment reflected by others.

The relationship between bee-keepers and AAPI is characterized by trust. Participants express gratitude, loyalty and respect for AAPI. While participants acknowledge the assistance of AAPI and specifically Father Geraldo, they do not perceive themselves as passive receivers of this assistance⁵⁶. The producers regularly point out that material and services provided by AAPI and the diocese are not donated, but fully reimbursed in honey. Several participants also underscored that AAPI does not buy their production (implying that this would indicate *assistencialismo*), but commercializes it. This high level of appropriation results in loyalty and commitment to the association, which is a key for keeping middlemen at a distance.

Information flows freely between producers and AAPI. Producers are fully aware of the terms and conditions that govern their relationship to the association. With regard to hives, for example, it is understood that each hive must be reimbursed with one 25 liter pail of honey; “*when the price is up, we lose, but when the price is down, we win.*” With regards to prices, producers are confident that AAPI is giving the best price possible, mainly because it is consistently higher than middlemen. Furthermore, many participants spoke knowingly about influence of exchanges rate and competition from China and Argentina on prices, which indicates that AAPI is both transparent and open with information.

Being a member of AAPI is synonymous with security. Producers have the assurances that their high-quality honey will be commercialized and they will receive payment. Because there is a time lapse between the moment producers deliver honey to AAPI and the moment it is commercialized, payment

⁵⁶ Very different from the cashew nut producers in Ceara who demonstrate high levels of *assistencialismo*.

may come only 2-4 months after the harvest. Producers would prefer that AAPI pay up-front, as middlemen do, but they are willing to forgo immediate cash for long-term security.

The participants state clearly that if it were not for AAPI, they would probably receive far less for their honey, since the only option would be middlemen, or may not be in apiculture at all. They are grateful for the association, and understand they are responsible for its future.

Relationships between Producers and Middlemen

Many producers also have some contact with middlemen who buy the low-quality honey (“green” honey) that AAPI will not accept. The transactions generally take place at the marketplace in the urban center of Simplicio Mendes, but brokers may come to the communities to buy produce (as was the case in 2003 when demand for honey was extremely high because of the absence of China and Argentina on the international market). The middlemen offer the advantage of up-front payment, but the price is lower than AAPI’s. Selling at the market is one way of “filling the hole” while waiting for payment from AAPI. The money is usually used to rent a tractor during harvest time.

As a rule, middlemen are perceived with distrust, almost dangerous because of the temptation they represent (quick money). Producers are adamant about maintaining their relationship with AAPI, however, because the middleman cannot offer security. Moreover, AAPI has helped producers create high-quality honey, a distinction that has yielded benefits not only in terms of prices and commercialization channels, but also in terms of self-esteem and pride.

Non-AAPI members have no choice but to sell exclusively to middlemen. Insecurity is the main complaint of these producers, since brokers set the prices that fluctuate throughout the harvest. They also lament the lack of quality standards imposed by middlemen and their own lack of knowledge of production techniques.

3.2.4.6 Perceived Problems

Low productivity. Producers assert that productivity of their hives could be higher, but hold lack or excess of rain to be the main culprit. This harvest (2004/05) was particularly difficult because of too little rain; some producers even lost the harvest altogether. The individual data forms reveal that productivity did indeed drop considerably from 2003/04 to 2004/05. Despite having more hives producing honey in 2004/05, average productivity was lower per person and per hive was lower than 2003/04 (see Table 13). This drop in production was further complicated by a drop in prices, since in 2004/05, China and Argentina were back full-force on the international market.

	2004	2005
Hives producing (ave. per person)	12	16
Kg of honey (ave. per person)	328	287
Productivity per hive	27	18
Price paid by AAPI per 25kg pails	R\$ 126,50	R\$ 50
Income from honey (ave. per person)	R\$ 1660	R\$ 574

At the time of the focus group discussions, producers voiced concerns about the current lack of rain, which means the lack of flora required for pollination. While no one suggests that inadequate care of hives was a reason for low productivity, numerous producers pointed out that adoption of good management techniques (detailed above) was a way to increase production.

Delayed payment. AAPI usually pays farmers two to three months after receiving honey at its main processing facility. Delayed payment was not a complaint, *per se*,⁵⁷ but did come up in discussions as the principle inconvenience of selling to AAPI and the main reason for seeking out middlemen to sell low-quality honey.

Size of *casa de mel*. A few communities mentioned that their *casa de mel* was starting to be too small for the number of producers, principally at harvest time. AAPI is aware of this and is securing financing to make additions to a number of *casas de mel*.

Market risks. Producers did not openly cite market risks as a problem, but they did allude to the volatility of the market as having a major influence on the price of honey and thus their incomes. The harvest of 2004, when demand for honey was high because of the absence of Chinese and Argentinean honey on the market, drove home the importance of external conditions on local prices. The producers emphasized that in 2004, things were in their favor; but who knew what the future would hold.

3.2.4.7 Conclusions of Producer-Level Findings

This section offers some conclusions regarding the producer-level findings and their implications on the Project.

Producers are exceptionally well-organized. This finding bodes well for the the Project as it facilitates efforts to build capacity. Organizing discussions requires little effort, as producers meet regularly for association meetings. Information circulates quickly and, if not put into practice, is at least discussed and debated

The relationship between AAPI and producers is excellent, and AAPI's presence in the communities is constant. Staff makes regular visits to all 21 communities. They also use the local radio station, which gives AAPI free access to the airwaves to make announcements. Nearly every household has a radio, which means AAPI manages to maintain a strong presence in the communities even between physical visits by staff. This is all very positive for the Project, as the trust and respect that characterizes the relationship between AAPI and the producers is likely to facilitate the adoption of the new production techniques the Project is supporting.

Although it is the main source of cash income, honey is still considered “complementary” to traditional agriculture and not yet considered a priority. This finding has implications for the Project because, despite the favorable factors described above, producers may not adopt whole-heartedly new production techniques if they feel they draw away time or energy from traditional cropping and animal husbandry activities. A change in this mind-set may take years, even a generation, as it is a question of ingrained habit and custom.

Productivity and price of honey are influenced by a number of uncontrollable factors. The Project has no control over rain, the exchange rate or international supply and demand. Even if interventions are well-designed and well-executed, their impact may be compromised by factors such as these that are completely independent of the project. AAPI staff is well aware of these risks, but remain optimistic. One

⁵⁷ It is important to note that groups were convened and attended by at least one member of AAPI staff, which may explain why this issue was not presented in more negative terms.

AAPI staff member estimates that even if the price of honey drops to R\$ 10/pail (US\$ 3.9/pail), it still represents a more lucrative activity than tradition cropping.

3.3 BEACHWEAR

The beachwear⁵⁸ sub-sector in Salvador was chosen as one of the cases supported by the Project due to a series of factors: (i) it is a sub-sector which is growing in Bahia and in the other Northeastern states, (ii) its production is labor-intensive and thus shows great capacity for job generation, and (iii) it is a product for which Brazil apparently has a competitive advantage, an assessment based on comments made by foreign buyers concerted with during the pre-selection phase regarding the positive image the Brazilian bikini has in some markets. Salvador was chosen as the geographical focus for intervention for a number of reasons - one was the presence of an export consortium (Bahia Beach), made up of four smaller firms.

The project supports three swimwear consortia and one swimwear company that is member of a textile consortium. The four entities have different export experiences. These firms can be separated in two groups: (i) those that already export overseas and (ii) those that have never exported and are not familiar with international market demands. For the first group, interventions focus on adapting bikinis to demand and promoting market linkages. Interventions for the second group focus on generating knowledge about global markets and evaluating whether penetrating international markets is a viable strategy. If the firms in the second group demonstrate their capacity to export, they will receive support to adapt their product and enter international markets. Project activities are customized for each group and are listed below.

Group 1: Firms with export experience (Bahia Beach consortium and Coco Doce)

- Hire a designer.
- Improve current quality standards.
- Train embroiderers and seamstresses.
- Support the creation of new promotional materials (catalog).
- Identify new market channels.
- Participate in trade shows.
- Carry out a survey with main clients and follow-up.
- Identify key intermediaries in US and facilitate new market linkages (distributor, representative, agents).
- Supervise production to ensure on-time delivery.
- Support order fulfillment.
- Follow up contact with buyers.

⁵⁸ Beachwear is any clothes or accessories which are taken to the beach or pool, such as bikinis, swimsuits, wraps and bags. However, in this particular case, "beachwear" is almost always synonymous with "bikini," which is the sales leader in this segment of the economy.

Group 2: International markets entrant firms (Associação Bahiana and Sol Bahia consortia)

- Develop export strategies for companies.
- Transfer market information to participants about trade shows.
- Transfer methodology on how to identify key intermediaries in the US.
- Provide support on product adjustment, advertising, trade promotion, production and logistics on an as needed basis depending on export capacity building plan currently being developed.

The goal, results and desired impacts of these activities are presented in the causal model found in Table 3.

Based on the Project's goals, the parameters were selected in order to indicate change are presented in Table 4, which details the framework of analysis and include (1) quantity of exports, (2) average sales price of bikinis, (3) number of clients and sales channels and (4) number of jobs generated. The baseline values of these indicators will be presented in Table 14 and 15.

Before presenting the assessment's finding with regard to these parameters, the value chain and its main actors will be described, drawing from secondary research and findings from the sector analysis. A brief characterization of the supported firms will follow, introducing the results of in-depth interviews with firms in terms of exports, employment, access to credit and different relationships within the value chain that may influence eventual impacts. The final section will expose the producer-level findings culled from the focus group discussions, focusing on income, production and power relationships.

3.3.1 DESCRIPTION OF THE VALUE CHAIN

Bikini production begins with the fabrication of thread, which is used to make the cloth of which the bikini is composed. Cloth is the most expensive raw material in bikini manufacturing, which also uses sewing machines and other equipment, embroidery supplies (thread, elastic etc) and, in some cases, decorative items (beads, rocks, seeds, appliqués, etc). All these items are sewn together within a highly varied production structure, which range from full-process firms to seamstresses who work on their own at home. After it is produced, the bikini is marketed in various ways, which range from the informal, though itinerant salespeople, to the systematic and professional, including distributors, representatives and even factory stores.

Raw material suppliers, bikini producers and distributors are the main actors in this chain. However, given that the market for beachwear is a very sophisticated, there is space within it for a large number of other service-providing professionals, such as designers and marketers.

Thread producers. The first link in the beachwear production chain is thread production. The thread most commonly used is elastano, more often known by its most common market brand name of Lycra. Lycra is owned by Invista/Dupont, and this gives these companies enormous bargaining power. Almost all the cloth factories in this value chain are clients of Invista.

Fabric producers. About ten producers dominate the Brazilian market for fabric, the main input of swimwear production. The quality of the Brazilian fabric utilized by the beachwear sector is well-respected throughout the world and is often several years ahead, technologically speaking, of what is produced in other countries. The colors and prints that Brazil produces are also admired and desired in other countries due to their exoticness and rarity.

The most important question relative to the fabric industry is trust. According to the beachwear companies, the delays in getting product to market begin with late deliveries of cloth. Because they do not deliver on time to foreign markets, Brazilian beachwear manufacturers have a bad reputation overseas in spite of the excellent reputation of the Brazilian bikini. Aside from this, cloth manufacturers frequently discontinue colors or patterns that are displayed in their catalogs when orders are not enough to “fill a boat.” This means clients who have ordered these colors or patterns simply cannot be serviced. Often, this occurs after a given beachwear company has acquired enough cloth of a given pattern to complete its display materials and has already received orders from clients. Only after the company places its main order with the fabric supplier do they then discover that production of the needed materials has been suspended or cancelled. One way beachwear manufacturers can solve this problem is by creating their own exclusive color or print. This is not a viable practice for small or medium companies, however, because such an order requires much more material than an MSE can handle.

Other suppliers. The other basic suppliers of raw materials to the beachwear industry are the companies that produce sewing machines and equipment, as well as those that produce decorative items (beads, rocks, seeds, appliqués, etc.). This last group of suppliers has been gaining importance precisely because it is its wares that give beachwear the quality of “Brazilian-ness,” considered desirable by a certain segment of foreign consumers. This tendency is also amplified by the global trend towards customization.

For these reasons, native Brazilian decorative items, such as Brazilian stones and seeds, are apparently becoming more important in design strategies. With embroidery and decoration, a collection using basic prints and colors (which do not risk being discontinued) can be customized and highly differentiated from other lines on the market.

Producers. The confection of beachwear takes place within a highly varied production structure. Some manufacturers within this sector unite all steps in the process under one roof, with seamstresses, embroiderers, modelers and even designers working together as regular employees of the company. At the other extreme are seamstresses who work on their own at home and sell door-to-door or at neighborhood fairs.

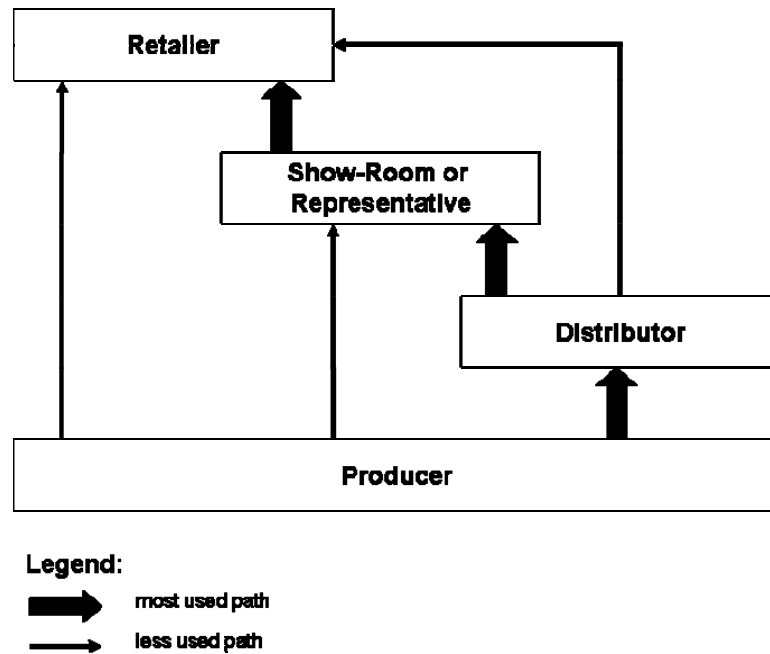
Embroiders. Another group of professionals who participate in bikini manufacturing is the embroiderers who embroider details or decorations on bikinis. The intensity of their labor depends upon the bikini collection, which might have no, little, or a lot of embroidery. These professionals generally work at home and get paid on a per piece basis with the value adjusted according to the difficulty of the work. There are, however, some companies that maintain embroiderers on their payroll.

Designers and pattern makers. There are also other professionals involved in bikini manufacturing, including collection designers and pattern makers. The designer’s job is fundamental in order to differentiate the bikini from others available on the market. Generally, the designer must produce a new collection for every new summer season, which aside from being esthetically pleasing, must also include coherent and matching pieces. In order to carry out his or her tasks successfully, the designer must be aware of the global fashion trends in each new season, even if he or she decides to challenge or ignore them.

The pattern maker’s job is also important as sizes and patterns must be adapted to each different target market. Some companies decide to merely change the denomination of their sizes but other companies make specific models for specific markets.

Bikini sales in the overseas market require the use of different distribution channels. Figure 7 shows the four most commonly used, emphasizing the most important one.

FIGURE 7: DISTRIBUTION CHANNELS



As Figure 7 shows, beachwear manufacturers may either sell directly to stores to middlemen, such as distributors, representatives, or to both. Distributors and representatives work in different ways.

Usually, a **distributor** acquires materials and assumes the risk of not selling them. For the manufacturer, the disadvantage involved in this practice is that there is no contact with the store owner or final consumer and thus no feedback regarding his pieces and whether they meet consumer needs.

Representatives work for a 10 to 15% sales commission. The best among them also ask for a fixed salary, especially when they are working with new brands. They sell directly to the consumer and must thus have a strong client base and credibility in the market. If the representative is good and the brand unknown, it is necessary to convince him or her to work with it. The company must thus develop a consistent and attractive marketing plan (with a business plan, balance sheet and timeline) and good visual materials (photos, news clippings and etc.) to accompany their samples.

Showrooms play a similar role to that of the representatives, being a fixed place that receives clients. They must also have an excellent client network and a pro-active attitude that draws potential customers to their location. Showrooms must also know and have credibility with buyers. If an exporter with an unknown brand decides to contact a showroom directly, it must convince the showroom to show its products. In the U.S., there are also fashion marts, which are buildings that bring several showrooms together under one roof. This sort of concentration makes buyers' work much easier.

For a beachwear manufacturer to access this market, it must thus deal with a retailer, wholesaler, showroom, distributor, or representative. This is not a trivial affair, however. It demands an understanding of who these people are, what role they play in sales and what sort of trust can be placed in their work.

The most common way Brazilian companies contact these middlemen is through participation in international commercial fairs. Other possible forms of contact are via Brazilian embassies' Communication Secretaries (*Secretarias de Comunicação* (SECOM)), who maintain lists of buyers in the countries in which they are located, or through contracting an international consultant to act as a company representative.

Participation in commerce fairs is well supported by such Brazilian institutions as the Brazilian Agency for the Promotion of Exports (*Agência Brasileira de Promoção à Exportação*) and SEBRAE. These institutions generally pay for companies' stands, while the company must pay for travel and expenses. Often times, this aid is not given to individual companies in order to incentive export consortiums formed by groups of firms that want to create a brand in foreign markets and are willing to work together to meet sales promotion costs and fill orders.

After describing the main actors and processes involved in the value chain, the next section details the case supported by the Project, describing briefly the profile and organization features of the supported firms. Next the findings at the firm and producer level will be described in some detail. Both sections will be concluded with a summary of key findings from the baseline research and their implications for the Project.

3.3.2 THE CASE

The Project supports three consortiums (Bahia Beach, Sol Bahia and Associação Bahiana) that bring together some fourteen small companies. Additionally, the Project supports the internationalization project of a firm called Coco Doce, the only company currently participating in the Tex Bahia, a textile consortium.

All these companies are linked in one way or another to the Rua Uruguai Garments Cluster, a project begun in 2003 whose object is the promotion of competitiveness and sustainability of micro and small businesses, stimulating, in turn, the local development of the Itapagipe Peninsula in Salvador, Bahia.

The three consortiums and Coco Doce have different profiles and experience levels, both in terms of experience with associations and the external market. With the exception of Coco Doce, however, which is considered to be a medium-sized enterprise, it is possible to identify a typical profile, which describes all these companies.

Generally, the Project supports small enterprises run by owners who are responsible for practically everything within the company. Usually the company owner knows how to embroider and/or sew herself and can thus accompany her workers' production. These owners do a bit of everything: quality control, supervision, product creation, contact with clients, store organization, raw materials purchasing, hiring and financial management in general.

The profiles of the firms and consortiums supported by the Project are presented below.

Coco Doce is one of the largest beachwear companies in Bahia, employing some 130 workers. Its main business is bikini production for big department stores which apply their own brand.. The company's desire to export stems from the fact that its Brazilian clients only want merchandise half of the year, during spring and summer. For the other six months, the company must resort to various stratagems to keep its employees busy, such as confection of fitness wear and lingerie, as well as resorting to layoffs, reduction of hours, dividing available work equally among employees and even firing some workers. The company is already exporting but up to now orders have been small. The company's goal is to sell 20% of its production to foreign markets.

Bahia Beach Consortium was created in 2000 and includes four beachwear companies: Cilly, Porta Avião, Agree and Smob. This is the only consortium supported by the Project that is already exporting and has a certain notion of how the international market works. Its last collection was shipped to Spain, Switzerland, Italy, South Africa and Lebanon. In Spain, Lebanon and Switzerland, the consortium exports directly to retail stores while in the other countries it works through representatives. These companies are more mature in terms of exports, They participate in three trade fairs a year and believe that their greatest challenge is not finding clients but maintaining their relationship with them.

Sol Bahia Consortium is composed of the companies Maria D'Angola, Latitude 23, Ellas Moda Praia, By Dill, C&R and Gaivota. This consortium was just founded and is composed of firms with diverse profiles. The last three companies joined in June 2005 and have very little understanding of what it means to export. The main impetus for association came from other people, above all the Rua Uruguai cluster. Three of the associated companies say that they joined because they believe that it is impossible to grow on their own, as this involves questions of scale and support.

The associated companies are quite small. Gaivota has the largest number of employee at eight. The others employ three people at most, and two of them only established factory space this year. Three of the associated companies have already made small external sales through contacts with foreign tourists or Brazilians who live overseas.

Associação Bahiana Consortium is composed of the Aratuza, Amy, Java and Dijana companies. This consortium's components have a more cohesive profile. They are made up of people who already have established retail stores in Salvador and who seek through association to reduce their vulnerability to seasonality. They believe that their greatest difficulty is finding clients, being that the international market is completely new for them. The association is recently formed, but its component companies have a relatively homogenous profile and their expectations and work rhythms seem to be in line with one another. None of the companies involved has had prior experience with exporting.

Firm-Level Findings

The Project supports the export efforts of a total of 15 different companies. These companies, however, are not the only ones active in the beachwear sector in Bahia. According to a study carried out by the Federation of Bahian Industry (*Federação de Indústrias da Bahia-FIEB*), 21 companies are currently producing beachwear in the state, but this is far from an exhaustive listing.

In order to create a baseline for comparison of the supported firms and an analysis of Project impacts, researchers interviewed the companies listed by the FIEB, which are not part of the Project and are also located in Salvador and in nearby municipality of Lauro de Freitas. Additionally, during the first interviews, researchers asked company owners for the contact information of other companies of which they were aware.⁵⁹ Not all of these companies could be contacted or agreed to interviews, however. In all 18 firms were interviewed for the comparison group.

This section thus presents the results of the in-depth interviews conducted with the owners of 12 of the 15⁶⁰ supported companies and contrasts this with data for 18 unsupported firms.

As laid out in the Framework for studying impact in Table 4, the areas of impact for analysis at the firm level are (1) exports, (2) employment and (3) access to credit. In addition to presenting the findings with regard to these three areas, this section describes findings concerning horizontal and vertical linkages

⁵⁹ Our only criterion for company indications was that the firm in question posses a "factory floor." We did not consider it necessary that these firms were involved in exporting their wares, given many of the supported companies also do not currently export.

⁶⁰ The Agree, Smob and Aratuza firms were not interviewed because their owners were going through personal difficulties at the time the interviews were being conducted and this made it impossible for them to respond to our questionnaires.

among firms along the value chain, considered key for understanding the channels for transmitting impact.

3.3.3.1 Export

Interview data reveals that there are two kinds of companies supported by the Project: (1) those that already export overseas and (2) those that have never exported and generally do not have much notion regarding international market demands.

Bahia Beach has the most experience, having exported for five years now. This consortium's international insertion was strongly supported by the International Center for Business of Bahia (*Internacional de Negócios da Bahia* - PROMO Bahia) and by the Brazilian Association of Textile Industries (*Associação Brasileira de Indústrias Têxteis* - ABIT). Today, the companies making up this consortium have representatives in some countries and export bikinis with their own brands.

Coco Doce also has experience in international markets, having clients in Spain, Portugal, Mexico and the U.S.A. Their clients are retail store networks and distributors who order the merchandise in order to sell it under their own brand. The company thus functions as an outsourced plant for overseas buyers.

The other two consortiums have never before engaged in regular export. Some member companies have "exported" their products via foreigners who come to Brazil or Brazilians who live overseas and take bikinis back in their suitcases. For the purposes of the present analysis, however, these sales are not considered to be exports and they are not accounted for nor produced separately from national production.

Table 14 details Bahia Beach Consortium's exports as well as those of the five companies of the comparison group which are involved in the external market.

	Supported firms	Comparison group
Number of exporting firms interviewed	2	5
Number of pieces exported	24,200	42,100
Average sales price	US\$ 6.6	US\$ 10.8
Total value exported	US\$ 160,000	US\$ 457,200
Markets	Spain, Switzerland, Italy, Portugal, Lebanon, South Africa, USA	Italy Portugal Spain Germany, USA, Australia, Mexico, Chile, Uruguay
Number of regular clients	11	20
Types of clients	Retail stores, representative and distributor	Retail and wholesale stores, representative
Brand used	Consortium's own brand and buyer's brand	Own brand (4) and buyers brand (1)

⁶¹ For the public version of this report, the figures have been aggregated in order to preserve confidentiality.

When asked why they wanted to export, 70% of the companies responded that reducing the sector's seasonal nature was their main motive. This happens because firms concentrate bikini production in the second semester of the year in preparation for the Brazilian summer season. Beachwear production starts around August and continues until January or February, depending upon the intensity of rainfall (which may weaken demand) and the dates of Carnival. In the other months of the year, firms opt for multiple strategies in order to keep the factory operating. They produce lingerie, surf wear, gym clothes, uniforms or simple garments such as low-end pants, blouses and skirts. Employees are laid off and some are even fired. Firms claim that these other production lines serve simply to keep the factory doors open at cost, because these products' profit margins are quite inferior to those available in beachwear.

Therefore, exporting is an opportunity to firms to produce swimwear during the Brazilian off-season. Exporting firms produce for overseas between January and March, but this may vary according to clients' needs (retail stores typically accept later deliveries) and the destination country (in southern hemisphere countries, for example, summer coincides with the Brazilian season).

Perceived barriers to exporting. Most of the firms believe that the greatest difficulty they face in accessing the global market is in identifying clients (5 out of 12 interviewees claimed this). This is especially true for those firms which have never exported before and thus do not have any knowledge of how the external market works.⁶²

Currently, the most common way to identify clients is through participation in international commercial fairs. Bahia Beach member companies, which participate in three or four international fairs a year, considers these good sales channels as they permit direct contact with the client, which is the best way to make a sale. Coco Doce participates in two international fairs a year, while the other firms have never gone to a trade fair abroad.

Overall, the interviews reveal that few firms understand the market's patterns or demands. Naturally, companies which are already exporting have more knowledge of the international market while those who sell to Brazil only have little or no information. Only four companies claim to have knowledge of market specifications for product sales overseas: the two involved in Bahia Beach, Coco Doce and Java. The knowledge of the first three companies comes from their direct involvement in overseas sales while Java uses its store on the Praia do Forte, a beach frequented by tourists, in order to contact foreigners, understand their preferences and demands and see how they react to new products.

3.3.3.2 Employment

Contracting workers is an important theme in this sector, given that production is labor-intensive and seasonal. Besides that, Brazilian labor legislation imposes a series of costs associated with hiring and firing workers, as such firms adopt different types of "strategies" to hire workers during high season and fire them during off-season. The several types of labor contracting used by beachwear companies is detailed in section 3.3.4.2.

Table 15 shows the employment characteristics of the companies supported by the Project and the comparison group. Most of the workers employed produce for the internal market, seeing as how only three of the 12 supported companies detailed above export, along with five companies in the comparison group.

⁶² Other difficulties identified by the companies (each of these problems was cited at least once) include investments for commercial promotion, identifying representatives, lack of government aid, obtaining large enough orders, improving client fidelity and achieving good product quality and a competitive price.

TABLE 15: EMPLOYMENT DATA

	Supported firms	Comparison group
Total interviewed	12	18
Number of regular employees	260	277
Women	209	229
Registered workers	217	260
Number of companies which contract piece workers	5	5
Number of contracted pieceworkers	26	31 ¹
Number of companies which contract day laborers	4	6
Number of contracted day laborers	10	12
Number of companies which contract embroiderers	6	8
Number of contracted embroiderers ²	94	35

¹ Two of the comparison companies refused to tell how many piece workers they contract.

² This is an estimate as companies generally do not know how many embroiderers are contracted, being that they generally work through the lead workers.

The question of labor intensity is not the only relevant theme that appears in labor relations in this sector. Problems with worker qualifications are also often mentioned by the companies interviewed. When asked if they had trouble contracting workers, eight out of nine employers interviewed said “yes,” and seven of these specifically mentioned that the main problem was finding adequately trained and qualified workers. According to the employers, many people pass themselves off as experienced seamstresses when they have very limited abilities, either with regards to the number of machines which they know how to use or on the quality of their work. According to the employers, a lot of time must be spent in quality control in order to guarantee that nothing goes wrong. This is the main reason why outsourcing bikini manufacturing is a risky prospect: it makes quality monitoring almost impossible. Many employers know how to sew and they generally train workers themselves as well as monitor the quality of the production.

Another recurring complaint with regard to employment has to do with outsourced labor in general, whether piece workers or embroiderers. Employers complain that there is little commitment to quality, prices, or deadlines. Coco Doce claims that there are few trained embroiderers in Bahia. Aside from organizing the technical training, Coco Doce had to work hard to get the embroiderers to keep to deadlines.

One firm mentioned that the fact that outsourced seamstresses and embroiderers do not respect deadline commitments as a result of the work rhythms to which they are subjected. Beachwear does not guarantee income throughout the year and is thus a second job for many people. It is thus natural that many of these workers do not meet deadlines as their priorities lie with other jobs. A recurring figure in this context is the woman who also works as a manicurist or hair-dresser. These jobs guarantee income for the whole year, but demand for their work is always greater on weekends. Given this, time is available during the

week for seamstress or embroidery work, but these activities necessarily play second fiddle to their “real” jobs on the weekends.

TABLE 16: DIFFICULTIES IN FINDING WORKERS

	Supported firms	Comparison group
Total interviewed	12	18
Does the company have trouble finding workers?		
Yes	8	10
No	1 ¹	8
Why? (multiple responses permitted)		
Few workers available	0	4
Available workers aren't qualified	7	10
People won't work for the salaries offered	0	2
Workers claim factory is too far away	1	2
Workers don't meet deadlines	1	1
Workers don't keep to agreed-upon prices	1	1

¹ Three employers didn't answer this question.

3.3.3.3 Financing

Access to finance did not prove to be a major challenge for swimwear companies. Almost all the companies interviewed have opened bank accounts in the company's name, which give them some credit limit. Firms contract more credit to use as working capital, while relying more on own capital to invest in capital goods.⁶³

⁶³ Four of the investing companies used their own capital exclusively, one combined this with a bank loan and another two invested using bank loans alone. The origins of the firms' working capital are varied and include owner's own capital, profits from earlier sales and bank loans.

TABLE 17: ACCESS TO FINANCING

	Supported firms	Comparison group
Total interviews	12	18
Does the company have a bank account?		
Yes	10	13
No	2	5
How often does the company use its credit limits at the bank?		
Always	0	1
Almost always	3	3
Sometimes	5	2
Rarely	2	1
Never	0	6
Has the company made investments in the last 12 months?		
Yes	7	8
No	5	10
Origins of resources invested:		
Own capital	5	4
Earlier profits		3
Bank loans	3	1
Origin of operating capital:		
Own capital	5	12
Earlier profits	7	8
Bank loans	5	0
Are there difficulties in obtaining credit?		
Yes	9	7
No	3	9 ¹
If yes, what are the difficulties (multiple answers permitted)?		
Collateral	4	5
Bureaucracy	7	5
High costs	2	4
Too poor	0	3
Value of the payments	0	1
Other	0	1

¹ Two companies claimed that they did not know if it was difficult because they have never asked for credit.

3.3.3.4 Relationships

The beachwear sector appears quite disorganized in Bahia. Firms act independently and not all links in the production chain (especially raw materials suppliers and supporting professionals) are encountered in the local market. This does not mean that they do not exist at all or are impossible to find, but that there is little “critical mass” thinking about and creating fashion in the state. Aside from this, interviews with the supported and unsupported companies reveal that the sub-sector is marked by mistrust and the fear that other companies may steal ideas and clients.

Horizontal linkages are stimulated to a great degree in this sector by export development entities and membership associations. Legal restrictions, however, impede the export associations from actually carrying out their goals. The so-called export consortiums are actually legal non-profit organizations that cannot engage in commercial activities and thus cannot buy and/or sell material. These consortiums can only undertake promotional activities. When it comes time to fill out orders, the merchandise needs to be sold in the name of the individual companies of the consortium. This restriction does not impede export, but it does increase transaction costs and complicate internal control over the consortium’s activities.

All the supported companies are part of a consortium. Coco Doce is the only company that participates in a consortium that is not specialized for the promotion of beachwear. Its consortium, Tex Brasil, is made up of jeans, sportswear, beachwear and uniform producing companies. Experience with associative groups is also varied. Bahia Beach, for example, has been around since 2000, while the Associação Bahiana and Sol Bahia consortiums were created in 2005.

The formation of associations of this sort is not a trivial matter, however. In practice, there are usually frequent attempts to form groups with different compositions and these groups just as frequently fall apart. The supported consortiums, for example, have had a prior existence with different members. Bahia Beach at one point included seven companies (one of which was Coco Doce), but three dropped out. Some of the firms that make up Sol Bahia and Associação Bahiana used to belong to the SSA consortium, which split in two halves which each absorbed other component companies. Apparently, it is very difficult to achieve union and consensus within these consortiums, as the members have different interests and setting up a consortium involves significant expenditures of time and money. It is easy to argue over each company’s level of investment in time, money, or personal energy.

When asked why they joined their respective consortiums, four companies claimed that growth was impossible without such an association. Three more said that they joined in order to receive support. Another factor that apparently has had an important influence was the example of other consortiums. Although only one firm explicitly mentioned this, many talked about having observed other consortiums receive assistance and claimed they knew they could only get this kind of support if they, too, joined an association.

The evaluators identified practically no vertical relations in this chain. This can be explained by the fact that the sub-sector is as of yet unstructured in Bahia and communication lines between firms and other levels of the production chain have not yet been established. Interviews with companies reveal that they do not have any predetermined or systematic way of contacting seamstresses, while these, in turn, complain that they have no way of knowing who needs their services. Yet another weak relationship can be found between the beachwear companies and the fabric suppliers. There is no Lycra factory in Bahia or manufacturers for most of the other raw materials used in bikini production. Though firms repeatedly try to open new contacts with Lycra vendors, they consistently complain that the variety of material offered on the Salvador market is very small.

3.3.3.5 Conclusions of Firm-Level Findings

The following section offers some preliminary conclusions concerning the swimwear sub-sector based on the interviews conducted with firm owners as well as the sector analysis and secondary research.

The largest potential for exports in this case lies with the firms that are already exporting. Coco Doce and the firms of Bahia Beach consortium produce a high quality product but have a limited ability to respond to demand, given that their owners are manufacturers and not people who understand fashion. The companies have some idea as to how the market works and their main problem is not finding clients but making clients loyal, repeat buyers who will purchase increasing quantities of merchandise.

Firms do not have a clear internationalization marketing strategy. Almost all the companies interviewed want to export in order to reduce their dependence on a seasonal market. However, these companies do not appear to have a clear market entrance strategy, even while realizing that engagement with the global economy is necessary for further growth. Exports are seen as a way of increasing product flow and typically appear in company strategies as the result of encouragement by external agents and not as the fruit of an internal study indicating that export is a lucrative activity in and of itself, worthy of increased investments.

As a result, most of the companies are not aware of the investments and challenges involved in constructing a successful internationalization strategy. Consequently, there is a risk of the firms losing enthusiasm and opting to prioritize markets that require fewer investments once it becomes clear of what is needed to “go global.” While this may be a rational decision for the companies involved, it implies a certain risk for the Project in that resources directed towards these companies might eventually come to naught if they decide to drop out of the export game. This situation has already occurred with the Bahia Beach firms, which have not shown much interest in entering the North American market.

Difficulties in contracting workers. These have mainly been due to the low qualifications of the local available labor force and it is a problem encountered by all of the companies, both in terms of hiring in-house workers and in terms of outsourcing. In this second case, the problems are greater because the companies cannot accompany the productive process and fix any errors. This, in turn, results in uneven product quality and missed delivery deadlines.

The interviews with producers presented below illustrate some of the reasons for this problem and, at least in the case of outsourced piece workers, these difficulties are not surprising. Employees are contracted under a work regime that results in little direct contact between the employer and the worker. As both are not working in the same location, there is little monitoring. This in turn results in little control over quality, production patterns and deadlines. It is difficult for companies to directly and regularly employ all the workers necessary to meet peaks demands, however, as the seasonal nature of the beachwear market and Brazilian legal codes regulating workers (most particularly the cost of firing a worker) combine to make labor costs extremely high.

Relationships between actors in the production chain are practically non-existent. In interviewing companies, it became apparent that contacts between subsector players are extremely rare. This occurs not only at the level of the companies themselves, but at all points along the production chain where data regarding raw material suppliers, buyers, piece workers or embroidery groups might be shared. The exceptions to this general rule only occur between companies in the same consortium.

The consortiums are still fragile. The formation of the consortiums has received a lot of outside stimulus and aid from export development entities that naturally prefer to work with groups of small companies rather than masses of individuals in order to reduce transaction costs. The companies are thus advised to gather together in associations as this will facilitate market access. Moreover, it is the only way they receive the support of outside institutions. The predictable result is that, in many cases, consortiums have been thrown together in response to external pressure and not due to the careful planning of a small

group of firms who know each other and can work together easily. Consequently, many of the consortiums are fragile structures in which it appears likely to invest significant time and energy to promote cohesion of interests. This, in turn, could reduce resources which could be used to seek out new markets.

The implication of this situation for the Project is that relationship problems between consortium members may reduce the velocity and impact of Project interventions. Given the small amount of time that most of these consortiums have existed, it is also possible that they will end up dissolving or recomposing themselves with new members, something which has frequently occurred in the past.

3.3.4 RESULTS OF PRODUCER-LEVEL FINDINGS

The Project activities are not designed to intervene directly at the producer level. However, it is expected that increased companies sales will reflect in more demand for piece workers and embroiderers job, with impacts on their work intensity and income. This assessment adopts a qualitative approach using focus groups and individual data forms to evaluate eventual variations in producer income and production levels that consist of assessing perceptions of the family's economic situation, the relative importance of the swimwear-related income in the household and intensity of work (see Table 4).

To help understand how and why impact may or may not occur, the focus groups also investigated the power relationships between producers and other actors in the value chain and the perceptions of producers regarding challenges to their sector. This section summarizes the results from eight FGDs with a total of 57 outsourced seamstresses and embroiderers in Salvador, carried out in September 2005.⁶⁴

The main findings are presented below.

3.3.4.1 Profile of producers

The majority of interviewed producers are low-income earners with monthly salaries that range from one to three times the minimum-salary. Only one man participated, reflecting a primarily feminine workforce. All ages were represented, and the majority has completed secondary education. A handful has studied or is currently studying in institutions of higher education.

The focus groups revealed the existence of three main types of producers: producers by default, producers by choice and artisans

Producers by default. About half of the participants could be considered producers by default. These are women for whom sewing and embroidery represents one of many income-generating activities. They are relatively passive, landing work through more dynamic colleagues who are themselves producers by choice, and do not prioritize garment-sector work over other job possibilities. They usually do not have equipment at home and tend to work as pieceworker-embroiderers, freelance seamstresses or day-laborers.

Producers by choice. The other half could be classified producers by choice. Having discovered their "gift" for sewing and/or embroidery, and realizing there is a way to make a living from doing an activity they enjoy, these producers approach their work with enthusiasm and an entrepreneurial vision. They usually possess one or more specialized machines at home. Producers by choice seem to take advantage of the various insertion possibilities and work simultaneously in several ways (team leaders, association-members, self-employed entrepreneurs, freelance seamstresses, pieceworker embroiderers). This does not preclude them from developing other income-generating activities. Indeed, plural activity is a

⁶⁴ To preserve coherency throughout the report, the term "producers" will be used to refer to the seamstresses and embroiders, despite not being producers in the traditional sense of the word, as is the case in the honey and cashew sectors.

characteristic of all three profiles. The seasonal nature of the sector requires workers to develop other activities to bring in income revenues during the low season.

Artisans. A tiny minority of the FG participants identified themselves as artisans or artists. Sewing /embroidery is first and foremost a creative activity that also serves as a form of income-generation. Artisans tend to avoid taking on orders that require reproducing the same piece many times over. They prefer personalized orders and producing in small quantities to ensure quality and artistic value. Artisans usually possess machines at home and have some sort of a sales structure in place (i.e. a display space, a door-to-door salesperson, a network of friends/family members). For the most part, the artisans do not work with the firms supported by the Project, usually opting to be self-employed or to work with an association.

There appears to be a relationship between the profile of the producer and how she is inserted into the sector, although this aspect was not probed significantly in the groups, since the diversity of employment possibilities was a finding that became apparent over the course of the fieldwork. The ways of market insertion is detailed in the next section.

3.3.4.2 Production and Employment

Because of the highly seasonal nature of swimwear, firms use a myriad of labor contracts to hire employees and balance the workforce according to variations in demand. Indeed, because swimwear can be produced and sold in many different ways ranging from formalized firms like Coco Doce to microentrepreneurs who confection swimsuits one-by-one and sell door-to-door, there are many points of entry for workers with necessary skills. Table 18 details the types of employees contracts revealed in the interviews and shows that the majority of options are informal.

Salaried workers (Formal)	Piece workers (Informal)
Full-time salaried workers with year round under formal contract with one firm. No participants fell under this category.	Day laborers. Contracted per day of work by swimwear firm. By law, these laborers do not have to be registered.
Temporary salaried workers contract hired for peak season with one firm. No participants fell under this category.	Freelance seamstresses. Hired to complete the production process by sewing together pre-cut bikinis supplied by swimwear firm. Work from home on own machines.
	Association-member seamstresses. Hired to produce bikinis (may or may not be pre-cut) for a buyer (stores, schools, firms) that has put in an order with the association. Work at the association locale.
	Self-employed seamstresses/embroiderers. Produce and sell swimwear independently or for small stores.
	Team leader embroiderers. Hired by firms to organize and manage teams of embroiderers. Work at home.
	Piecoworker embroiderers hired by team leaders. Work at home, or in home of team leader.

The categories of most interest to the Project are freelance seamstresses, team leader embroiderers and pieceworker embroiderers. However, there is fluidity among the categories, which is why it is important to understand them all. The temporary salaried workers and day laborers may also be freelancers or self-employed when not under contract. Likewise, the self-employed may also be association members. And some producers are both seamstresses and embroiderers, although the majority chooses to identify themselves as one or the other.

When asked about what kind of contract they prefer, or whether they preferred to be employed by companies or work as self-employed laborers doing contract work, the answers were quite diverse. Some people claimed they would prefer work as regular employees with signed work cards, if this option were to open to them, as this would guarantee them a stable income: *“you’re guaranteed of getting paid on a certain day”*. Others, however, said that employees *“are in the bosses’ hand and can’t do anything”* or *“can’t go to the doctor when they need to or take their children to school.”* For these women, piece-work, which can be undertaken at home, is advantageous because it combines well with domestic activities.

Seamstresses emphasize that regular employment with a signed work card is not often possible, even when it is desired. The majority of businesspeople do not want to hire regularized workers, and when they do, they insist that the seamstresses have two years of proven, regularized work and know how to operate several different kinds of machines, exigencies which most women cannot meet. As few people regularize their workers, it becomes difficult to acquire proven experience and a vicious cycle is created that ends up excluding seamstresses from the labor market. The problem of knowing how to operate several different machines will be dealt with below.

3.3.4.3 Training

In this sector, worker experience is an important question that came up repeatedly in interviews with both seamstresses and employers. The seamstresses who participated in the groups feel the need for better training, but were unable to say to what standard they had already been trained. Most interviewees learned on their own, out of a magazine, or were taught by friends and/or relatives. They generally entered into the market at the insistence of relatives in order to obtain another source of family income. With the exception of some older seamstresses who had taken courses a long time ago in stores that sold sewing machines, few of the women had any formal training.

With few exceptions, the participating seamstresses demonstrated a very specialized view of their work and limited abilities regarding the jobs they were currently hired to do (sewing, embroidery, crochet and craftwork). According to these women, current market demand is for professionals with a wide range of training and knowledge. One must know how to use the four different machines used in sewing and detail work (in-line, overlock, interlock and herringbone) and most seamstresses only know how to use one, at most.

According to the seamstresses, there is practically no way to learn sewing techniques. Few training courses exist and those that exist are either too expensive or are not worth much. In particular, they refer to SENAI’s industrial sewing and modeling course, which is very good but quite expensive (R\$ 600; US\$ 205). There are cheaper courses costing around R\$ 100 (US\$ 34), but these are very specific and only teach one or two parts of the production process. According to the interviewees, a reasonable price for a month-long, eight hour/week course would be anywhere from R\$ 20 to R\$ 50 (US\$ 7-17).

A slightly different pattern has been verified in the embroiderers’ associations. In particular, the ABBORI stands out. In this association, new members are trained by the president. However, the association’s lack of structure limits the expansion of this training process. Associations and cooperatives are an important source of information regarding existing courses.

3.3.4.4 Relationships with Other Actors in the Value Chain

As mentioned earlier, the microproducers that are most likely to feel eventual impacts of the Project's interventions are outsourced and pieceworker embroiderers. The producers have direct relationships with the firms that employ them are the seamstresses and team leader embroiderers. The pieceworker embroiderers have direct relationships only with the team leaders who serve as intermediaries between the firm and the workers. Materials are supplied by the firms and the end product is delivered directly to the firm in the case of the seamstresses and team leaders or to the team leader in the case of the embroiderers.

Seamstress/team leader relationships with the firm. The relationship between the seamstresses and team leaders with the firm appears to be asymmetric. The firm establishes prices and delivery dates. Although both may be negotiated from time to time, it is rare. Team leaders nonetheless appear to have more power to negotiate than seamstresses, probably because they are responsible for a much larger work order (that of their whole team) than the seamstresses who work independently. Moreover, team leaders tend to be among the few outsourced workers that are contracted year-round.

The team leaders interviewed have worked for several years with the same firm, and a relationship of trust appears to develop over time. One team leader emphasized that she makes a point of being transparent with her employer about the other firms she embroidered for in order to create stronger bonds of trust. However, the focus groups did not reveal longer-term relationships between seamstresses and firms. The trend seems to be to change seamstress teams each season, although this remains to be confirmed with the firms.

In this sense relationships between seamstresses and firms are fragile. Seamstresses have no guarantee that they will work from one season to the next.

Relationship with team leaders. The relationship between team leaders and pieceworker embroiderers are highly asymmetric as well, perhaps even more so than those described above as pieceworkers have no power to negotiate prices or delivery dates. If they do not fulfill an order assigned to them by the team leader, the team leader has to pick up the slack. As a result, team leaders can fire and hire (albeit informally) at will. The relationship is thus extremely fragile and insecure. Some pieceworkers have worked with the same team leader for a relatively long term (five years), but this is rare. The team leaders are generally not transparent about the payment they receive from the firm; however, they define the price paid to their team members on the basis of the proportion they receive from the firm. For example, the firm informs the leader that the production price for the piece in question is R\$ 3 (US\$ 1.02), and she will pay R\$ 1,50 (US\$ 0.51) to embroider it, the team leader will in turn pay R\$ 0,75 (US\$ 0.26) to her members.

3.3.4.5 Perceived problems

The participants perceive a number of obstacles that must be addressed in order to strengthen the swimwear sector in Salvador and improve their situation as seamstresses and embroiderers. Again, the diversity of employment options means constraints are experienced differently by the different categories of workers. Nonetheless, the majority of the participants cite low prices, lack of training possibilities, space to work and lack of clients and access to raw materials as main problems. Those who sell to end-buyers say that not having a fixed point to commercialize their production is a problem as well.

Low prices. Low prices are perceived as a fundamental problem by all participants who consider their work highly undervalued. As noted above, they point to an excess of unskilled labor and the increase in market players as reasons for low prices. Several participants suggested a price table be established and applied across the sector. One participant explained that the Garment Workers Union had a table that used to be respected, but that it is now out-of-date.

Training. Participants feel training options are few. As seen above, formal firms sometimes address qualification problems with on-the-job-training. But for those who do not have the skills or desire to be contracted by a formal firm, adequately priced alternatives are few.

Lack of clients. The participants feel the glut of seamstresses and embroiderers on the job market is the main reason for insufficient clients. A few mentioned low-quality as a possible reason for not being able to find and secure clients. Others feel their lack of knowledge of certain techniques or machines is a barrier to securing more clients.

Space to work. A common complaint of seamstresses is the lack of space to carry out production. While some associations have their own locales, granted by donors or government programs, many seamstresses still work out of their homes. They feel this slows down production since many do not have all the necessary machines to produce a complete bikini. Many participants suggested they could produce higher quality pieces more efficiently (thus meeting deadlines) if space were adequate.

Access to raw materials. The Lycra and cloth companies are concentrated in Southeastern Brazil, and this increases raw materials prices. Both self-employed and association seamstresses complain that it is hard to contact these companies' representatives and they end up buying from local stores, which is more expensive. These stores also typically carry little in the way of varied materials.

Marketing. There is no space for associations to sell their own products, either directly or via distribution. There is only one available fair, but this is near the beach and set up in the open air, which means that it only has considerable numbers of customers during the summer. There are bigger fairs, such as Bahia Fashion and the Women's Fair (Feira da Mulher), but these are not open to community level producers.

3.3.4.6 Conclusions of Producer-Level Findings

This section highlights the findings that are most important in terms of the Project's performance.

The labor force is characterized by informality and transience. Because the producer pool is primarily informal, the relationship between the producer and firms is relatively instable and fragile. The lack of commitment (via a formal contract) on behalf of the firm combined with extremely low wages for piecework and the need for producers to maintain (and sometime prioritize) other income generating activities means that there is little incentive for producers to improve their performance. Moreover, the workforce is abundant (if badly qualified) and firms have no problems finding new workers all the time.

Consequently, the work force is transient, and with the exception of team leaders who receive orders year-round, pieceworker-embroiderers and freelance seamstresses do not demonstrate any particular loyalty to the same firm from one season to the next. Understanding this instability helps put the firms' complaints regarding producers' lack of commitment to meet deadlines, low quality, and laziness in perspective. While such behavior may stem from an inherent insufficient work ethic, as the firms' tend to insinuate, it is probable that the informal nature of the work relationship is a contributing factor.

This finding has implications for the Project and impact assessment in that there is little guarantee that outsourced workers used by the firms in question this year will be the same as those used next year.

Training is a problem for producers who want formal employment. The workers in the labor market are not very qualified, having been informally trained to an uneven standard, and they do not meet employer's needs. These workers also do not have access to training courses, either because they do not know of adequate courses or they are unable to pay. In this way, a vicious circle is created: seamstresses cannot get jobs because they are not qualified enough to meet the profile employers demand, and because they cannot get training, they remain locked out of the market, while the companies either engage in on-the-job training or hire workers from out of state.

The current problems will not be resolved simply by creating yet another training course. Apparently, plenty of courses already exist with varying prices, duration and skill packages taught. There are, however, some factors lacking in the current market and which cannot be precisely identified. These factors could relate to course content, the quality of the teachers, the costs involved, lack of vacancies or a simple lack of information regarding the courses which already exist. What courses are currently offered and what they teach, as well as what needs to be learned, must be carefully identified.

4. CONCLUSIONS AND IMPLICATIONS FOR ROUND TWO OF THE IMPACT ASSESSMENT

This report presents the impact assessment design and baseline findings of the Micro and Small Enterprise Trade-led Growth Project. The project supports four regional sub-sectors—beachwear in Bahia, honey in Ceará, cashew nuts in Piauí, and açai in Pará—to improve their position within the value chain. The interventions were designed case-by-case but span the following areas: (1) product and package adjustment (2) productivity enhancement, (3) increased access to financial services for individual firms, (4) product marketing, and (5) market linkages.

This impact assessment is designed to test if the designed interventions to commercially link MSEs through horizontal and vertical linkages along a value chain contribute to the success and growth of the respective sub-sectors. In addition, the assessment aims to determine whether access to export markets creates more jobs within the supported firms and benefits MSEs and the poor through expanded opportunities to supply goods and services to the lead firms. To assess these aspects, the analysis focuses on understanding project impact on two levels of the value chain: the exporting firms and microproducers.

The study is longitudinal and has two stages. This report covers the first, or baseline, stage and examines the three value chains and a small sample of producers involved in production and marketing. The main purpose of the baseline study has been to establish a standard against which change can be measured two years later.

Three main categories of lessons emerged from the baseline study. The first are those related to the potential impact of the project, addressed in the conclusions of firm-level findings and producer-level findings. The second are those related to the project design. The third category encompasses lessons learned in terms of methodology.

4.1 CHALLENGES OF PROJECT DESIGN

The Project has a short time-frame (21 months of direct support activities), which limits the chance that broader impacts will appear. The time issue is compounded by the fact that the productive activities of the selected clusters are largely seasonal in nature. In all cases, there is only one productive season annually.⁶⁵ There is thus little time for lessons learned to be implemented in the Project, seeing as how it encompasses only two sales seasons. If exports only occur during the second season, coinciding with the Project's conclusion, it will be difficult to measure the impact these have on income, as they will take some time to become visible. In the future, the conjunction of timeframe and seasonality issues needs to be carefully considered when designing the impact evaluation.

A second challenge is the number of interviewees. The project targets small groups of firms, which means the sample size is small. Any difficulties in interviewing or problems with the quality of the data collected for even one of the firms in the sample could significantly compromise the results. However, in terms of valid findings the sample size is not a major concern, since all the supported population is being interviewed.

The third design challenge has to do with the fact that the sub-sectors were chosen partially due to their unique characteristics and already established positive market performance. This imposes a selection bias in the sample and limits the ability of the researchers to identify a comparison group, which in turn limits

⁶⁵ This happened due to the fact that production involves an agricultural process (in the case of nuts and honey), or due to the fact that there is only one main purchasing period per year in the external market (in the case of beachwear, where significant sales only occur in the summer and spring).

the capacity of the impact evaluation in assessing attribution. There is no real “solution” to this challenge. Indeed, this is a challenge faced by many impact evaluations of MSE development projects.

4.2 METHODOLOGY LESSONS LEARNED

No major problems were faced in implementing in-depth interviews. The questionnaires proved to be appropriate, though some adjustments were needed after the first interviews. On the other hand, it is worth mentioning some concerns regarding the focus group discussions.

The methodology used in this Project is innovative in terms of the analysis it aims to conduct at level of the microproducers who work with the firms in the supported sub-sector. Focus group discussions were used to understand how and why the Project did or did not achieve the desired impacts in terms of job and income generation at the producer level. It will only be clear in the second phase whether the focus groups will serve this purpose. In this first round, the focus groups mainly sought to understand perceptions of producers regarding their insertion in the value chain, income and production, and relationships maintained with firms in the supported sub-sector. The groups were useful to this effect.

Nonetheless, during the focus group process, the evaluators felt the need to gather some quantitative data with regard to work intensity/production and income so as to better understand of the socio-economic profile of the participants and to have a general notion of these levels from which to assess eventual variations. The individual data forms, designed prior to conducting the groups with the objective to gather biographical data, ended up being modified while in the field to respond to this need. The forms provided mixed results, primarily because their ad hoc design did not make it possible to refine them. The evaluators concluded that it would be worthwhile to refine this tool and apply it to a select number of participants (conduct mini case-studies, as it were) in order to gather the desired information in a more effective way.

Another challenge presented during the research was the organization of homogeneous focus groups in the swimwear sector where the evaluators unexpectedly encountered a diversity of microproducers during the focus group discussions. Because the Project focuses on firms, very little information had been gathered on the producers prior to the groups. The evaluators had made a wrong assumption based on its contacts with firms that the microproducers in this sub-sector presented a relatively homogeneous population. To avoid this problem, it is necessary to verify whether or not the population to be studied can or should be segmented to ensure the most homogeneous focus groups possible.

Based on the experience of this baseline study, it would appear important in the future to include in the methodological design a thorough if superficial pre-investigation of the producer pool in order to assess the appropriateness of using focus groups versus in-depth individual interviews or producer case studies.

Finally, while the inclusion of focus groups in the impact design did not have the objective of measuring impacts, they did prove useful in this first round for identifying potential impacts when crossed with data collected from the firm-level interviews and the findings from the sector analyses.

The most important potential impact appears in the honey sub-sector, as the intervention focuses on a producers association that channels all earnings directly to the members. In swimwear, new orders for the exporting firms could increase significantly income due an increased demand for pieces produced, but the considerable power asymmetry between the firms and producers and the fragile nature of these relationship may impede the increase in demand to translate into income increases. Finally, the potential for impact in the cashew-sector appears relatively low, given the findings regarding the cash poor nature of farmers and mini-mills and the role of middlemen. Production of cashews can only increase via investments in productivity, which farmers cannot afford. Moreover, since the mini-mills currently cannot offer a higher price than middlemen, and in any case the middlemen play the role of moneylender which makes farmers highly dependent on them, it is hard to imagine how to increase producer incomes. That

said, increasing the production of mini-mills has the potential of creating more jobs in the municipality and could have a direct effect on income of these new workers.

4.3 IMPLICATIONS FOR ROUND TWO

In the second round it will be important to consider the following:

- The following schedule is recommended to carry out the second round survey:
 - Cashew nuts: January 2007
 - Honey: October 2006
 - Beachwear: February 2007

This schedule was set according to the seasonality of each sub-sector, aiming to allow the time for necessary to results appear. This schedule implies that the impact on cashew nuts and swimwear sub-sector will be assessed two months after the Project is over.

- As mentioned, some challenges were faced related to the organization of focus group, specifically due to a diversity of microproducers in the same groups. These challenges were marked in the swimwear sector, and less so in the honey and cashew nuts sectors. The evaluators believe that, even armed with the lessons learned from the first round, it would be quite difficult to organize enough homogenous focus group discussions with embroiders and seamstresses. This is partly because the lead firms do not invest in long-term relations with outsourced employees; many times they contract the work of a group through one leader. Therefore, the firms are not always aware of the number of embroiders they work with.

Therefore, we recommend a change in the methodology to assess the impact on seamstress and embroiderers in the second round. The evaluators believe that it is possible to gather more accurate data by carrying out a limited number of individual interviews with producers, in order to write case studies. Care should be taken, however, in selecting the producers who will be interviewed in order to get different points of view and to evaluate distinct impact patterns. No change is recommended to assess the impact on honey and cashew nuts producers.

- Although efforts were made to select comparison firms as similar as possible to the supported firms, the findings cited in this report show that at the time of the survey, there were many differences between participants and comparisons. The extent of differences varies by sub-sector. In the case of cashew nuts, for example, there is a marked difference between participants' and the comparison groups' access to international market, whereas in swimwear the main difference is related to horizontal linkages, since no firm in the comparison group participates in a consortium, while all the supported firms are engaged in one. This implies that when each group is resurveyed in the second-round assessment, care will need to be taken to analyze the results to ensure that differences in firms performance are taken into account in determining the impact of the Project.
- In the second round it will also be crucial to include a careful review and documentation of the interventions as well as the specific sub-sector activities. One reason for this is that the scopes of the activities and the approaches they take are likely to evolve over time.
- Finally, it will be important to provide a close analysis of the marketing issue, including a careful look at the specific services/solutions undertaken during the course of the Project so as to understand which ones were more effective and to judge whether they are sustainable.

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