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SITUATION AND CONDITIONS OF THE PINEAPPLE INDUSTRY IN COSTA RICA

Pineapple production in the Atlantic and South Pacific Regions of Costa Rica:
Characteristics, organization, and labor conditions

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WHITE……..OR BLACK?

"Pineapple is one of the crops with the most potential in the international market and high profitability. It is an activity that demands a large workforce." (Quijandría, Berrocal and Prat: 1997)

"The expansion of the pineapple plantations leads to the erosion of soils, the disappearance of natural environments, lost histories, denied identities, destruction and an ephemeral and illusory attention to basic needs. The environmental changes are enormous. The modification and alteration of the environment is almost irreversible. If these activities were to disappear from our country today, even in a generous region like our Atlantic, it would take 180-250 years to even partially recover. How many generations will be necessary to reverse the effects?"

Eduardo Castillo, Anthropologist, director of the organization FECON

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Introduction

A careful reading of the Costa Rican socio-economic context of the past several years reveals the change from a model oriented towards the internal market, to a model aimed at inserting the country into the world market. In this context, export activities were strongly promoted, including a set of "non-traditional" agricultural products. It is here that we must begin our analysis of the weight that the pineapple industry has come to have in Costa Rica.

Pineapples have become a key product for Costa Rica, given their high export earnings. In 2004 they brought in $230 million ($50 million more than in 2003) from sales outside of Costa Rica. This importance is explosive, given the rapidity with which pineapples became one of the primary agricultural exports, quickly becoming as important as traditional products such as coffee and bananas. It can be explained by an increase in the area dedicated to pineapple cultivation in almost all regions of the country.

In this sense, expectations for the Costa Rican pineapple sector continue to grow. Costa Rica is considered the first exporter of fresh pineapple on a global level, and it has developed a parallel structure of production and processing to obtain juices, purees, decorations for exotic drinks, and canned fruit. There are about 1,200 small and medium-sized producers, and some transnational marketers believe that Costa Rica is the country with the best environmental conditions for cultivating pineapple. Some estimates indicate that the pineapple sector provides jobs for about 6,000 workers in Costa Rica, though it is unknown how many of these are men and how many are women.

In looking at this important industry, it is necessary to focus on things like the development of certain productive regions, the impact of the industry on local development in specific communities, environmental impacts, working conditions, opportunities for worker organizing, and the positive integration of this sector into the national economic structure.

This report represents an effort to respond to some of these concerns. The general objective of the research was to do a diagnostic to get current information regarding production, the social and environmental situation, and working conditions of the people working in the pineapple industry in Costa Rica. This report has been prepared by ASEPROLA (Asociación Servicios de Promoción Laboral) at the request of the International Labor Right Fund (ILRF) as part of continuing collaborative efforts between these two organizations to promote and defend the labor rights of workers in Central America.

In this document we present the results of a project aimed at gathering documentary information on the industry, paying special attention to the situation on a national level and in two specific regions: the South Pacific region and the Atlantic region. This was due to the need to show the expansion of the pineapple industry and its different impacts in specific locations, to justify the development of later stages of organizing and advocacy work.

Seeking, gathering, and processing of qualitative and quantitative information was done with this orientation in mind. We sought data related to the pineapple sector in the documentation centers and web pages of COMEX (Ministry of Foreign Trade), PROCOMER (Foreign Trade Promoter), Ministry of Agriculture and Cattle (MAG), the Technical Secretariat for Agricultural Sector Planning la (SEPSA) and the Information System for the Costa Rican Agricultural Sector (INFOAGRO). We also reviewed the country's major newspapers (La Nación, La República, La Prensa Libre, Al Día, La Extra) and some recent studies about this

sector. At the Defensoría de los Habitantes de la República (DHR) we found public reports on complaints filed against the pineapple industry in specific communities. We also did interviews with people related to this industry: the Manager of the National Pineapple Program, officials form the Ministry of Agriculture and Cattle, workers' representatives from the PINDECO company (located in the south Pacific region), and members of the Environmental Committee of the Guácimo community in the Atlantic region.

In these two communities we also gathered information from people related to the pineapple sector. In Guácimo, we interviewed health and education authorities, and people from nearby communities. In the south Pacific region, we interviewed workers from PINDECO and representatives of the local movement (Struggle Against PINDECO), which questions the actions of PINDECO and its impact on the community.

It is important to note that this report has some gaps, primarily related to the incorporation of a gender analysis and the issue of child labor. This is because the sources we found did not categorize data by sex, or include details on the children working in the industry. As a result, it was impossible to analyze the pineapple industry from a gender perspective. However, we did have access to general information about this topic that will be mentioned in the relevant sections.

1. Historical Background

1.1 History of Pineapple Production in Costa Rica

Pineapple production started early in Costa Rica, with the development of this crop during the colonial period. According to Quirós (1993), pineapple was brought to Costa Rica from South America by indigenous traders. Central America developed a variety known as Monte Lirio, which was called "criolla" in Cost Rica by national farmers who produced it primarily in the provinces of Alajuela (Central zone) and Puntarenas (Pacific).

In Costa Rica, two varieties are produced commercially:

Cayena Lisa: *The leaves are dark green and wide (6 cm) and do not have spines on the edge, except on the tips. The mature fruit is reddish orange, large, and with shallow eyes. The color of the pulp varies from pale yellow to dark yellow and has a high sugar content. This is the variety most sold on the international market as fresh fruit and is used for industrial purposes (Web site).*

Monte Lirio: *Known in Costa Rica as "criolla", this variety is only grown in Central America. The leaves are green with a reddish tint and they do not have spines, except one. The fruit is medium-sized. The pulp is white to light yellow, has little fiber, and a very good flavor and aroma. The eyes are large and deep. It is primarily used for fresh consumption (website)*

The history of the pineapple sector has a clearly identifiable "before" and "after". "Before" refers to the stage of traditional production during the colonial times. Later, new actors became involved and there was a change in the goals of production. It began as a crop produced for the internal market and then became a product grown for export.

The turning point was when the production became highly intensive and monoculture, requiring high levels of technology, at the end of the 1970s. This is when the Pineapple Development Company (PINDECO), a subsidiary of the North American transnational company Del Monte, started operating in the southern part of the country. (Quijandría, Berrocal, Pratt; 1997).

When this company began operating it had several impacts on the history of pineapple production in the country:

- First, it pushed forward the use of new technology to strengthen the variety of pineapple being grown at that time (Monte Lirio) and dedicated many resources to this end. In the early 1980s, $40 million dollars were invested to develop 2,500 hectares for pineapple production for export.
- Second, it selected the variety Cayena Lisa using special technology.
- Third, it introduced new varieties of pineapple.
- Finally, its operation stimulated the activity in other parts of the country, such as the North where entire areas were sown with Cayena Lisa[1], intended for export.

The impacts on the forms of production, the technology used, and the stimulus for research on the product, made PINDECO the primary pineapple company in Costa Rica[2] and gave it a definitive thrust in expanding production for export. Three important aspects can be identified which are related to the historical development of the pineapple industry over the last 20 years (a period that marks the operation of this company and the expansion of the industry to other geographical regions of the country).

Growth in national production area. The change in productive technology affected the area that could be sown with pineapple. In the early 1980s there were 2,000-2,500 hectares under pineapple cultivation[3]; at the end of the 1980s there were and additional 13,000 hectares, 10,580 of which were in the north, 1,800 in the south, and about 500 on the Atlantic coast.

From these figures there is a clear difference: the increase in area in the northern region[4] and the increase in the south, which could be due to the type of activity prevalent in one region and the other. In the north, there were small and medium-sized producers and in the south was the company PINDECO which had moderate but sustainable growth. The pineapple sector shows the same characteristics to this day[5].

It is also important to note the amount of production in the Atlantic region, where expansion was accelerated as a result of various factors that will be analyzed later. Official estimates show that the region currently has about 7,0000 hectares under pineapple production. However, unofficially the number of hectares under pineapple production in that region totals about 10,000, due to the aggressive expansion in recent years.

Production destined for export. The second relevant aspect has to do with a modification in the type of product being cultivated and the fact that the southern region of the country clearly produces the fruit for export.

[1] Pineapple grown in the large plantations of the world comes from clones of the Cayena Lisa variety. Many of these clones were developed to produce fruit for processing, but the quality of the fruit ended up being good enough for it to be sold as fresh fruit as well. Besides clones there are also hybrids and varieties selected for special purposes. (Jiménez, 1999:14).
[2] Later in this report we will describe this company in greater detail.
[3] In the early 1990s, the areas under cultivation for export totaled 5,200.
[4] This region has the most ideal conditions for growing pineapple, compared with other parts of the country where it is necessary to use artificial irrigation.
[5] It is important to note that the information on the number of hectares is subject to constant revision. We will comment further on this later in this report.

At the end of the 1980s, Cayena Lisa pineapple accounted for 70% and Monte Lirio accounted for 30% of the pineapple grown. This shows the clear redefinition of the variety destined for export.

In Buenos Aires de Puntarenas, on the other hand, where PINDECO is located, about 80% of the pineapple grown is for export. Only 10% grown in the north is for export.

Expansion of the sector. Finally, the development of the pineapple sector in the 1980s meant that in the early 1990s independent investors (national and foreign) decided to invest in this industry, to the point that today a large percentage of national production is in the hands of companies with Costa Rican capital (Monge, 1996).

The next section deals with the factors that explain the expansion of this sector.

1.2 *Recent expansion of the pineapple industry: Primary explanations*

To explain the recent growth of pineapple production and how this non-traditional product has led to an important increase in profits, it is necessary to take into account a series of factors related to the development of this industry and the Costa Rican economic context.

In the first case, we have already mentioned how the introduction of new technology [6] that replaced the variety of pineapple being cultivated for the internal market (Monte Lirio) with a new variety that previously had been unknown in Costa Rica (Hawaiian white pineapple, Cayena Lisa) translated into a push forward in the evolution, production, and output of the product in the 1990s and the first years of the current decade (Quijandría, Berrocal, Pratt; 1997). Other factors that also contributed to the growth of the pineapple industry include:

- Availability of good genetic material.
- Crop is highly responsive to Hawaiian technology (outputs of 90 tons per hectare of exportable fruit in the first harvest).
- Appropriate climate and soils.

A series of aspects that dominate the Costa Rican socioeconomic context in recent years also help explain the accelerated growth of the pineapple industry on a regional and national level.

We should note that, as a result of the change in the economic model, there was a decrease in production for the internal market, which translated into a decrease in the area under the cultivation of certain products such as corn, rice, and beans (La República, 10-10-02)[7].

This condition of the Costa Rican economic structure combined with a series of conditions in the international market (constant demand for Cayena Lisa pineapple on the world market;

[6] The machinery used in the processing and collection of pineapple was practically unknown in the country, and therefore had to be imported. The cultivation techniques (density of planting, fertilization programs, application of agrochemicals, cycle, etc) were totally different from those used in the traditional production of pineapple for domestic consumption. The development of the pineapple industry in recent years was based on totally new technology, which was 100% imported and adopted more than adapted (Quijandría, Berrocal and Pratt,1997).

[7] From 1993 to 2000, there was a clear decrease in the area used for growing the principal agricultural products. Between 1993 and 1998 the total area under cultivation decreased by 2,188 hectares from a total of 440,758 hectares. The shrinking has been most noticeable in two of the largest sectors: basic grains (where land under cultivation decreased by 12% in those years), and in traditional products (where land under cultivation decreased by 3%). The area used for cultivating ornamental plants decreased significantly. (La República, 10-10-02)

stable and attractive prices for sellers; trading channels via transnational companies[8]) and actions associated with the dynamization of the pineapple sector, production incentives, etc (growing demand in the national market for the exportable fresh fruit; existence of an industry capable of processing a large portion of the non-exportable fruit; availability of skilled and efficient labor; internal and external bank financing; State incentives for national and foreign investment aimed at promoting the production and exportation of non-traditional products (incentives such as tax payment certifications, tax exemptions for imported machinery and agricultural inputs, and exemptions from income taxes) (Quirós, 1993).

The manager of the National Pineapple Program of the MAG cites these factors and also indicates that when looking at the expansion of the pineapple sector in recent years, one must take into account the creation of new markets, the training of professionals, the conditions of the soils, the seeds used, the quality of the fruit, and the recurrent crisis suffered by other agricultural sectors (Interview with Alexis Quesada, MAG. Aug 16, 2004).

Finally, another element that explains the expansion of the national pineapple sector is the incorporation of new businesses (small, medium, and large), which were attracted by the promising future of the industry.

1.2.1 Expansion on a regional level

The regions that have seen the greatest expansion of the pineapple industry in Costa Rica have been the Huetar Norte region, the Brunca region (in the south Pacific region, where PINDECO is headquartered), and the Huetar Atlantic region.

The northern region is considered the region with the most growth in the pineapple industry because of the number of hectares that were sown with the Cayena Lisa variety, which is grown for export. Despite the fact that the south Pacific region continues to export the most pineapple, the number of hectares sown in the northern region has increased faster[9]. The quality of the soils in the north also positively impacts the cultivation of pineapple, because it is not necessary to use artificial irrigation. The change in soil use from cattle farming to pineapple cultivation also favored the pineapple industry.

In the case of the Brunca region, factors associated with technology and the tendency to use agrochemicals to accelerate the harvests and improve the quality of the fruit led to an increased and permanent production, especially by PINDECO.

> *"In plantations where pineapple is produced using high levels of technology, such as at PINDECO SA, for example, the Hawaiian system is used, with a density of about 72,000 plants per hectare, which leads to a rigorous application of fertilizers." (MAG web page)*

In the case of the Atlantic region, several aspects should be analyzed, which impact the development of the pineapple industry.

[8] Dole, Del Monte, Banacol,

[9] Figures provided by the director of the National Pineapple Program at MAG, Alexis Quesada, indicate that this region has the fastest-growing pineapple industry because in its communities (San Carlos, Guatuso, Upala, Sarapiquí and Río Frío) there are 9,000 hectares under pineapple cultivation compared to the 4,000 there were in 2000.

The first element is the fact that many small and medium-sized producers changed to new activities as a result of the crisis that hit the traditional agricultural sector. The volatile situation in the international banana market also made many banana producers abandon that product and shift to other agro industries that were reaping more benefits.

Second, certain characteristics of the region explain the success of the pineapple sector: its closeness to the port, and the relatively cheap land. Also, the prosperity of the international pineapple market and the success achieved by an improved fruit, as well as uncertainty regarding Europe's export regimen and the promise of higher profits, were also ingredients that contributed to the expansion of the pineapple sector in the Atlantic region in recent years.

One of the direct effects of expanded pineapple production has been an increase in the price of land (El Financiero, 20-26 Sept. 2004; page 10). In Guácimo, an area with one of the highest rates of expansion of the pineapple industry, the value of one hectare increased from 1.5 million colones four years ago, to 2.5 million colones today.[10]

Finally, the region has not escaped the tendency to provide incentives for the export of non-traditional agricultural products. Things such as export contracts, exemptions from income taxes, tax payment certificates (CATs) and other credit mechanisms stimulated the pineapple industry in this zone.

This situation clearly reflects the end sought by the Costa Rican authorities: despite the fact that they continue to argue that credit for the agricultural sector in general has increased in recent years, the reality is that the increase in loans is not due to a governmental policy but rather to a bank strategy of betting on the least risky products. The increase in available credit is given to traditionally protected sectors such as bananas, coffee, and now pineapple (La República, 10-10-02).

The following table shows how pineapple compared to other activities, in terms of incentives, in the 1990s. Note how these stimuli come from national government agencies, foreign governments, and cooperative agencies, and how the pineapple sector is the most supported in terms of credit. Later we will analyze various aspects related to these incentives and support mechanisms.

[10] In conversations with community members in the Atlantic region, it was stated that small and médium-sized producers are being pressured by larger companies to sell at low prices.

TABLE Nº1
ATLANTIC REGION
SERVICES OR INCENTIVES ACCORDING TO CROP OR ACTIVITY

Incentive	Activity				
	Plantain	**Pineapple**	**Heart of Palm**	**Yucca (Manioc)**	**Cattle**
Prices					Coopemontecillos
Credit	U.S.A/Canada	Holland, Germany, Norway, Spain	Banks	Banks	Coopemontecillos
Technical assistance	MAG,CINDE, Financial entities	MAG, CINDE	MAG, CINDE	MAG, CINDE	MAG
Research	CORBANA	MAG		MAG, ITCR, CATIE	MAG, CATIE, PZA
Fiscal	CNI	CNI	CNI	CNI	
Organization	MAG,coop., Producers' association	MAG, COOP.	MAG, COOP.	MAG, FADAZA	MAG, Coopemontecillos

Source: Aragón and Kreyns; 1994

2. Economic and productive characteristics of the pineapple industry

2.1 The importance of the pineapple industry in the Costa Rican economy

Pineapple is a very important crop in the context of the recent agricultural developments in Costa Rica. It is a sector that is constantly growing. In this sense, it has been indicated that:

> *"Pineapple is one of the crops with the most potential in the international market and high profitability. It is an activity that demands a large workforce." (Quijandría, Berrocal and Prat: 1997)*

Similarly, it has been said that without the participation of the pineapple industry and others (such as banana, coffee and melon) that have been protected and subsidized with the aforementioned incentives and credits, the profits from agricultural products would be decreasing. Thus the importance of pineapple is the result of the relevance it has in the national economic context.

The 2004 data on output of the pineapple sector was very positive; each hectare produces an average of 100 tons of pineapple, so that the total production should be about 1.65 million tons (La Nación, March 2, 2004).

In general, each hectare of pineapple plants produces about 8,000 boxes of fruit (La República, May 12, 2003) and already there are predictions about the future. In 2007, exports will total about 70 million 12-kg boxes, which would mean an increase of 66% over four years (La Nación, July 26, 2004).

With regard to the economic characteristics of the industry, export earnings in 2004 totaled $230 million dollars, which was $50 million more than in 2003.

According to the Foreign Trade Promoter (PROCOMER) 56 companies registered as pineapple producers, producing for export, and in 2003 they sold their produce to 23 countries (La Nación, 26-7-2004). The expansion of the industry is so clear that in 2004 pineapple almost overtook bananas as the main agricultural export product of Costa Rica.

While pineapple is important as a fresh fruit, to the point that it leads the region thanks to the production of golden pineapple, developed by companies like PINDECO, pineapple is also used by the food industry to make juice concentrates, jellies, dehydrated fruit, and slices in syrup.

Internationally, Costa Rica has become the main producer of pineapple destined for markets like the US.

According to available information, in April 2004 Costa Rican producers were providing 61% of the pineapple sold in the US, which places Costa Rica above other countries like México (22%), Honduras (11%), Guatemala (3%), and Ecuador (3%) (La Nación, July 26, 2004).

Other markets also buy Costa Rican pineapple. In 2003, Italy bought 15%, Germany bought 12%, and an additional 12% was divided between other markets like Belgium, the United Kingdom, and the Netherlands.

Finally, it is important to note that the pineapple industry is an important source of employment for about 60,000 Costa Ricans. In this year alone, as a result of the growth of the sector, it is predicted that 5,000 new jobs will be created in some regions like San Carlos, Sarapiquí and the Atlantic[11].

There are about 1,200 small and medium-sized producers today. Five years ago there were only about 300 dedicated to export (La Nación, July 26, 2004).

The fight for the fruit:
Del Monte vs. the other companies

The Gold pineapple of Fresh Del Monte, which grows in the red volcanic soil in the remote area of Buenos Aires, Puntarenas, is so sweet, so juicy, and so durable, that it has become the most-sold pineapple in the world.

Fresh del Monte got a patent – the first pineapple patent in more than 50 years – and sent threatening letters to scientists and other farmers who tried to reproduce it. The company also hired security guards to protect the seedlings 24 hours a day at their Costa Rican plantation.

After a court decision made it clear that Fresh Del Monte had patented a different pineapple, it is likely that its competitors will start to inundate the US with versions of the Gold pineapple at the end of this year.

La Nación, October 10, 2003

[11] With regard to this topic, members of Atlantic communities have expressed concern because they have seen an increase in the number of migrant workers, primarily Nicaraguans, working in the pineapple industry, who face problems with low salaries and excessively long workdays. (Interviews with community leaders, October 2004).

2.8 Pineapple producers in Costa Rica: General characteristics

Pineapple is produced year-round and is mostly grown by small and medium-sized producers[12] (La Nación, May 7, 2004).

The supply of pineapple has increased in recent years. In the mid 1990s, when the pineapple industry began to become a major exporting sector, there were about 20 producers, mostly located in the north, where about 50% of the national production originated at that time (SEPSA 1995; cited in Quijandría, Berrocal, Pratt, 1997). The pineapple industry that developed in the north was in the hands of large companies and associations of small producers. Ten years later, there are about 30 companies located throughout the country: two in the southern region, one in Parrita, others in San Carlos (5) Guatuso (1) Upala (1) Sarapiquí (3) Río Cuarto de Grecia (3) and the rest in the Atlantic region (Siquirres, Bataan, Guácimo and others). (Interview with Alexis Quesada, MAG. Aug 16, 2004).

Costa Rica has an interesting distribution of pineapple companies on the national and international markets. Like other sectors such as bananas, the portion dedicated to the export market is in the hands of only a few companies, which are mostly transnationals.

In this sense, the distribution of the national market is clear: there are a significant number of small and medium-sized producers who pass their production on to transnational companies who buy it and then export it.

As stated earlier, PINDECO (Pineapple Development Company) merits a special mention. PINDECO is the subsidiary of the transnational company Del Monte, and it began operating in the southern part of Costa Rica (Buenos Aires de Puntarenas) 25 years ago. This is the largest pineapple company in the country, given that it has a large production area[13], both for national consumption and for export.

Characteristics of PINDECO

Direct permanent employees: 2,000
Indirect employees: 2,500
Net hectares of pineapple cultivation: 4,000
Export goal: More than 10 million 40-lb boxes in 2000
Achievements: First fresh pineapple exporter worldwide
Projects: Four different projects with independent producers in Northern Costa Rica with 1,600 hectares of pineapple.
Each year it contributes about 600 million to public institutions like CCSS, the Popular Bank, INA, and IMAS.
(La República; April 20, 2000)

In addition to PINDECO's importance as a producer and exporter of pineapple on a national level, one must consider its contributions to the technological changes that the sector experienced in recent years[14]. This led to a highly efficient production system, proper treatment of the fruit in the packing plants, efficient transportation and connections with the international market (MAG mimeo, undated).

Another important exporter in Costa Rica is Dole, which was established in the 1990s as a buyer and exporter in the northern region and the central Pacific region.

[12] Most small producers (about half) own less than one hectare (www.terra.co.cr May 8, 2004)
[13] Despite the fact that official figures show that PINDECO has 4,000 hectares, information from former workers and local organizations indicates that PINDECO's land surpassed 14,000 hectares in 2004.
[14] While this company was the one that introduced the basic technology to the country, more recent improvements were not widespread and are available only to some producers associated with PINDECO. (Quijandría, Berrocal, Pratt; 1997)

The third most important company is the Banacol group, which was the first to start a program for individual producers in 1988-9. In 1993, it signed contracts with six companies, for a total of 800 hectares. BANACOL S.A. (tropical fruits from the north) is the head company of a series of vertically integrated companies, from production to transport, marketing, and distribution of products sold under the BANACOL label and other labels.

The structure of the industry varies from region to region.

In the northern zone (Huetar Norte), several "large" companies dominate pineapple production (which would explain its expansion), selling almost all production to the Standard Fruit Company and Banacol. In the southern region (Brunca), production is totally dominated by PINDECO.

The Del Oro and Tico Frut companies buy pineapple from all of the producers that do not fulfill the requirements for fresh fruit exports. They make concentrates.

PINDECO does not buy fruit from small producers. It has its own production and strategic alliances with other large producers. Dole, Chiquita, and Banacol sell fresh fruit for export. (Interview with Alexis Quesada, MAG. August 16, 2004)

2.9 Pineapple production for the domestic market and for export: Relevant issues

The growth rate of the pineapple production, combined with the increase in the amount of land used for producing pineapple, translated into aggressive export behavior. Available literature on this topic indicates that the main factor that contributed to the successful exportation of pineapple was the technological change promoted by large companies like PINDECO in the mid 1990s.

In this time, a new variety was introduced that produced a revolution in the world market, due to the fact it was the first time in 20 years that a novelty appeared in the production of pineapple. The variety, known by the scientific name MD2, is produced, marketed, and patented in the world under the name Del Monte Gold by the company Del Monte and its Costa Rican subsidiary PINDECO (See box "*The fight for the fruit: Del Monte vs. the other companies")* (La Nación, Aug 11, 1997).

This type of fruit is characterized by a more asymmetric and uniform shape, and a very attractive external yellow color. On the inside, it has a higher sugar content and five times more ascorbic acid (vitamin C) (La Nación, Aug 11, 1997).

Official data indicate that of all national production, 75% is exported as fresh fruit, 7% is consumed domestically, and the rest is used in processing. (Interview with Alexis Quesada, MAG. August 16, 2004).

Pineapple is by far the most important product in the "non-traditional" export category.

TABLE Nº2
COSTA RICA
FRUIT EXPORTS
MILLIONS OF DOLLARS
2003

Fruit	Value
Pineapple	159
Melons	55
Watermelon	5
Mangos	4

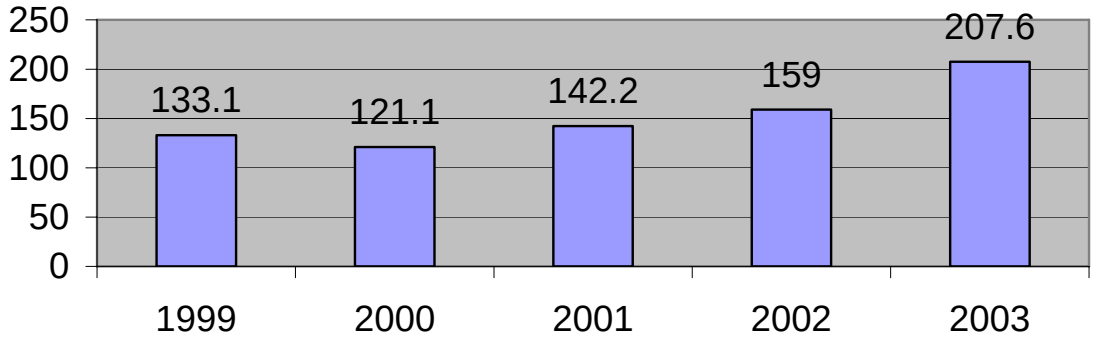
Source: Comex, cited in La Nación, April 1, 2004

Other elements explaining the placement of Costa Rican pineapple in the top ranking of world exports refer to the quality, the use of advanced technology, the ideal climate of Costa Rica, and the good reputation achieved in the international markets (La República, July 15, 1995). The ups and downs of the world market have also been important, such as those caused by the crisis in international coffee prices, which pineapple farmers took advantage of to be able to obtain more land.

Available information from the past several years indicates that pineapple exports increased considerably and formed part of the agricultural exports that brought in almost $1 billion dollars in 2003, 6% more than export sales from 2002 (La Nación, Dec. 29, 2003).

In that year, export sales of pineapple were only surpassed by sales of parts for modular circuits, textiles, bananas, and equipment for serum infusions and transfusions. Pineapple sales also surpassed the sales of medicines (La Nación, Feb 16, 2004). In 2003, pineapple exports increased by 37.9% (Enlace Mundial, May 2004: 29). Pineapple is one of the ten most important Costa Rican export products, according to data from the Foreign Trade Promoter.

Costa Rica
Changes in pineapple exports
Millions of dollars
1999-2003



Source: La Nación, 2004.

In 2004, the Ministry of Agriculture and Cattle (MAG) estimates that exports could increase by $70 million dollars (www.terra.co.cr May 8, 2004). According to data provided by the Ministry, export sales totaled $280 million dollars, a significant increase from the $207 million recorded the previous year (www.terra.co.cr May 8, 2004).

The following table shows the importance of each Costa Rican region in terms of pineapple production and exports.

Costa Rica
Pineapple exports by region
2001

Region	Valor FOB US$	Participation
Brunca	93.1	65%
Central	21.1	15%
Huetar Atlantic	15.3	11%
Huetar North	12.1	9%
Chorotega	0.1	0%
Others	0.5	0%
Total	**142.2**	**100**

Source: Procomer, 2001

Note how the Brunca region, where PINDECO is located, is responsible for a significant portion of the Costa Rican pineapple exports. Pineapple exports are also important in the Central and Huetar Atlantic regions. In the case of Huetar Atlantic, the nearness of the port appears to have an impact on the agro export profile of that region.

There are other cases that are worth mentioning, such as that of the northern region, which, despite having large areas of pineapple plants, has been more dedicated to growing the criolla variety, for the domestic market. Thus some regions are more important than others in terms of pineapple produced for export. The following table shows statistics on pineapple exports by region, over the past two years.

TABLE Nº3
COSTA RICA
PINEAPPLE EXPORTS BY REGION
Millions of dollars
2002-2003

Region	2002		2003	
	Value FOB	Position	Value FOB	Position
Central	13.2	42	35.1	17
Huetar Atlantic	27.7	2	47.4	2
Brunca	88.2	1	79.0	1
Central Pacific				
Chorotega	0.5	15	2.1	10
Huetar North	22.1	2	43.9	1

Source: ASEPROLA table using data from PROCOMER.

Characteristics of the markets that buy pineapple

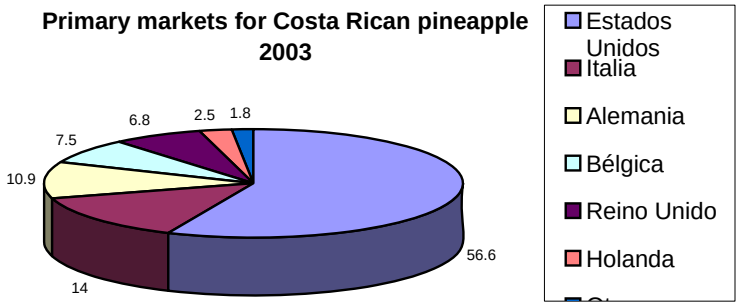
In recent years, the world pineapple market experienced accelerated growth as a result of the increase in demand for tropical fruits (fresh, in cans, in juices, dried, and processed) in large markets such as the US and Europe. International prices have oscillated, Hawaii is producing less pineapple, and other regions of the world have rapidly entered the pineapple market.

In the 1990s, worldwide pineapple production increased by 20 million tons, to a new total of 614 million tons in 2000. Of that production, 98% came from developing countries (Central America Weekly, #175.1991).

Today, the main fresh pineapple market is the US, which is supplied by Hawaii, Honduras, Costa Rica, the Dominican Republic, and in small part also by Mexico. The US receives processed pineapple from Hawaii, the Philippines, and Thailand. Europe imports fresh pineapple from the Ivory Coast, Kenya, Costa Rica, and Brazil, and processed pineapple from Kenya and Asia. Asia buys pineapple from the Philippines, Thailand, Malaysia, Taiwan, and Okinawa[15] (Jiménez, 1999:14).

These markets are supplied, as already indicated, by North American transnational companies that specialize in fruit production and marketing, including Dole, Chiquita and Del Monte (Quijandría, Berrocal, Pratt; 1997).

The United States and some countries of the European Union are the main importers of Costa Rican pineapple. The following chart shows the distribution:



United States

Of the total fresh pineapple exports, 56% are sent to the United States. Costa Rica is the main supplier of US pineapple imports (Hawaii is considered a national producer, and so pineapple produced in Hawaii is not an import). Furthermore, Costa Rica sells 4.3% of the dry pineapple imports, 23% of the processed pineapple, 1% of the canned pineapple, and 4% of the pineapple juice marketed in the US.

[15] Other countries in the region, such as Guatemala, Honduras, the Dominican Republic and Ecuador, have entered the pineapple production industry, strengthened by bank financing that started to provide credit without any control, because of the success the pineapple was experiencing on the world market. (La Nación, March 2, 2004)

European Union

The European Union (EU) represents the second most important market for Costa Rica. Forty three percent of Costa Rican pineapple exports are sent to the EU, representing 16% of the EU pineapple imports. This does not include the pineapple derivatives that are also sold in the EU (Monge, 1996).

Despite the importance of this market for Costa Rican exports, we must remember that after a period in which pineapple was sold without tariffs because of the Generalized System of Preferences (GSP), which gave benefits to developing countries, the WTO forced the elimination of these subsidies, so that tariffs must be paid after January 2006. Another problematic aspect is the recent entrance of ten new countries to the EU, which will increase demand and make it harder to negotiate with the EU as a commercial block.

A sustainable market for pineapple

The EU is the largest market in the world for organic pineapple, consuming more than 2,000 tons in 2002. The second largest market for organic pineapple is the US, with an estimated annual consumption of 1,000 tons (Centeno, 2003).

This market is just emerging, due to some limitations that restrict supply. The main barrier to organic pineapple production continues to be the use of ethylene to induce flowering. It is also worth mentioning that Honduras was the main provider of organic pineapple to the US market, but its production was drastically reduced in the late 1990s as a result of the destruction caused by Hurricane Mitch in 1998 (Centeno, 2003).

In the last trimester of 2002, a Fair Trade certification for tropical fruits was introduced to the market. This created a new category of "sustainable pineapple", which has grown rapidly. The amount of Fair Trade pineapple in the market is estimated at 1,000 tons (2003). All of this is currently sent to the Swiss and English markets. The countries producing Fair Trade pineapple are Costa Rica[16] and Ghana.

In Costa Rica, Dole produces organic pineapple on 90 hectares. There are other small projects for local production, which are in the stage of producing organic seeds and certifying some farms (Interview with Alexis Quesada, Manager of the National Pineapple Program, MAG. Aug 16, 2004).

The world market for conventional pineapple is headed towards an inevitable saturation point, as a result of the increase in production areas in many countries. There is no doubt that this will lead to lower prices and a possible crisis in the medium-term, which will put the organic sector at risk. Furthermore, it is expected that premiums paid for organic products will gradually decrease until they disappear within a couple of years (Centeno, 2003).

[16] There is no information available on the specific regions where organic pineapples are produced in Costa Rica.

2.10 Pineapple production in Costa Rica: Statistical data and major production zones

As mentioned earlier, the main characteristic of the recent development of the pineapple industry in Costa Rica has been the continued expansion and increase of the production area (number of hectares under pineapple cultivation) as well as the quantity produced (metric tons per year).

The following table clearly shows the recent changes, with special emphasis on the last two years (2002-2003) where expansion has been particularly accelerated[17] and has turned Costa Rica into a major player in the international pineapple market.

TABLE Nº4
COSTA RICA
CHANGES IN PINEAPPLE PRODUCTION
1998-2003

Year	Area (hectares) under cultivation	Estimated production (metric tons)
1998	7,000	850,000
1999	10500	1,250,000
2000	13100	1,450,000
2001	14500	1,650,000
2002	15200	1,850,000
2003	17200	1,980,000

Source: Interview with Alexis Quesada. MAG. Aug 16, 2004

While these figures are official, provided by authorities active in this sector, empirical evidence leads us to believe that the area under pineapple production is in fact much larger than estimated here. Later in this report we will analyze this inconsistency in more detail.

Pineapple is produced in almost all parts of the country, but especially in the south Pacific region and the Atlantic region, where, in the mid 1990s, some small producers benefited from export-promotion projects financed by the Institute for Agrarian Development (IDA), but had some problems with diseases like Tecla and difficulties with the post-harvest and marketing processes (Bogantes, 1996).

Today, according to data from MAG, there are about 6,000 hectares under pineapple cultivation in the region, as shown in the following table:

[17] The increase in the area used to grow pineapple is the result of the move of small and médium-sized producers into this sector. These are farmers who used to grow roots and tubers, whose international prices are very instable. There are also médium and large companies that stopped growing bananas and switched to pineapple. Another change in land use was related to the cattle farmers, who are currently being affected by a depression, and in the northern region some have switched to pineapple growing. (La Nación, July 26, 2004)

FARM	HECTARES
Finca Zapota Tica-Ban	200
Grupo Acón	4.800
Escorpiones Banacol	180
Grupo Volio Hartinguert	740
Total	**5,920**

Source: Ministerio de Agricultura y Ganadería (MAG) Department of Disease Control.

Recently, production has increased due to the conversion of former banana plantations into pineapple plantations, replacing traditional production with pineapple production.

The northern region has seen the most drastic growth in pineapple production. Today it has 9,000 hectares, whereas in 2000 it had only 4,000 hectares. The development of pineapple production in this region can be explained by various things that have already been mentioned, including the change in the economic model, incentives and other support mechanisms for export-oriented production, and the characteristics of the national market. This last factor is important to mention given that:

> *"The initial production scheme prioritized PINDECO's production, given that PINDECO produced about 65% of the pineapple in the country in the year 1989. Nevertheless, in the 1990s there was a change to a system in which PINDECO bought a large part of the pineapple that it intended to export from independent producers. PINDECO has a "satellite farming" arrangement with those producers, where the farmers provide the land and the labor and PINDECO provides the technology and the machinery, while guaranteeing a buyer for the product."* (Quijandría, Berrocal, Pratt; 1997).

The following map shows the geographic distribution of pineapple production in Costa Rica, as we have mentioned throughout this study.

2.5 The organization of the sector: Institution and incentives.

There are two institutions in Costa Rica related to the pineapple sector.

In the 1990s the Ministry of Agriculture and Cattle (MAG) established the National Pineapple Program as a way to promote the establishment of pineapple as an important crop in the country. The Program has developed a technology package that is used as a guide for those who want to produce pineapple. Furthermore, the Program does research to improve production and productivity.

The Program manages technical aspects (technical assistance, research, financing, etc), markets, and other aspects of the product, and is primarily aimed at small and medium-sized producers in Costa Rica (Interview with Alexis Quesada, Manager of the National Pineapple Program, MAG. Aug 16, 2004).

CINDE (Coalición Costarricense de Iniciativas de Desarrollo / Costa Rican Coalition of Development Initiatives) deserves special mention. It was created in the 1980s with funding from USAID (US Agency for International Development) as one of the links in the new export promotion model.

CINDE seeks to attract foreign investment to Costa Rica. Its role in the establishment of the pineapple industry was very important, because it was the institution that attracted the investment of PINDECO. Furthermore, in the 1990s, CINDE developed projects for creating marketing consortia that facilitated the export of agricultural and industrial products from small and medium-sized companies, including companies that produced jams and dehydrated fruits (Quijandría, Berrocal, Pratt; 1997).

The other entity linked to the pineapple industry is the Cámara Nacional de Productores y Exportadores de Piña (National Chamber of Pineapple Producers and Exporters) that began functioning again two years ago and has about 20 members. We do not have data showing the participation of women in this institution.

Incentives

Two types of incentives have been used in the pineapple industry, depending on whether they relate to the production stage (export contract) or the industrialization stage (free trade zone).

The first incentive (export contract), was for exporters to countries outside of the Central American Common Market. This instrument exempts the importation of raw materials (including seeds and agrochemicals) and production equipment from tariffs. There is also an exemption from sales tax, and the Certificado de Abono Tributario (CAT) which was a bill negociable on the stock exchange, redeemable against the income tax, which was given to the producer in proportions ranging from 5-20% above the amount of exports FOB of the companies (Quijandría, Berrocal, Pratt; 1997).

The Free Trade Zone System was designed to differentiate the exportable industrial products of Costa Rica. Its benefits only apply to those companies or production processes that include an aggregated added value through a process of industrial transformation. Exemptions in this system can be as high as 100% and include taxes on the importation of raw materials and inputs (including packaging), equipment and machinery, taxes on profits and sales, for a period of at least 10 years (Quijandría, Berrocal, Pratt; 1997).

In addition to these incentives, which are dedicated to the promotion of fruit exports, credit from the national bank was also fundamental in the accelerated growth of the pineapple sector in Costa Rica and its orientation towards the world market.

2.6 Brands, labels, and certification.

On a national level, the only requirement for pineapple producers is the health certificate awarded by the Department of Plant Health (MAG). All pineapple exports have that certificate, which shows that a sample of their product has been examined. The certificate is required by the International Health Protecion Convention and is given in the customs areas when the product exits the country.

The US does not require pineapple shipments to display this certificate, and thus it does not comply with the requirements of said convention.

In Europe, there is strict control in the port of Hamburg, although it is very unlikely that European countries would be infected by plagues or illnesses that originated in the tropics (Procomer, pineapple profile, 2000:30).

According to official information, the Costa Rican pineapple sector is certified in Europe with the *EUROGAP* "Good Agricultural Practice" label, which is a set of minimum production regulations for producing horticultural products (fruits, vegetables, potatoes, salads, cut flowers, and nursery products).

EUREP uses the GAP as a production norm for certifiying good agricultural practices in the agricultural and horticultural industries. So far, GAP is being applied to fresh fruits and vegetables. All agricultural products destined for human consumption can be labeled with GAP. There are special norms being developed as well for flowers, producción animal y alimenticia.

EUROGAP is based on principles such as risk prevention, risk anaylsis (using HACCP and others), sustainable agriculture through Integrated Pest Management (IPM) and Integrated Crop Management (ICM), using existing technology for the continuing improvement of agricultural systems (information taken from www.eurep.org).

Quality norms for pineapple

For the US market, the minimum requirements for pineapple in all categories (without affecting the special requirements for each category), should be:

- Firm, whole, and fresh.
- Healthy (no bruises, rotting, or other alterations that make them improper for human consumption).
- No abnormal external dampness.
- No strange odors or taste.
- With the typical form and color of the variety.
- A well-developed product, mature enough to survive transportation and manipulation, and arrive in optimal condition to its destination.

For the European market, the color and condition of the crown are the most important quality indicators. When the pineapple is ripe, it should be bright and brilliant, with a bright green and well-developed crown. The pineapples are classified according by their weight into six categories. The fruits that will be exported by air should be in the maturity category M2, with a crown between 50 and 130 mm. They are left with a 10-30 mm stem and disinfected with fungicides, to prevent fungi from penetrating them (Procomer, pineapple profile, 2000:48).

The impacts of the pineapple industry: labor issues, organizational dimensions, and environmental issues.

Up to this point, this report has presented a broad explanation of the main elements that characterize the Costa Rican pineapple industry, its importance in the context of the country's export industries, and the economic benefits that it brings to the country. We have analyzed

how the industry has experienced accelerated growth, as a result of socioeconomic factors and international opportunities.

In the midst of these general considerations, a series of concerns arises, regarding the consequences of pineapple production that have not been explored in depth. These include labor, organizational, and environmental consequences.

To analyze these impacts, we did field work in two areas where the pineapple industry's expansion is affecting people's lives, their working conditions, and the environment.

These two locations are communities near pineapple plantations in the Atlantic region, near Guácimo. We interviewed neighbors, pineapple workers, former pineapple workers, community leaders, Catholic Church representatives, and representatives from local schools.

Meanwhile, we also talked with PINDECO workers, in the south Pacific region of the country, as well as representatives from a local movement that was formed to respond to PINDECO's social and environmental practices.

The following sections of this document describe our analysis of these issues.

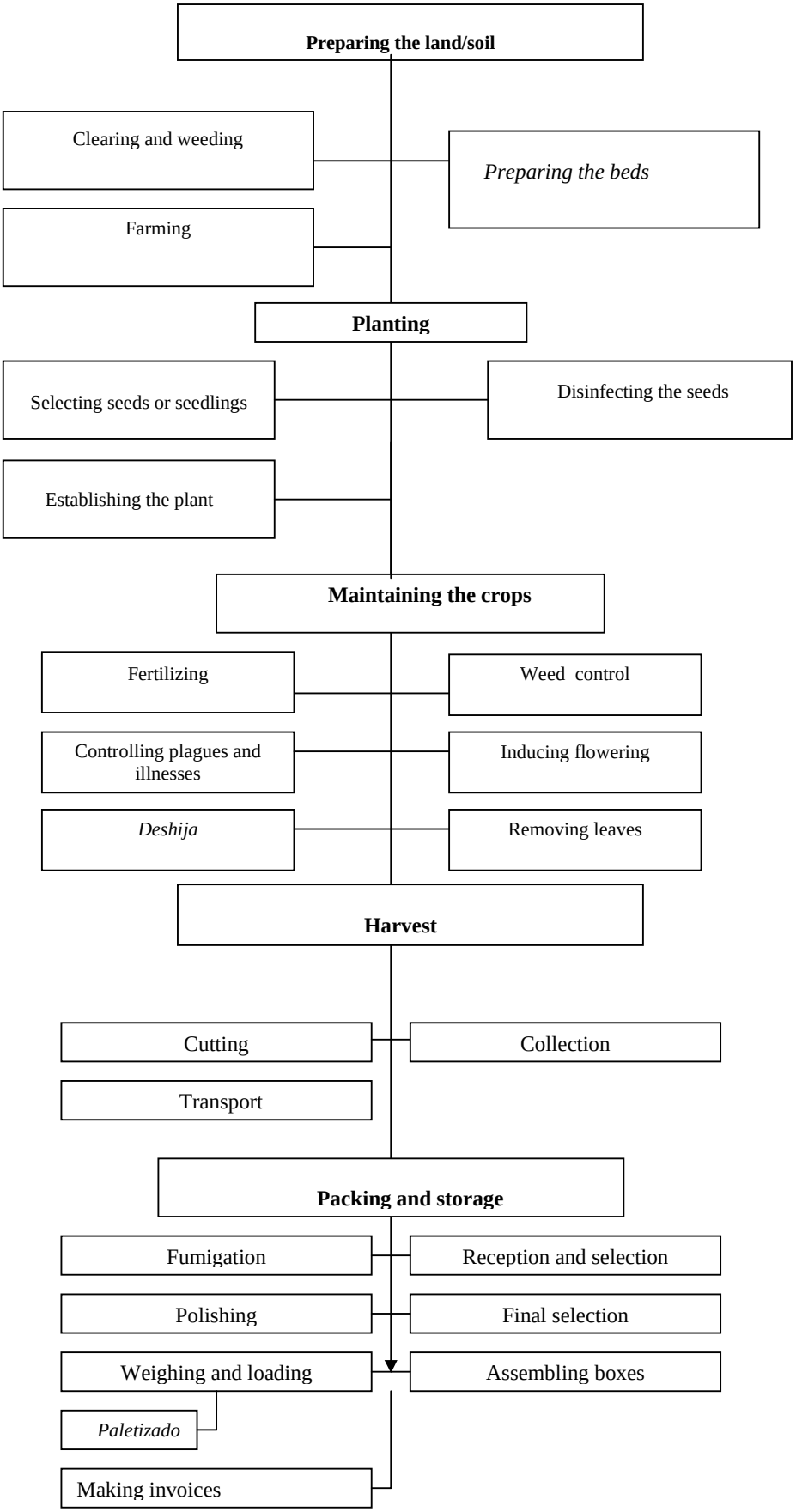
6. Labor conditions for people working in the pineapple sector[18].

3.1 The work process

The pineapple production system used in Costa Rica has a strong division of labor as shown in the following chart. For purposes of this project, we determined that the final two parts of the production process (harvesting and packing) were worth special attention when discussing working conditions, occupational health issues, and levels of organization.

[18] Available information showed that about 60,000 people work in the different stages of the pineapple production process.

PINEAPPLE PRODUCTION SYSTEM



There was not enough documented information to do an in-depth study of the working conditions for men in comparison with working conditions for women in all aspects of the pineapple production process. However, it was possible to determine general tendencies by looking at case studies and estimating the number, volume, and quality of the tasks done by men and by women.

Men's work vs. women's work. First of all, we can affirm that nearly all of the field work in the pineapple industry (preparation of fields, maintenance, harvesting, cutting, transportation) is done by a primarily male workforce.

In particular, in the case of PINDECO (which is emblematic in terms of size, production levels, economic importance, etc), there are about 5,000 workers. Of this total, 3,000 are field workers and all of these are men. There are an additional 1,200 packing workers, of which 500 are women and 700 are men. Of the 17 managers, only one is a woman (the company lawyer). There are 110 people in the workshop (30 women and 80 men) and 160 administrative workers (80 women, primarily working in services, and 80 men).

There are two interesting things to pint out regarding the sexual division of labor in this industry. First, the work assigned to women is primarily in the packing area. Second, generally speaking there are very few women working in the pineapple industry. In PINDECO, this situation is part of a presumed tendency to reduce and make invisible the work done by women, as expressed in the following commentary:

> *"The company policy is the decrease female participation in the industry; first they took women out of the fields because pregnancy made them incapable of that work. And now in the packing plants the same thing is happening: they are going to remove the women because 'we have to give them leave time' and because the strong chemicals make them nauseous."*
> (Interview with PINDECO workers, August 2004).

This tendency is also seen in the Atlantic region. In 1998, a study showed the distribution of tasks in the packing plant at one farm, Finca Francia, located in that region:

TABLE Nº6
DIVISION OF LABOR BY SEX
IN THE PINEAPPLE PACKING PLANT OF FRANCIA FARM

Activity	**Total**	**Men**	**Women**
Selection	3	3	0
Cutting the crown	2	2	0
Washing the pineapple	10	0	10
Packing boxes	4	4	0
Attaching labels	1	1	0
Packing the *paletas*	2	2	0
Fastening the *paletas*	2	2	0
Total	**24**	**14**	**10**

Source: Dijksterhuis, 1998:30.

These figures show that the division of labor by sex is very obvious. If women want to work at a pineapple plantation their only real option is to work washing the fruit, since this is considered a "hygienic and delicate" task (Dijksterhuis, 1998), values that are considered particularly feminine.

However, our fieldwork in the Atlantic region did give us some doubt on this presumed division of labor, because we did find some information showing an increase in the number of women working in the field (cutting, collecting). As a young woman who used to work on a pineapple farm said:

> *"They are sending women into the fields. They have had problems with pregnant women. In the field we tie up the plants, collect mecate, break the fruit, open young seedlings, carry pineapples, all that…and we weed, and to do that we have to stoop over to be able to carry a full sack, it was hard work. They also had pregnant women do that work, and one of them lost her baby".*
> (Interview with a former worker. Atlantic region, October 2004)

Salaries. The second aspect of interest is the perception of the salaries paid to the pineapple workers. The analyzed information does not give specific facts for the sector or statistics categorized in terms of gender. But we do know that the official minimum daily wage for an unskilled agriculture workers is 3.654 colones (US$8.12 at the current exchange rate).

In the case of the company PINDECO, workers who were interviewed indicated that they receive the legal minimum salary of approximately 500 colones per hour (approximately one dollar) but they do not adjust this to take into account the fact that workers generally work more hours per day than the law allows. They also receive no incentive or extra salary for working overtime.

It is important to consider the salary in terms of gender, which proves to show an interesting difference. Fieldworkers are paid by the hour. The people who work in the packing plant, on the other hand, are paid piecerate, so if there is no fruit, then there is no work to be done and the workers are unable to earn any wage.

As mentioned earlier, most workers in the packing plants are women, so there are salary differences based on gender differences and the different tasks carried out by men and women.

> *"There is a problem; in the fields we work by the tour; in the women's area, the plants, they work by piecework. That is to say, that if they work they earn money, if they do not work they do not make money. Here we work as a group, both women and men together. The boss says: today we have 260 boxes, we have to get them out by a certain time, so for this work will pay 5,000, 6,000, 8,000 pesos. This contract has to be filled between everyone in the plant."*
> (Interview with workers' representatives from PINDECO, August 2004).

To sum up, the work process reveals some things that impact conditions for the women and men carrying out the activities. In the pineapple industry, the division of labor establishes that the men work in the fields (cutting, collecting, and transporting) and the women work in packaging (selecting, wrapping, and packing the fruit in boxes, among other duties).

However, in this study we confirmed a slight change in the said division of labor as women are increasingly participating in the work that was typically assigned to men. This could be a mechanism employed by the companies to increase production by assigning more busy hands to the different parts of the pineapple production process. Still, men and women do not earn the same salaries, as mentioned earlier.

3.2 Labor conditions for men and women in the pineapple sector

There are various critical aspects in the information surrounding the workers and the conditions they encounter while working in pineapple plants.

There are very long workdays for those who work in the fields, they are also exposed to extreme climate conditions such as the strong sun (without protection) and the rain as the winter season intensifies in the work zones. The workers are not given adequate time to rest and are under pressure to be very productive. Below are a few other characteristics of the working conditions in the pineapple industry.

In the first place, they mentioned workdays that last from 7 am until 8 o'clock in the evening. Because of this there is little opportunity for a family life or personal life and it creates a life full of exhaustion. This testimony reflects the personal situation of many workers, both men and women, in the industry:

> *"…I left to here at 4:30 in the morning and came back at 9 or 10 o'clock at night every day, Monday through Sunday… I came home to go to bed… I didn't even have the energy to go ask for my paycheck."* (Interview with a woman who used to work in the pineapple industry. Atlantic zone. October 2004).

Without a doubt one of the most significant impacts of this situation is the fact that family, community, and neighborhood experiences are happening with a clear lack of human capital. Without time for things other than rest, the opportunities are scarce to generate or fortify family relations and solidify a community organization. This detriment to the workers is at the benefit of the companies in the industry.

A second aspect that adds to the difficulty of their labor condition is workers' prolonged and systematic exposure to the chemicals that are used to increase productivity in the pineapple fields.

Third, there are some mechanisms of labor discrimination: persecution of those who try to organize unions, sex-based discrimination, and the firing of workers who denounce mistreatment.

A fourth aspect has to do with the little support given by the companies to certify occupational health situations (Interview with a workers' representative, PINDECO).

Finally, there were references to the forms of hiring, because harvest workers (in the case of PINDECO and with some general references for certain pineapple companies of the Atlantic region) are hired for two months, two and a half months, or three months, so that the company is exempt from having to give workers certain social benefits. There are also cases where a

worker is threatened into doing tasks that they were not hired to do, putting at risk their health and working conditions. The use of subcontractors contributes to this hiring situation.

> *"The company has various contractors who hire workers for only a month so as to not pay them social benefits. They do not pay these people the minimum wage, or insurance, or guarantees, etc. In the zone there are many people who are in need of employment and for this they are abused and taken advantage of by the companies. The contractors hire workers for a month then fire them and hire a new group and fire them again a month later so that they never have to pay insurance. Today there are three or four contractors in the zone."*
> (Interview with a workers' representative at PINDECO, August 2004).

It is possible to affirm based on the evidence that there is a direct relationship between the expansion of the pineapple industry in Costa Rica and the labor conditions for workers. The increase in levels of production should also be explained as the result of the conditions that workers are systematically subjected to.

Below we detail these different elements, by looking more closely at PINDECO in the south, and at companies in the Atlantic region.

The labor conditions in the south Pacific region: the case of PINDECO

In the consultation process with the employees of the company PINDECO[19] various aspects of the length of a workday, the salaries, lunch break schedules, and the availability of basic work tools, etc. were examined. The questions were intended to discover the labor conditions for the workers at this particular company.

Before these characteristics are incorporated in the analysis, a profile of those interviewed is given so as to understand the social and cultural base of those working in the pineapple production industry, particularly in the case of PINDECO.

In the first place, the majority of those interviewed are Costa Rican (only one reported to be Nicaraguan) between the ages of 27 and 49. In general most are above 30 years old, an element that should be taken into account because usually those who are most productive are between the ages of 20 and 40; of those consulted, most were older than 40 years old.

This is an interesting element if we take into account the company's practice of using and discarding workers once they have completed their productive cycle. This is what Roberto Picado, representantive of the Frente de Lucha contra la Contaminación de PINDECO (FLP) referred to when he said:

> *"What has the company done these past few years? First it eliminated all the workers of a certain age. So those who had 15 or more years of experience with the company and were one or two years away from being able to receive a*

[19] This consultation process consisted of a series of general interviews with the workers in the fields and in the packaging plants; the majority of them were from the union SITRAPINDECO (Sindicato de Trabajadores de PINDECO). Although there were not a very large number interviewed due to scheduling difficulties with the workers, the interviews did allow for a deeper understanding of the labor relations and conditions inside the company. Eight men and two women and more than two member representatives of the group Frente de Lucha (FLP) were consulted.

> *pension, were fired… they received compensation, yes, but… I feel that it was very unjust because you exploited that person; you took their energy, and they had one year left, maybe two… they would have stayed here to be able to get their pension… but they threw them out. Now they are doing the same thing: firing people who have been working at the company for 5 or 6 years … the company is in a process where it does not want people who have been there for years.*[20]*"* (Roberto Picado, Respresentative from the Frente de Lucha contra la Contaminación de PINDECO. December 2004).

Second, these are people with low levels of education, because many of them only completed elementary school. Many of them are heads of households, with their wives and/or children and brothers or sisters depending on them.

In general, the interviewed workers are people who have lived in the Buenos Aires area for a long time, in communities located near to the company. Most of them did other agricultural work before going to work at PINDECO.

Working conditions

Working hours and forms of payment

The workers said that they work an average of 10-12 hours per day, and they said that they were paid overtime. Most work six days per week with one rest day, although sometimes they work seven days if their presence is required for a certain task in the production process.

Thus it is clear that these workers experience the same situation of other agricultural workers, who generally work more than the normal 8-hour day, in order to earn a higher wage. This is seen as a normal thing to do by most workers.

Workers' representatives are more conscious of the distorsion involved in this situation. They say that the workers' hours sometimes exceed 12 hours per day. According to the workers' representative interviewed for this study, this situation is constant and has become a common company labor practice:

> *"... With respect to the working hours, they make us arrive at a certain time, and leave after the normal end of the workday. For example: if the normal starting time is 5:30, they make us arrive at 4 am. And if the normal end of the workday is 1:30, they don't let us leave until 2, 2 pm. If we compare this to the Labor Code, they are not in agreement."*
> (Interview with SITRAPINDECO union representative, July 31, 2004.)

The people we interviewed said that they are paid their salary every 15 days. We asked if they were ever paid in kind, or with food, but they said that they are always paid in cash.

Workers are paid different wages depending on what part of the production process they are involved in. For example, field workers (cutters and harvesters) make an average of 580 per hour (US$1.20) and 861 per overtime hour (US$2).

[20] Those consulted have on average more than 4 years of experience with PINDECO. But we did talk to two people who have worked for the company for 14 and 22 years.

As we stated earlier, the wages are different for packers, because they are paid based on the number of boxes that they pack, and not by the hour. They are not paid extra for overtime work.

This transcript gives more detail about this situation:

Interviewer: How much do they pay you?
Woman worker in packing plant: That varies. It depends on the boxes that one packs…it is not by the hour.
Interviewer: And how much do they pay per box?
Woman worker: I don't ask. But it can vary by pay period, some pay periods are good and others aren't…this time I got 104,000 colones (US$224) because it was good…it isn't a fixed salary.

Two problems can be identified through this conversation: the differences in payment methods depending on the task, and the situation of women workers in the packing plant, who do not have job or salary stability. Sometimes, if there is no production and not enough volume of pineapples to pack, women are sent home, and even though they spent money on transportation to get to the plant that day, they aren't paid anything. As Roberto Picado, of the FLP, says,

> *"Now in the packing plant they have changed the contracts, it is no longer pay by the hour, but by the number of boxes packed…often the worker gets there at 6 pm. And at 10 pm they tell them: no, go home…not because the worker didn't work, but because that day there was no production. So they are hurting the worker …why? Because the worker has to leave home at 6 pm and come to work, and they are not going to pay them for the basic 8 hours of work, which is what they should pay them, right? They pay them for the boxes packed."*
> (Roberto Picado, representative FLP, Dec. 2004).

Hiring

In general, the interviewed workers said the company had directly hired them. But we found some examples of other hiring methods that indicate flexibility, such as the existence of subcontractors. Subcontracted workers generally don't get social and labor benefits established by law.

Second, there are some forms of hiring where people are hired for 2 or 2.5 months and then fired and rehired. About 500-600 people in PINDECO are in this situation

Health care (access and quality)

The issue of health care should be analyzed in terms of a) how many workers are covered, and b) the quality of the attention they receive.

The interviewed workers say they are affiliated to social security through the salary reductions made by the company. We would have to do a more in-depth analysis to find out if workers who are not directly hired by the company are also affiliated to social security.

In terms of the quality of the medical attention received, the general perception is that the Social Security clinic does not give effective treatment and that, together with the problem of the attention received in the company clinics (which will be analyzed later), it means that there are very poor health services available for pineapple workers.

Working conditions: Meal times, work equipment and materials

In general, workers have an established schedule for mealtimes: 15 minutes for breakfast and half an hour for lunch. Sometimes they get a 10-minute coffee break as well. According to the information gathered, workers must bring their lunches because they have their lunch break in the middle of the fieldwork. As one interviewed worker stated:

> *"…where you find space…sometimes it is in the direct sun. When we are in the area, where there is no machinery casting a shadow, no shade nearby, we are like animals, under the sun…"* (Interview with PINDECO worker, December 2004).

With regard to work tools and implements, the company gives its workers the basic tools and equipments needed to carry out their work. This includes gloves, glasses, aprons, sleeves, earplugs, overalls, shoes, and coats. But one of the people we interviewed said that at the time of the interview, he had been requesting overalls, sleeves, and gloves for weeks but they were delayed in being provided.

While the company provides the basic equipment needed, it does not take responsibility for maintaining some of these items (overalls, gloves, etc), which have to be washed by each worker. This situation would not be important if it were not for the presence of chemical residues on the workers' clothing, which is washed at home with all the other family clothing, without any special measures. As Picado says:

> *"Those machines go by and soak the fields; the worker has to get in there to open pathways and even when they wear protective clothing, they come out soaked…but that is not the problem, the problem is that those overalls are taken home and the wife washes them by hand and that leads to many problems."*
> (Interview with Roberto Picado, representative of the Frente de Lucha contra la Contaminación de PINDECO. December 2004).

Unequal conditions: Worker vs. Company

As part of the chapter on labor conditions, it was considered pertinent to refer to some tendencies in the asymmetry between the worker and the employer.

The interviews showed a clear tendency on the part of the company to try to resolve its differences with workers through direct negotiations. However, the practice is for the company to offer some "conditions" or incentives to the worker to make them sign what the company is offering. These incentives range from an invitation to go to a beach area with an open bar and kitchen, to lodging in a bedroom where they have access to cable TV. For a worker who is in the middle of a pineapple plantation in the hot sun, that is a hard offer to refuse.

In the case of union workers (when we did the fieldwork, unionized workers totaled about 60), pressures are constant and obvious. According to SITRAPINDECO representatives, the company has carried out the following actions.

- Starting with the formation of the union, the company has done various antiunion actions to try to frighten unionists into leaving the union, and to make other workers afraid to join[21].
- They warn workers por allegedly not following instructions during working hours.
- Company managers accuse unionists of corruption and having items that don't belong to them. This was done, on at least one occasion, with the complicity of a union member who had the organization's documents.
- The company has refused to relocate several workers who suffered health problems, because the company refuses to admit that these problems result from occupational health risks (we will go into this in more detail later). Those who are relocated are put in worse working conditions and receive discriminatory treatment in comparison with their coworkers who are doing the same tasks.

Finally, workers' representatives have been expressing concern about the situation of some women workers, especially in the packing area: these women are submitted to permanent harassment (including sexual harassment) and those who denounce this treatment are fired.

Labor conditions in the Atlantic region

The fieldwork that we did in the community of Guácimo allowed us to gather the perspectives of different actors related to the pineapple industry. In this case the information was general, and not related to any particular company (unlike in the previous section, where we looked at specific aspects of working conditions at PINDECO).

The general perception of the people living in nearby communities in the Atlantic region was that the pineapple industry had brought many of the problems that had previously been seen in the banana industry: monocultures, uncontrolled expansion, environmental damage, and labor rights violations.

In the case of the labor conditions, those interviewed mentioned long working hours (an average of 12 hours), low salaries, and pressure to increase production.

Regarding the long working hours, the general perception is that the pineapple industry demands that its workers spend almost the entire day working. This leads to family problems, because the workers do not have time to spend with their families. It also leads to community problems, because the workers are unable to attend social and community gatherings, or even religious services. According to a representative of the Catholic Church in Guácimo,

> *"…there are people who go to work at 4 am and return at 8 pm, according to what we hear…the number of people going to the celebrations decreases significantly because they can't go on a Saturday, because they have to work at the pineapple plantations."* (Atlantic region, October 2004).

[21] In reality, this company attitude against unions is historic and systematic. In the words of Picado: "Here, for example, we tried three times to form a union, and the first two times they fired 40, 50 members within a week of having created the union, and it fell apart, because the company brought in people and everything, until they managed it, but the people live in fear of organizing…"

According to the information that we gathered, workers in this region are also working overtime hours in order to earn enough money to allow them to support their families, because the normal pay is so low.

There are indications that some Atlantic pineapple companies have lost any sense of perspective on the conditions under which workers should be employed in order to have a reasonable level of productivity. According to one interviewed worker, some people who work in packing rooms earn 100,000 colones (US$208) every two weeks, but in order to do so they must work all day long, starting at 6 am, and arriving home at 10 pm.

The work is also difficult as a result of the climatic factors of the region, and the tasks that the workers must complete. In the interviews we systematically inquired about the differences between work in the pineapple plantations and work in the banana plantations, with regard to the working conditions. The response was always the same: the workers prefer to work in banana fields, because at least there is shade to protect them from the sun and rain. One worker explained:

> *"You hear comments from people saying that this is men's work, it is hard, and one has to do it. I have been used to working since I was little, my father taught me to work when I was 8 years old…I have worked hard all of my life, but look, work in the pineapple industry really is harder work."*
> (Atlantic region, October 2004).

There are also testimonies regarding the pressure placed on workers to increase production. This is particularly common in the packing plants, where most workers are women. One young woman who used to work in the pineapple industry narrated a typical day at work:

> *"They time you and one has to be always working because if not they call attention to it…so one lives with a lot of tension…what interests them is that the pineapple goes out…our arms and backs hurt…I have a problem with my spine and they didn't care…there is a large staircase on top of the packers where the bosses stand and they tell us: 'let's go, cut pineapple, cut pineapple!' But the women who get on the good side of the foreman, they don't say anything to them. So we see that and when we say the truth they don't like it."*
> (Atlantic region, October 2004).

One of the factors that is said to contribute to the deterioration of working conditions in this industry is the presence of immigrant workers, who are subjected to particularly bad treatment because of their problems with documentation.

Finally, it is important to mention the tendency to hire people without any benefits or guarantees apart from thir salary.

3.3 Health problems related to the pineapple industry

… they prohibit us from eating pineapple, because of the liquid it contains. They spray some poisons and we can smell them from 500 meters away. Sometimos we go into the plantation and it is already wet, that is to say, the fumigator had already gone by, and they said 24 hours had passed since then but we realice that that isn't true. Those are the dangers we face.
– PINDECO worker

One of the most notable pieces of evidence of the impact of the pineapple production is

the health problem, which can be analyzed in two dimensions. First, there are the effects for people directly involved in the production process (field workers and packers). These include those that are associated with exposure to the toxic chemicals used in the industry. There are also labor risks related to accidents and falls that workers suffer when using machinery, especially for planting. The most common injuries are blows, bruises, sprains, lower back pain, etc. The other dimension is the series of problems that affect people who are not workers on the plantations, but who live in nearby communities.

Occupational health conditions
The case of PINDECO

We interviewed workers at PINDECO about their need for health services, the main reasons they need to go to the clinic, and the frequency of accidents and illnesses.

Need for health services

The workers we consulted reported going to the clinics quite frequently. Some health services were provided by the company (company doctors) and others were provided by local social security agencies (Clínicas y Equipos Básicos de Atención Integral en Salud).

There were cases of people who went to the clinic about three times per year, and other people who went more than six times per year. One person said that in 2004 they had to go to the clinic eight times.

Although they do not state it openly, the stories told by the interviewed workers made it clear that the company doctors are reluctant to acknowledge that their afflictions are the result of their work, because the treatment is often partial and the worker would have to keep going back to the clinic.

Reasons for clinic consultations

Workers report suffering from allergies, hip and spinal pain, hand pain, chronic gastritis, constant flus due to the lowered immune defenses, weakeness, etc. When we look at individual cases the situation is no less dramatic. One worker, for example, talked about his struggle to have his allergies (which resulted form his constant exposure to chemicals) and his wounded knee (which was hurt in a work fall) be recognized as occupational health problems. In his case, it is urgent that he be relocated to a different job in the company, but the company keeps refusing, as he relates:

> *"…Imagine, the occupational health supervisor realized it, but she told me that it wasn't the company's responsibility to relocate me, if they felt like it they would do it out of solidarity…but that they were only responsible for relocating those who had suffered from work-related accidents, and mine was not an accident."* (Interview with PINDECO worker, December 2004).

It is clear that the company fails to adequately train workers about the materials and products that they work with. One plant worker commented about her situation, which started with feelings of weakness and then led to nauseas:

> *"They took me out of the packing area because I felt very ill…and I told the supervisor that I was going to quit and she said why, I said it was because I felt very sick and I couldn't work…she said, "I am going to be honest with you. Your defenses have been lowered by the chemical." The supervisor told me that."*
> (Interview with PINDECO worker, December 2004).

Disabilities

It seems obvious that many workers at this company suffer from illnesses and disabilities. Disabilities have been reported that have lasted 1-3 months, depending on which illness it is. A critical aspect linked to workers' health is certainly their permanent exposure to agrochemicals.

On repeated occasions and through different institutional means (complaints presented to authorities, Ministries, the Ombudsman, and others), the constant exposure to chemicals used in the production process has been raised as an issue of concern[22]. For example, one representative of the PINDECO workers explained in depth how the workers' health is affected by these chemicals:

> *"There is a liquid that gets into the pores that causes many illnesses. It seems to me that this chemical is stronger than that used on the banana plantations. This product affects people by giving them allergies, headaches, nosebleeds, and aching bones. It appears that the chemicals cause this. There are people who have the flue, when they sneeze blood comes out, and this is caused by the dust that comes from the pineapple when you lift it, it is a yellow dust."*

Meanwhile, studies ordered by the Ombudsman (DHR) have directly proven the relationship between the health situation and the pineapple industry. According to report number 08399-23-99:21-22, "relating the environment to the health issue (south Pacific) it can be observed that the respiratory illnesses in the area have a close relationship to the unmeasured use of pesticides that are used and the solvent mixture, including: hydrocarbons, and the climatic conditions, if you add to them cultural aspects like overcrowding, poverty, and low levels of health education, we have the result that respiratory problems are the main reason that people go to the clinics…the solvents are toxic products that, when mixed with pesticides and deposited in the environment, directly affect the health of the region, because when they are inhaled in the form of aerosols they directly affect the respiratory tracts."

In the region where PINDECO is located, in previous years follow-up was done on the reasons for consultations in the local clinics. For example, in 1997 the main reasons for urgent consultations at the Social Security Clinic in Buenos Aireas were respiratory illnesses (1180 visits, or 29.6%), pregnancy problems, births, and post-birth visits (714 visits, or 17.9%). The main reasons for consultations with the private company that same year were upper respiratory problems, traumas, and wounds. (DHR, Nº 08399-23-99:21).

But exposure to chemicals is not the only occupational health issue worrying workers. To produce and generate economic profits like those mentioned in the first sections of this report, the companies apply a great deal of pressure during the production process to make the

[22] According to one worker we interviewed, almost all types of chemicals are used in this industry: fertilizers, fungicides, maturing agents, insecticidas, herbicides, nematocides, etc.

workers work faster and harder, which makes the workers vulnerable to accidents, dislocations, and traumas, as a result of falls, machinery accidents, etc.

> *" They don't put pressure on us when there is fruit because they know that we will fulfill the quantities. But when there is no fruit they make us run behind the machine. The problem is that if you leave pineapple behind, even if you are running, you immediately get a warning or sanction letter. So many people, because they are nervous or because they are new, have accidents, because they get under the truck, or the machinery hits them, etc."*
> (Interview with PINDECO worker)

The complaints filed before institutions like the National Insurance Institute (INS) regarding work accidents and degenerative illnesses (back problems, hernias in the disks and waist) are part of a continuous conflict between the people who experience and suffer from these problems, and the perception of the companies, which refuse to accept that these problems are the result of the work.

> *"I broke the record as a worker for having defended the rights of the people at the company, I spent three years and six months incapacitated, I got INS to compensate me for the damages that the agrochemicals caused me, but the company didn't pay, I…filed a complaint, about the mixes in the packing plant. And with the wound I was left with, and the chemical conjunctivitis, all that damaged my respiratory and visual systems."*
> (Interview with Aquiles Rivera, representative of the Frente de Lucha contra la Contaminación de PINDECO. December 2004).

Some testimonies from the Atlantic zone regarding occupational health conditions

In the case of the Atlantic region, some neighbors have indicated that they are concerned about the increasing number of cases of asthma, skin problemas, and intoxications as a result of exposure to highly toxic products like Bromaxil, which are widely used in the pineapple industry. It would be helpful to directly document the frequency with which these problems appear and have appeared over the last several years[23].

It was possible to collect some testimonies regarding occupational health conditions at certain pineapple companies in the Atlantic region. These testimonies emphasize the lack of responsibility taken by the company for workers' health. The following is an excerpt from the story of one worker who suffered an accident in the pineapple fields:

> *"I cut myself there and I was bleeding a lot; I had to wait in the office for 2 hours, finally they brought me by motorcycle to my house so I could change clothes…but I had to wait a long time and I lost a lot of blood. They gave me some stitches because the wound was pretty deep. I cut myself because I was cutting pineapple and sharpening the knife and the file slipped. The problem was also that where I*

[23] One neighbor we interviewed said, "they brainwash the community, because the company promised them EBAIS (Basic Team for the Integral Attention to Health), surely so that the intoxicated workers and those with skin problems can go there."

was there was a lot of mud and I couldn't get out of the area where I was. I told one worker to do me a favor and get me out to where it was dry; luckily the machine driver was there and he took me to the offices…but I thought they were going to get me out quickly, but no, it took about 2 hours…the company didn't take me. I took a regular bus to the clinic. Nobody took charge of my case…in the company office there is no one in charge of these things."
(Interview with worker. Atlantic region, October 2004.)

Another interviewed ex worker commented that because of his prolonged exposure to the sun, without adequate rest times or shady areas to recover in, he lost his appetite and his kidneys were affected. He had to address this problem without his employer accompanying him or following up on his case. Hundreds of other workers have other stories about the deficiencies in the occupational health conditions in the Atlantic region.

Health in the communities

The health situation also affects the communities that are located near to the pineapple plantations. The use of chemicals and toxic substances on the plantations affects not only the workers but also the nearby residents.

When it is windy and the chemicals spread, the people get allergies and skin problems. The danger is also latent, however, because the companies may be located near to water sources that are used for daily consumption. One person who lives in the midst of these productive activities indicated:

"We are between pineapple plantations and banana plantations; practically all of the aerial fumigation falls on us. They fumigate at night and the odors are insupportable, the air is hotter, they have destroyed everything, they do what they want and they don't think about the health of the neighbors."

For a long time, the members of the Frente de Lucha contra la Contaminación de PINDECO (FLP) have been protesting the health problems suffered by people who live near to the PINDECO Company. A report by the Ombudsman (Defensoría de los Habitantes (DHR)) speaks to these problems

"With regard to the possible effects on the health of the population due to the application of Paraquat and other agrochemicals used on the pineapple plantations, it should be considered that while it is true that the mechanized dispersion method used to apply these and other products on the pineapple plantations reduces the risk of contact for workers, the effect derived from the wind and the nearness of the plantations to people's homes could be causing health problems for the inhabitants in these population centers. According to what was seen in the field, the crops are located practically adjacent to many homes, without protection or buffer zones. While it is true that there is no law about this like there is regarding aerial applications, that does not prevent the Ministry of Health from being able to proceed with the pertinent evaluations to demand that there be buffer zones and that the companies adopt measures of confinement or mitigation.
Observations of the DHR regarding pineapple production and public health (Nº08399-23-99:35)

This concern has been echoed by the SITRAPINDECO representatives, who address not only what happens inside the company but also what happens in the nearby communities.

Concern about this has also spread to the Atlantic region, where they are seeing the signs that came along with the banana production in the 1990s. The residents of this region recount dramatic stories, such as the increase in skin disesases and asthma in women and children whose homes are located near to the companies. This is the case of a recent complaint filed with the Ministry of Health, where they cite the danger that the activity represents for people:

> *"There is a home…only 10 meters from the pineapple plantation. At about 9 pm they start to fumigate the pineapples, putting the heatlh of the house's inhabitants at risk. It is worrisome that one of the people living in the house (a child of 2 years of age) gets allergies frequently. The house does not have potable water and gets water from a small spring on their property. This spring could be contaminated by the chemicals used on the pineapple plantation, because with the rains these chemicals penetrate the soil and can contaminate the spring, if it isn't already contaminated."*
> (Complaint filed before Ministry of Labor, September 21, 2004).

4. Environmental problems caused by the type of crop in the Caribbean region and the southern region of the country

In the literature related to the topic of pineapple production in Costa Rica, we found several elements regarding its environmental impact.

For Quijandría, Berrocal and Prats (1997), the way in which pineapple plantations are managed in Costa Rica causes marked deterioration of soils and affects the industry in four ways: erosion, compression, the deterioration of microbiological activity in the soil, and monoculture production.

How the environmental damage begins

"We know that it is a low-lying plantation and the liquid falls faster, and it runs off and drains into the land; so the liquid falls on the plantations directly and it is particularly damaging to the rivers, all that liquid falls into the drainages and those run to the rivers and contaminate them. A few months ago we found a ton of dead fish in the river, which worried us, so we filed a complaint about it. Also a few families were poisoned by the contamination of a river in their community. The company wanted to negotiate with them but there has been no agreement."
-Workers' representative, PINDECO

The poor choice of planting areas and the practices used to prepare the land lead to the erosion of soils. Compression is associated with the use of machinery during planting and harvesting; this heavy machinery compacts the soil layers and makes it necessary to use other machinery to open the furrows when the next planting period comes, creating a vicious cycle that goes on forever. The deterioration of microbiological activity is caused by the intensive use of herbicides and fungicides that are used to fight diseases. These chemicals not only kill the pathogens they are designed to eliminate, but also all species that also live in the soil, including those that have no adverse effect on the fruit. Finally, the practice of planting in a monoculture format leads to serious problems of vulnerability to plagues and climate changes. The genetic uniformity means that producers run the risk of losing their entire crop if a plague hits (Quijandría, Berrocal, Pratt; 1997).

Esta información de carácter conceptual, se entrecruza con un dramatismo externado por las personas trabajadoras y miembros de organizaciones sociales y laborales con relación al desarrollo de la actividad piñera costarricense y su agresiva e intensa expansión en los últimos años.

There are communities located in the production areas that are closely bordered by the plantations, and therefore everything that happens on those plantations from an environmental point of view directly affects those communities. But a second cause for reflection is that there are widely varying estimates of the number of hectares under pineapple production (official data contrasts with the estimates of workers and nearby residents), which leads to concern about the environmental impact of the industry and its true geographical and social scope.

After making these reference points, in order to tackle the socio-environmental dimension of the pineapple production we must carry out an analysis of two issues: what has already been done, and what is being done right now.

What has already been done

In the first case, it should be read and interpreted as a balance sheet, showing the results of a historic process that has already been going on for several years. References to environmental impacts that have already happened as a result of the pineapple activity in some regions of the country (north and south) are beginning to be apparent, and neighbors in the affected regions are voicing concern.

In the case of the south Pacific zone in Costa Rica, where PINDECO is located, there are examples of complaints presented by the Frente de Lucha Contra la Contaminación de PINDECO (FLP) and by workers affiliated to SITRAPINDECO.

The volumes and quantities of toxins have brought a long list of problems for the local environment, including the contamination of rivers and water sources with toxic residues and sediments. Smaller water sources have dried up. Additionally, forests have been destroyed to make room for new production areas.

But this situation is not only found in this region. In the north, there are also cases of contaminated rivers. As stated in a newspaper article,[24]

> *" Hundreds of fish turn up dead – in the bed of the Tejona gully – tributary of the San Carlos River – where it passes through San Jorge de Cutris (northern zone). Neighbors commented that they smelled very disagreeable odors coming from the gully. When they went to find out what was happening, they found a large number of dead fish. Later, the police found mojarras, machacas, barbudos, guapotes and other species dead in the edges and reservoirs of the gully. This is the sixth time this year that this kind of thing has happened in the north, and the neighbors presume that the cause was contamination by agrochemicals. In San Jorge and nearby areas, there are several companies that grow pineapple".*

[24] On October 7, 2004 the press (Al Día, 12) mentioned a complaint filed against a pineapple company located in the community of Pital (northern region), which "fumigates the plantation on the edge of the public road at any time of day, and people thus have contact with the product, which spreads with the help of the wind."

The case of the region where PINDECO is located has been institutionally recognized by the Ombudsman, which has validated the social and environmental concerns cited by the community residents, in a report (DHR, N° 08399-23-99:22) that clearly indicates the existence of a series of problems stemming from pineapple production by PINDECO. These include:

- That in PINDECO's pineapple plantations (about 4,000 hectares), several agrochemicals are used, including those reported by the Ministry of Health, which are Diazinon, Sevin, Gramoxone, Mocap and foliage fertilizers.
- One of the herbicides used is Paraquat. The dose applied and the frequency with which it is applied has not been analyzed by the authorities.
- According to the samples and analysis done by the Pesticide Laboratory of the IRET (Institute of Toxic Residues) of the (Universidad Nacional Autónoma, Costa Rica), there are high concentrations of the product called bromaxil.
- The producers have not considered the need to establish or move plantations farther from nearby homes and communities.
- Many of the water sources that pass through the pineapple plantations are wetland tributaries from Sierpe Térraba. Some rivers and gullies are used by the communities for consumption and recreation.

These comments from the Ombudsman indicate the reality facing people and natural resources as a result of the pineapple industry's actions. While this case was developed four years ago, the continuous complaints presented by union officials (SITRAPINDECO) keep the local community constantly aware about what is happening in the region.

What is happening now

"We are trapped between pineapple plantations, all of the waters suffer, we are very sad now…they have ruined the biodiversity because they have killed many animals, they left very few trees on the banks of the river, they don't respect the law, the poor monkeys have lost their habitat, they don't care about the environment, they use lots of poisons…the river Camarón disappeared, they buried it"

The case of PINDECO, analyzed earlier, does not only offer anecdotal elements on the environmental impact of the industry. It also offers an opportunity to study the demonstrative effect in regions with a relatively long history of pineapple production, which is the case of the south Pacific region. It is important to look at these effects because they may eventually occur in other regions as a result of the expansion of the industry.

The situation of some communities in the Atlantic region should be studied with special attention, because they have been almost totally incorporated into the pineapple industry that surrounds them and that, according to many locals, suffocates them.

IMAGE OF A PINEAPPLE PLANTATION IN THE ATLANTIC REGION

"The expansion of the pineapple plantations leads to the erosion of soils, the disappearance of natural environments, lost histories, denied identities, destruction and an ephemeral and illusory attention to basic needs. The environmental changes are enormous. The modification and alteration of the environment is almost irreversible. If these activities were to disappear from our country today, even in a generous region like our Atlantic, it would take 180-250 years to even partially recover. How many generations will be necessary to reverse the effects?"
(Eduardo Castillo, Anthropologist, director of the organization FECON)

This case is dramatic if you consider the environmental problems that the region faced as a result of the banana production of the 1990s. Many banana plantations just changed to a new crop, but the environmental damage worsened because of the impact of the chemicals on the soils and the consolidation of a monoculture that has an intense impact on available resources (soil and water, principally). It is also clear that the pineapple industry has developed on already-exhausted soils, which have very little environmental value.

Many communities neighboring the pineapple plantations in the Atlantic[25] are concerned about what is now happening in the region as a result of the expansion of the industry: the steady destruction of the ecosystem. This conclusion is backed up by the "before and after" impression as noted in environmental changes (for example, it is hotter) related to the start of operations of the pineapple companies.

In this context, we can note the impacts on the water sources (rivers change and disappear), the contamination of water sources used for domestic consumption, the deforestation, erosion, drought, disappearance of species, and sedimentation provoked by the material that

[25] The social and environmental impact should be measured by the scope and extension of the activity and its nearness to important population centers. This is the case of communities like África, Santa María, Iiroquias, Las Mercedes, Guácimo, Rudin, Eden, Jiménez. In these areas, more pineapple plantations are due to be opened, with the associated damages to the area.

accumulates as a result of the contamination from the industry. The following image, taken at the edge of a plantation, is worth more than a thousand words.

The concern about what is happening with the establishment of new pineapple plantations in areas that have water sources that supply many nearby communities is particularly worthy of attention. This situation makes many people in these communities impatient and desperate, as they see the landscape slowly dominated by the fruit companies and their crops. One neighbor, when asked how he feels about this situation, perhaps represents the feeling of many others, when he says:

> *"If the people believe that the banana plantations damaged things, they still don't know the pineapple plantations. The pineapples tear everthing to pieces. This was a wilderness and in less than a week they destroyed it. Now it is hotter, the monkeys get into the kitchens of our homes to look for food. A type of fly appeared that also hurts the cattle. There is a lot of erosion and when it rains the river carries a lot of sediment. It affected the basins of the Jiménez River, El Platanal and El Bosquecito."* (Resident of Guácimo)

However, the environmental impact that the pineapple expansion provokes in the Atlantic region should be looked at in terms of its effect on a broader system, which involves not only the destruction of natural resources, but also the slow disappearance of socio cultural practices in a region that is rich in history and tradition. The anthropologist Eduardo Castillo, who was interviewed for this study, presents this perspective.

For Castillo, the Atlantic region of the country is very important in an environmental sense. It has a tropical forest that goes from the mountains down to sea level. This has enormous implications for biological diversity, because a huge variety of species can be found in these forests, providing us with food, medicine, and cosmovisions, not only historically, but also in peasant communities today.

So, archaeologically and culturally, it was in these places that important communities were established. As Castillo says, this may be the site of the most damaging effects of the pineapple industry:

> *"The archaeology of the Central Valley and the Atlantic are a cultural unit, because of the homogenous character of this geographical area, in old times. That is where complex concepts of social organization and pre-Columbian ideological expression were developed, based on a system of beliefs that made the group cohesive and held it together with other groups. Very important archaeological sites, comparable to Guayabo de Turrialba, have been lost because of the actions of the pineapple companies and the banana companies, because they erase the soils and with them all evidence of human presence in those places."*

The destructive actions of the pineapple companies occur on important cultural and historical sites. If the authorities do not put out any kind of alert, this richness will be lost and its recuperation will take 150-200 years. Finally, Castillo speaks about how this negative impact of the pineapple industry can be analyzed. The story is dramatic:

> *"In Siquirres, in la Francia specifically, 50 km to the northeast of Guayabo de Turrialba, there is still an archaeological site of extraordinary dimensions. It should be larger, but the pineapple company located at the entrance to la Francia destroyed a large part of it. It is worth mentioning that between this site, and one found 50 km southeast of Guayabo, and Guayabo, you can draw a triangle composed of two equal opposed triangles. This is not by chance, it is planning, it is organization, it is cosmovision, it is engineering and geography, it is mathematical and physical, it is knowledge and wisdom, it is geometry and it is sacred geometry. That triangle, and everything with it is being lost. Pococí and Guácimo were also rich in ancient ruins."*

To summarize, in this section we have included two points of analysis: pay attention to the impacts of the pineapple companies in the regions where they have already been producing for some time, and then visualize the possible impacts in those regions where they are considering beginning projects that will come to affect the living conditions of the nearby communities.

5. Organization of the sector in the Caribbean and southern zones

Throughout this report we have commented on the social, labor, and environmental conditions that result from the pineapple production, and we have mentioned different actions led by neighbors, representatives of social groups like environmental organizations, religious organizations, unions, women leaders in communities, and individual citizens, to address the contaminating actions of the industry.

These expressions have been characterized by an important paradox: recognition that the industry generates jobs and economic activity in areas where it may be the only productive activity. At the same time, as we have already shown, the industry has a devastating impact on a social, labor, cultural, and environmental level.

These actions happen in a context of frank asymmetry, with the aggressive company action on the one hand (supported by incentives and support for large pineapple exports) and the existence of isolated responses on the other hand.

The available information allows us to look at the actions of the only union[26] which was formed in September 2003 by workers (mostly men) in the PINDECO company. Meanwhile, the fight that FLP has put up in past years has been documented, and today the organization is preparing to continue its struggle again. Finally, we interviewed community residents in the Atlantic region who are concerned about the uncontrolled expansion of the industry, and its different impacts. We don't know the exact number of solidarity associations that exist in Costa Rican pineapple companies. Below, we will give some details about the aforementioned organizations.

SITRAPINDECO

This union was legally registered in 2003, although it had already been created a year before. It was created as the response of some workers to the creation of a 'permanent committee' (which was formed by workers who shared the company's perspective).

Today, Sitrapindeco has 60 members, of which only two are women. The low affiliation rate (the company has about 5000 workers) is attributed to the persection and pressure that the company places on those workers who express an interest in joining the union.

The union has a 7-member board of directors, all of whom are men. The goal is to take the place of the permanent committee and fight against the illnesses that have appeared in the company and which are being concealed.

One of the union's primary demands is that the company reassign workers whose health has been impacted by the work that they have been doing. Despite the fact that the company has strongly resisted this idea, the union's actions have been backed by technical criteria from medical specialists who have certified the effects of occupational risks. The company therefore has had to make some changes in the placements of affected workers.

Another important action of this union is to present complaints when women workers (particularly in the packing area) are the victims of sexual harassment.

Finally, they are also constantly concerned about the contamination caused by the company, and the way it hurts workers and nearby communities. This becomes an important issue for union actions. One union representative commented:

> *"We know that the chemicals that the pineapple plantation emits are not only harmful for those of us workers who walk around among the plants. They are also going to hurt our children, our wives, our mothers, when they have to wash our clothing, etc. We have had cases of women who get allergies; we know of children who also get allergies. The chemical lies low and that hurts us workers directly.*

[26] We heard about one incident in Sarapiqui, where workers tried to form a union at the local pineapple plantations, linked to the labor actions in the banana plantations. For different reasons, including employer opposition and the weakening and tiring of the workers themselves, the attempts did not lead to the consolidation of union activity in the pineapple sector of that region.

In the case of the communities near the company, they are affected when there is wind and the chemical travels."

Need for strengthening

In the consultations and interviews carried out for this study, some points were established regarding the union's activities and the need to strengthen its current and future work in the defense of workers' rights.

The following actions should be considered:

- Increase the number of members, which is extremely low if you consider the total number of workers at the company (60 unionists versus 3,000 workers).
- Increase participation by women. At the time of this study, the union only had two female members.
- Do an aggressive information campaign to raise awareness about the union in all areas of operation of the company.
- Strengthen union work in the packing plant and solidify the work in the harvest area.
- Train the union directors on issues such as union leadership, gender, advocacy tools, etc.

FRENTE DE LUCHA POR PINDECO (FLP)

This expression of citienzship arose in 1999, motivated by the expansion of the PINDECO company into the high parts of the Volcán district, where important forests and water sources are located, which serve as important buffer zones for the La Amistad international park.

As a result of this company action, a diverse group formed of farmworker organizations, indigenous organizations, ecologists, small, medium and large property owners of the Buenos Aires region, ex workers and other local residents, supported by the Catholic Church through the office of the diocese of Pérez Zeledón. These groups presented a series of complaints and concerns before the Ombudsman (Defensoría de los Habitantes (DHR)), the Environmental Officer of the Public Ministry, and the Central American Water Tribunal.

Their objectives were to ensure real respect for the country's environmental and labor laws, and defend the rights of the community members.

The arguments that they presented in 2000 regarding the conditions at PINDECO included:

- PINDECO fires workers three months after hiring them, so that they do not enjoy labor benefits guaranteed by law.
- There are retaliations against workers who want to unionize.
- The company doctor says that the workers are fine, even though they feel unwell.

We are unaware of more recent actions that FLP has taken to counteract the impacts of the pineapple industry.

GUACIMO ENVIRONMENTAL COMMITTEE

Concerned about the impacts that pineapple expansion will have on the communities that border the plantations in the Atlantic region, a group of residents from Guácimo recently formed the "Environmental committee in defense of the natural resources of the communities of Iroquois, Parismina and Africa de Guácimo".

This group's objective is to establish a balance between development and the environment. It arises as a response to concerns about the possible operation of a pineapple company to the south of the communities, where the water sources that provide the communities with potable water are located. It started with community meetings in May 2004, where people learned about the scope and impacts of the pineapple industry.

One of the most relevant actions done so far has been the continuous filing of complaints before relevant institutions (the Ministry of Health, regional Ministry of Agriculture, etc) and consultations with neighbors to get their testimonies.

Most of the Committee members are women leaders, health or education professionals, students, and members of the affected communities.

FINAL REFLECTIONS

The pineapple industry in Costa Rica: Impacts, consequences, challenges

This first-hand investigation allowed us to create a general diagnostic report, and where possible, to go into greater depth on some points related to the development of the pineapple industry in Costa Rica.

In this diagnostic, many concerns were answered and can be considered fact: the importance of the industry in the non-traditional production structure, its importance in the context of Costa Rican exports, and the accelerated expansion of the industry. We can consider that the industry is positive to the extent that there is high potential for selling this product at a good price on the world market, as fresh fruit or in processed form; additionally, as commented earlier, there is adequate material for sowing, developed by companies that dedicate many resources to research regarding pineapple. (SEPSA, 1995:5)

However, there is also a series of impacts that must be analyzed more critically, particularly in terms of the labor, environmental, social, and community effects that this industry has had in recent years. In that respect, an initial reflection brings us to consider the structural nature of the Costa Rican society: changes in its economic model, which led to the promotion of exports to the US and European markets, and the consequences that this had on the nature, objectives, and strategies of small and medium-sized Costa Rican producers.

In this sense, the recent expansion of the Costa Rican pineapple sector can be explained beginning with the new use of instruments and incentives that helped increase exports and that pushed forward the 1980s/1990s export promotion model. It makes sense to relate this structural aspect of the Costa Rican society to other more recent things such as the possible ratification of the CAFTA free trade agreement with the United States, particularly because it is said that this agreement will favor expansion of the pineapple industry. (Interview with Alexis Quesada. MAG. Aug 16, 2004)

However, the force and recent advancements of this industry cannot be analyzed without considering certain actors who were crucial to its development. It is clear that the expansion of the pineapple industry was not conceived as part of a social project nor as a way to stimulate small and medium-sized production projects: the appearance of PINDECO in the late 1970s was the turning point in terms of technology, economy, and labor processes.

The thrust given to the industry by PINDECO accelerated production and led, years later, to a horizontal (expansive) growth that had two faces.

The first can be summed up in one question: Who has control of the expansion? The analyzed information allows us to conclude that the expansion has names and surnames: it is in the hands of a few, most of whom are not Costa Rican. The following quote from an official document allows us to confirm this characteristic of the Costa Rican pineapple market.

> *"It's no secret that the boom enjoyed by the pineapple industry in our country has been driven, in great part, by foreign companies. These companies, seeing the agro-ecological advantages of the land, and the tariff benefits, which were created in the context of globalization by developed countries in order to benefit poor countires, have invested and worked to make it the number one place in the world for pineapple exports."* (Procomer, Pineapple profile, 2000:32).

Second, this expansion has not had a positive social impact, because small and medium-sized producers are not protected. They do not receive incentives or credits and they are pushed around by the transnationals, who are the ones that end up with the larger share of the profits because they are the ones doing the exporting and marketing. This situation can be explained in several points (SEPSA, 1995):

Technology. The technology required to produce pineapple continues to be expensive for small farmers. Some estimates indicate that it requires capital of 600,000 to 700,000 colones per hectare to develop a pineapple plantation (about US$1555). The technology developed by transnational companies is not easily adopted by the country's small and medium-sized producers.

Lack of knowledge about the commercialization phase. The international companies are responsible for most of the exporting. The high profit margin at the point of export is not passed down to the producers.

Poor relationships with large companies. The companies have high demands in terms of quality standards when they buy from small producers, so farmers are sometimes punished with low prices at the time that they give the fruit to the buyers.

Lack of access to credit. There are no financing plans and there are high interest rates in this industry, especially for small farmers.

The expansion has been detected primarily in the northern and Atlantic regions. In the Atlantic region, warning lights have gone off regarding the dangers of an extractive and monoculture activity that does not leave space for other projects by small and medium-sized producers (as was the case of the banana industry in recent years).

The in-depth portion of the study carried out in Guácimo[27] showed that many banana planations are changing crops and beginning to cultivate pineapple without much difficulty. One of the direct effects has been the rising price of land, which makes it necessary for many small and medium-sized producers to rent or sell their farms to large pineapple companies.

The emergency signals become more intense if we take into account that this zone has a vast natural richness, characterized by countless aquifers that provide water for many communities, which would be seriously threatened by the pineapple production projects that will begin later in 2004. To this critical situation we also have to add the actions of some business owners who are truly feared by the local residents, because they threaten people who question what happens inside and outside of the plantations.

Responses have been weak. Workers keep quiet because they are afraid of being fired and because they do not have an organization that backs them up. The actions of neighbors who have united to denounce what is happening in these companies from a labor, environmental, and social point of view has been important, but it is insufficient to stop the expansion of the pineapple industry in this region.

Buenos Aires de Puntarenas merits separate mention. This is where PINDECO is located and where a labor organization has been functioning for about one year, leading important actions to denounce occupational health problems, persecution of workers, and the environmental impact of the company.

The pineapple industry has many impacts, but we can speak specifically about a few (environmental, labor, social, etc) to better detail the effects on populations and communities.

Environmental impact

Pineapple workers expressed concern that the industry has a destructive impact on the soil, forests, rivers and animal species found near the pineapple-producing companies.

There are already clear cases, such as that cited by the Frente de Lucha contra Pindeco (FLP), on the degrading effects of the pineapple industry on the country's natural resources. Despite local efforts like that of the FLP, PINDECO still presents an image to the world of a company with good environmental practices. Several years ago PINDECO was awarded the ISO certification, though some workers say this was done behind their backs.

The OET (Organization for Tropical Studies) gave PINDECO the company of the year award, recognizing its commitment to the environment. In late 1998 the company was given the ISO 14001 environmental certification (La República; April 20, 2000).

If this is what happens with a company that has been operating for more than 20 years, the situation is equally or more critical in the Atlantic region, where the companies are less concerned about the environment.

We had the luck (or bad luck) to observe the work of the heavy machinery that tore down the trees and hid the evidence so as not to be caught by the supposed vigilance of entities such as the Ministry of Agriculture (MAG) and the Ministry of the Environment (MINAE) which

[27] Other places like Siquirres and Pococí also have large pineapple plantations, but Guácimo is the one which is currently experiencing uncontrolled and accelerated growth and expansion of the pineapple industry.

don't actually monitor anything in practice. The testimonies from the communities that we visited in the Atlantic region (particularly those located in Guácimo) are serious and urgent: the deforestation is uncontrolled, and the rivers are being diverted to provide water for the pineapple plantations.

These company strategies are based on economic considerations:

> *"The pineapple that is grown with an irrigation system can be planted in any month of the year, so there is a supply of the product all year long in the market, which is an advantage also for the international market, because they can always obtain the fruit and please the consumer."*
> (Procomer, pineapple profile, 2000:8)

Impact on people's health

Additionally, the information gathered and analyzed for this report allowed us to confirm the effects of the pineapple industry on the workers as well as on the nearby communities.

The chemicals used in the industry affect the workers' skin. Workers are also exposed to direct sun rays for hours on end, which causes burns and skin problems. Institutions such as the Ministry of Health and the Ombudsman have documented other illnesses such as asthma and allergies.

The health situation facing pineapple workers is evidence of the difficulty of the work and the slow weakening that they experience on a daily basis. We can confirm this situation by comparing the effects on pineapple workers with others, as a PINDECO workers' representative does:

> *"I am going to be honest: I was a banana worker too and it was hard work; but the work in the pineapple plantations is truly difficult: the chemicals applied to pineapples harm us more; in the banana industry the chemicals are sprayed from the air or by land and if it lands on the leaves we don't have contact with it. But in the case of pineapple when they spray the chemical we carry it on our bodies. The pineapple releases a dust that gets into our noses and does a lot of damage. In this sense, I prefer the work in the banana industry to that of the pineapple industry. Today people with only two or three years working in this industry already have illnesses."*

Meanwhile, the indirect effects of the pineapple industry on the health of the neighboring communities shows worrisome signs. In the Atlantic region, the activities of some companies near to aquifer protection zones (which provide water for homes and communities) are leading to the continuous appearance (not documented by any governmental institution) of respiratory illnesses and allergies among the local children.

This situation represents a danger of incalculable consequences in economic, social, and health terms for these communities.

Labor impact

The pineapple industry represents a latent danger with regard to the workers' labor rights and guarantees.

In this investigation, we confirmed the existence of companies that violate basic labor rights such as working hours, and companies that do not recognize other benefits and guarantees because of the high rate of rotation of the workers before the time established by law (three months). Union leaders and workers are persecuted, especially in PINDECO, where they are forced to support the committee and are threatened when they instead support the union.

However, without a doubt one of the most pressing concerns in the industry is the increasing presence of migrant workers, who are mostly from Nicaragua. These workers are hired under deteriorating labor conditions. They present a comparative advantage to Costa Rican workers because they are undocumented and can therefore be underpaid and fired without any legal consequence. Subcontractors have contributed to the worsening of this situation, because subcontractors generally do not hire national or immigrant workers in compliance with national law.

The situation of female workers should be analyzed in two dimensions. On the one hand, women appear to specialize in the tasks of fruit selection and packing, where pay is different from other tasks. In these jobs, workers are paid at a piecework rate, meaning that their pay is based on the number of pineapples that they pack in a given day. In other words, they only work when there is fruit to be packed, and they earn their salary the same way. There is also a worrisome tendency in some companies (including PINDECO) to decrease the number of women workers to the point that jobs for women in the industry may disappear.

This investigation also found that there are in fact some women working in the fields (especially in certain companies on the Atlantic) – fewer in number than the men, but facing the same health risks related to prolonged exposure to the sun and agrochemicals.

Women workers in this industry suffer persecution and the abuse of power on the part of their bosses. From the information gathered in the Atlantic region as well as that found in the case of PINDECO, se tiene la impresión de que estas son las características de la inserción laboral femenina en la actividad piñera, que presentan una alta vulnerabilidad de este sector en particular.

Social impact

One of the dimensions that has been most affected by the development of the pineapple sector is the social dimension. Family problems have been detected that are the result of long working tours that leave people very little time to spend with their familias.

This situation is reproduced on a community level, with an unraveling of the social fabric. Workers' schedules make it impossible for them to attend community and religious activities.

In this sense, we are led to wonder how positive an industry can be for community development when their own inhabitants can not attend to the communities' needs, and when there is little presence of State and private institutions and NGOs.

While carrying out the fieldwork for this study, we found that for many communities near to the plantations, the fundamental thing is to conserve the jobs, which means sacrificing the family relationships and then the community relationships. These communities do not see any development in the short or medium term. The pineapple industry does not invest in the social infrastructure of the communities.

Perceptions of the industry

If we were to take all of the data gathered for this report we could list the positive aspects (profits, exports, employment) versus the negative aspects (environmental, social, labor, and community damage) of the pineapple industry in Costa Rica.

Perceptions regarding this industry are complex and are mixed with the realities of pineapple production in the country. On the one hand, people talk about the pineapple industry as an agent that has brought jobs to truly depressed and critically poor regions (like the south Pacific and the Atlantic regions). A principle of need comes into play here, and people see the industry as the thing that allows them to meet their most basic and immediate needs. This opinion is expressed by people such as neighbors and members of local and national organizations, who cite employment as a benefit brought by the pineapple industry.

On the other hand, many people talk about the environmental damages caused by this activity. They also talk about harm done to people's health and to the natural resources of the nearby communities.

Often the pineapple industry comes to replace another equally extractive and exploitative industry, such as the banana industry. Companies use strategies such as doing fumigation and land use changes in the middle of the night, so as not to be discovered by the authorities. Many people who are aware of the situation are afraid to speak out, because they fear losing their jobs and because their bosses have threatened them.

The general impression is that the institutions are weak, slow, and ineffective. The highest official of the Ministry of Agriculture said that *nothing could be done* about the different complaints filed regarding the impacts of the pineapple industry, *because it is an industry that provides jobs for the people.*

It is clear that this series of impacts makes it necessary to develop a response to defend the working, living, and health conditions of the workers, their families, and their communities. Below we present two concrete recommendations based on our findings.

1. The SITRAPINDECO organization should push its work forward, and strengthen it with training on the issues of gender and union work. It should seek a permanent and constant exchange of information and experiences with other organizations that will broaden its perspective on the labor issues related to the pineapple industry.

2. In the Atlantic region, the following actions are urgent, to be able to accompany and strengthen citizen and labor responses to the situation in the pineapple industry:

- Design a popular communication strategy to affect public opinion regarding the impacts of this industry.
- Systematize the actions that different groups (like Guacimo's environmental committee) have already been carrying out.
- Follow up on the things that this committee has filed with institutions like MAG, MINAE, and the Legislature.
- Due to the lack of labor organizations and companies' harassment of workers in this region, groups should be organized in communities, in order to analyze the problem and develop action strategies to defend labor rights and address the environmental problems.
- Define a work strategy focused on the environmental impact of the industry. It should integrate environmental groups that can do studies on the direct damages caused by pineapple production.
- Start a national campaign on the danger que se cierne sobre los mantos acuíferos of the region.
- The research results should be shared with other institutions and organizations. There should be efforts to present the results in different communities, at events with the participation of institutions, organizations, the press, etc.

Bibliography

Aragón, Carlos; Kreyns Marjan (1994). Incentivos a la producción: zona atlántica. Yuca, piña, plátano, palmito y ganadería bovina. Centro Agronómico Tropical de Investigación y enseñanza (CATIE); Wageningen agicultural university (WAU); Ministerio de Agricultura y Ganadería (MAG).

Carazo, Eva (2004). Implicaciones del tratado de libre comercio entre Estados Unidos y Centroamérica para el sector agropecuario: aproximaciones desde la perspectiva de la agricultura familiar campesina.

Centeno, Gabriela. (2003). Requisitos y regulaciones para la importación y comercialización de piña orgánica en los Estados Unidos. Centro de Inteligencia sobre mercados sostenibles, INCAE, Alajuela. Costa Rica.

Consejo Nacional de Producción. (CNP) (1999) Boletín Nº1 año 4. Piña fresca

Consejo Nacional de Producción. (CNP) (2000) Boletín Nº2 año 5. El mercado mundial de piña fresca

Consejo Nacional de Producción. (CNP) (2003) Boletín Nº1 año 8. Situación dele mercado de Piña en Costa Rica

Consejo Nacional de Producción. (CNP) (2003) Boletín Nº32 . Reinserción de la piña Monte Lirio en el mercado costarricense.

Chichilla Vargas, Elizabeth (1998) Estudio del proceso de trabajo, operaciones, su perfil de riesgo y exigencias laborales en el cultivo y empaque de la piña. Organización Panamericana de la Salud. (OPS).

Defensoría de los Habitantes de la República. Oficio Nº 00701-2004-DHR. Informe final con recomendaciones sobre denuncia planteada por Diputada María Elena Núñez acerca de la expansión piñera y el perjuicio en actividades pecuarias en la zona de Pococí, Guácimo y Siquirres.

Defensoría de los Habitantes de la República. Oficio Nº 00701-2004-DHR. Expediente Nº 08399-23-99 Informe final con recomendaciones sobre denuncia planteada por vecinos de zona de Buenos Aires de Puntarenas acerca de impacto ambiental y en la salud de las personas de la actividad de la empresa PINDECO Diputada María Elena Núñez acerca de la expansión piñera y el perjuicio en actividades pecuarias en la zona de Pococí, Guácimo y Siquirres.

Dijksterhuis, H.L. (1998). Female participation in the agricultural sector of the northern Atlantic zone of Costa Rica. Provision of employment on farms and packing plantas specified to gender. Centro Agronómico Tropical de Investigación y enseñanza (CATIE); Wageningen agicultural university (WAU); Ministerio de Agricultura y Ganadería (MAG).

Jiménez Díaz, José. (1999) Manual Práctico para el cultivo de la piña. Editorial tecnológica de Costa Rica.

Manifiesto de Guácimo sobre el Tratado de Libre Comercio Estados Unidos-Centroamérica (TLC-EUCA). (2004)

Ministerio de Agricultura y Ganadería. (2003). Memoria institucional 2002

Monge Zúñiga, Alvaro. (1996). Costa Rica. Pequeño gran exportador de productos no tradicionales. COMEX (Ministerio de Comercio Exterior).

Promotora de Comercio Exterior. (Procomer). (2000) Perfil de Producto. Piña.

Promotora de Comercio Exterior. (Procomer). (2003) Estadísticas de exportación. Costa Rica.

Secretaría Ejecutiva de Planificación Sectorial Agropecuaria (SEPSA). (1995). Perfil de la actividad piñera (Ananas Comosus L..) en Costa Rica.

Secretaría Ejecutiva de Planificación Sectorial Agropecuaria (SEPSA). (2003). Boletín Estadístico Agropecuario Nº 14.

Quijandría, Gabriel; Berrocal, Javier; Patt, Lawrence. (1997) **La industria de la piña en Costa Rica. Análisis de sostenibilidad**. Centro Centroamericano de desarrollo Sostenible.

Quirós Quintana, Valentín. (1993). Situaciones y perspectivas de la piña en Costa Rica. IX congreso nacional agronómico y de recursos naturales.

Press Articles

La República. Costa Rica. Pindeco en pugna con ecologistas. Amenazadas exportaciones millonarias. February 3, 2000.

La República. Costa Rica. Verdades sobre piña y Pindeco. February 9, 2000.

La Nación. Costa Rica. Pindeco denuncia Boicot en Europa. February 16, 2000

La Prensa Libre. Costa Rica. Denuncian boicot hacia Pindeco. February 16, 2000

La República. Costa Rica. Del Monte denuncia boicot. February 16, 2000

La República. Costa Rica. Piña aprovecha periodo de Bonanza. June 10, 2002

La República. Costa Rica. Agricultura. Sector en extinción. October 10, 2002

La Nación. Costa Rica. Piñeros preocupados por posible sobreoferta. March 26, 2003

La Nación. Costa Rica. Piña: Gran oferta no frena siembra. May 20, 2003

La República. Costa Rica. Piña lidera crecimiento. June 21-22, 2003.

La República. Costa Rica. Dinamismo expotador encoge déficit. August 27, 2003

La Nación. Costa Rica. La Revolución de la piña costarricense. October 10, 2003

La Nación. Costa Rica. Negocio Piñero en Peligro. October 27, 2003

La Nación. Costa Rica. Dole expande sus operaciones de piña. December 21, 2003

La Prensa Libre. Costa Rica. Sector Piñero crece como la espuma. January 29, 2004

La Nación. Costa Rica. Producción de piña y banano recobra fuerza en parrita. Feb 16, 2004.

La Nación. Costa Rica. Exportación de piña supera a la del café. Feb 16, 2004.

La República. Costa Rica. Cultivo de piña sin freno. March 2, 2004

La República. Costa Rica. Dulce futuro para la piña. May 10, 2004

La Prensa Libre. Costa Rica. Autoridades no temen sobreoferta de piña. May 10, 2004

La República. Costa Rica. Piña tica llenará bodegas de Chiquita. June 21, 2004

La Nación. Costa Rica. Producción de piña no se detiene. July 26, 2004
La República. Costa Rica. Agricultura creció un 11.5% en primer semestre. July 29, 2004

Al Día. Costa Rica. Lío con piñera en Pital. Oct. 7, 2004.

El Financiero. Costa Rica. Special report. Zona atlántica se contagia de fiebre piñera. 20-26 Sept 2004.

Interviews

Alexis Quesada, Manager, National Pineapple Program, Ministry of Agriculture. July 28, 2004

Representatives from the workers' organization SITRAPINDECO. July 31, 2004

Group interview with Guácimo residents, Limón Province. Sept. 12, 2004.

Field observation. Trip to communities and pineapple companies in the Guácimo area. October 25-27.