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**INVESTMENT OPPORTUNITIES IN VENEZUELAN AGRIBUSINESS**

*study prepared for*

The National Council for Investment Promotion

**CONAPRI**

Caracas, Venezuela

*prepared jointly by*

Agroinvest Consultores, S.A.

Caracas, Venezuela

J.E. Austin Associates, Inc.

Arlington, VA, USA

May, 1993

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2000  
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\*NOTE: "Supporting Documents" for each of the agribusiness areas analyzed include the following:  
1) Catalogue of the Venezuelan Industry, 1989-91; 2) Explanatory Footnotes; 3) International Industry Profile (text); and 4) Datasheet for International Industry Profile (tables).

## INVESTORS OVERVIEW

The 1990s have brought a new investment boom to Latin America. Since 1989, businesses in the United States, Japan and Europe have quadrupled their investments in the region. This new wave of investment is not being led by the traditional heavy industry players, nor is it propelled by the historical attraction of exploiting "comparative advantages," such as low labor costs, climatic conditions and abundant natural resources. Rather, the boom reflects the realization that there are segments in this very large and growing market that are clearly underexploited -- particularly for a large range of consumer products, technology and services. Economic policies encouraging trade liberalization and the free movement of capital and goods and services across the region, and a new positive attitude towards the private sector, have encouraged new investors to tap the parts of the local market that sorely need development.

Venezuela has been one of the main beneficiaries in the approximately \$100 billion invested by businesses in the region since 1990. Despite the influx in investment funds, competition in the region for these funds has never been keener. The challenge in the coming years will be to sustain and broaden the benefits of that investment flow.

This report represents the culmination of 6 months of collaborative research with local industry and the National Council for Investment Promotion (CONAPRI) to identify attractive business segments within the Venezuelan agribusiness sector. A total of 24 agribusiness segments were identified, and nine of these were selected for further study and analysis. The sections that follow present the conclusions of the study, profiling five product areas that offer investors, whether foreign or domestic, some clear prospects for growth and profit-making over the next decade.

The methodology used to identify and select investment opportunities in agribusiness has sought to take data collection and analysis beyond the consideration of comparative advantages. After all, most tropical countries share favorable climates for agricultural production, relatively low wages and other basic factors that create comparative advantage in agribusiness. Instead, the research has focussed on identifying segments in which businesses in Venezuela also enjoy concrete *competitive* advantages, and are therefore structurally attractive for investors.

But the investment opportunities highlighted are just part of a larger picture of dynamism and growth that characterizes the Venezuelan economy in general and the Venezuelan agribusiness sector in particular. Opportunities abound for the entrepreneur or investor willing to establish a base of operations in Venezuela. Before turning to the specifics of the profiles, a few general observations about the growth prospects for Venezuelan agroindustry are in order.

## *Venezuela: A Picture of Dynamism*

The Venezuelan economy has been among the fastest growing economies in the world for the last 4 years. In 1991 the gross domestic product (GDP) grew at 10.4%; in 1992 it grew at 7.3%.<sup>1</sup> Private sector GDP grew at 13.1% in 1992. The country's GDP growth per capita, estimated at 5.9% in 1992, was almost three times higher than the average that same year for other South American countries. The Government of Venezuela (GOV) forecasts an average 4.5% growth in the economy throughout the 1990s.

Despite the economy's strong performance, some issues continue to cloud the economic picture. The consolidated public sector deficit continues high. 6.4% of GDP in 1992, up 3.1% from the previous year. Inflation averaged 31.9% in 1992, again up slightly from the previous year. In addition, the bolivar's relative overvaluation continued throughout 1992, affecting the competitiveness of Venezuela's exports and leading to a 23% increase in imports that year.

Nevertheless, investment levels in the 1990-91 period have been unprecedented since the boom years of the 1970s, building and strengthening the foundation for continuing growth. Gross domestic investment for 1991 was \$16.8 billion, second only to Brazil. New foreign investment in Venezuela in 1992 reached \$1.01 billion, increasing the total accumulated stock of foreign direct investment by 23%. Much of the new investment has been channeled directly into the telecommunications sector and other critical infrastructure improvements, including investments in cargo handling and warehousing for the country's port facilities.

These growth rates indicate that Venezuelan businesses and consumers alike have not only recuperated from but are also adjusting to the shock brought about by the economic liberalization and reform measures imposed by the GOV's 1989 Adjustment Plan. Implemented with the assistance of the World Bank, the plan eliminated nontariff import restrictions and price controls; scrapped exchange controls, allowing the bolivar to float freely for the first time ever; allowed interest rates to be set by market forces; provided for the upgrading of custom facilities and streamlined custom procedures. In effect, the Adjustment Plan opened the Venezuelan economy.

## *Venezuela: A Large and Fast-Growing Market*

The Venezuelan market is among the largest, wealthiest and most sophisticated in the Latin American region. Venezuela's current population of 21 million is growing at 2.8% per year, the highest population growth rate in South America. The country's income per capita in 1990, \$2,560, was also among the highest in the region.

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<sup>1</sup>All growth rates calculated in terms of constant bolivars.

Moreover, Venezuela and Colombia (a country of 33.6 million) have formed a customs union, eliminating all trade barriers between them. Since the conclusion of this agreement trade between the two countries has grown from \$360 million in 1989 to \$965 million by 1992. Ecuador joined the customs union February 1, 1993. With the entry of Ecuador, the "local" market is in fact 65 million people strong, with a combined purchasing power of over \$150 billion.

Venezuela is also a natural point from which to serve other South American countries. Venezuela has played a key role in reviving and modernizing the Andean Pact. It is currently negotiating free trade agreements with Mexico and Chile.

Inexpensive energy and a well developed transport and communication infrastructure provide Venezuela with an edge over other bases of operation in the region. Marketing and distribution is easier in Venezuela, a country where 90% of the population is urban. In addition, the country's has more main paved roads per 1,000 square kilometers than any other country in South America, helping to reduce distribution and transport costs.

#### *Agroindustry: A Time of Adjustment and Growth*

A fast growing population, the creation of the customs union, and recovering national income levels have contributed to a recovery in consumer spending. The agroindustrial sector has been a primary beneficiary of this recovery. Sales of agroindustrial products increased by 19% (compared to 16% for the entire industrial sector).

The agroindustrial sector is responding to changes in spending and in its competitive environment. Capacity utilization in the agroindustrial sector increased 10 points, from 55.9% in 1989 to 66% in 1991. Firms are undertaking significant investments in improving their production equipment and technology. The value of investment in agroindustry in Venezuela has been growing at an average compound rate per year of 15.31% over the 1989-91 period.

Foreign capital too has seen the potential the Venezuelan market for agroindustrial products offers. Foreign investment in agroindustry (which grew at an average compounded rate of 14.8% over the '89-'91 period) is also growing faster than foreign investment in other branches of industry. Large multinational companies which have been in Venezuela for decades, such as Heinz, Purina and Pillsbury, continue reinvesting their profits in the country.

Several of the international companies that have recently made investments in Venezuelan agroindustry, such as Cargill and Unilever, have done so with a view to selling in the local market, rather than the export market. Also seeing the strong growth in the Venezuelan market for food, large multinational distributors, such as Makro and B.J.'s, have

established stores in and around Caracas, with expansion into other major Venezuelan cities planned for the near future.

Faced with the threat of increased competition from abroad, Venezuelan agroindustry has turned its attention to gaining and sustaining a competitive edge over their foreign and domestic rivals. For example, over the 1990-92 period Venezuelan companies in the pulp, paper and paperboard industry have invested or announced investments of well over \$100 million for upgrading facilities and equipment to improve productivity and quality and expand production capacity.

In the food business companies are also investing in quality and productivity improvements, as price wars in virtually every area of the market for food are forcing companies to implement deep cost reductions. Moreover, while in the past firms tended towards very high levels of vertical integration, this emphasis has been diminishing since 1989, as firms seek to streamline operations, and as improvements in infrastructure make it easier to contract out what used to be done in-house.

The GOV policy has been supporting efforts to improve the productivity and competitiveness of Venezuelan agriculture. For example, the 1989 Adjustment Plan included a four-year \$1.2 billion program targeting primarily investments in infrastructure, electrification, irrigation systems and agriculture credit (in the form of preferential rates for agriculture projects). Moreover, kept the income tax exemption for all agriculture activities and provided certain export-oriented agriculture activities with a 10% export bonus.

### *An Overview of Investment Opportunities in Agroindustry*

The five sectors profiled in this report, poultry (broiler meat), tilapia, tuna, forestry plantations (pine and eucalyptus) and paper and paper board, offer the investor clear opportunities for reaping excellent returns. Ultimately, however, though every product group chosen for a profile has clearly outperformed the norm in agroindustry since the adjustment process began in 1989, success in a segment or product group depends on how well the investor takes advantage of the niche possibilities offered in that particular segment. The profiles that follow provide basic facts about these product groups or segments that will help guide investors evaluating the potential of different niches and different production locations and technologies.

Highlights of the profiles are offered below:

\* Poultry (broilers) -- Between 1989 and 1992 worldwide poultry consumption grew 5% annually, with particularly strong demand coming from developing countries that are enjoying increasing income. Venezuelan poultry producers' costs are competitive, both domestically *vis à vis* beef and pork, and in some international markets. Export opportunities in neighboring Colombia are promising, and



Venezuelan exports to other international markets have grown steadily over the last three years.

\* **Tilapia** -- An inexpensive, high-quality source of protein, tilapia is a very competitive aquaculture product. Worldwide, tilapia production has more than doubled between 1985-1990, and markets for aquaculture products are projected to grow robustly. In the US market alone, tilapia imports are projected to increase to 6,800 MT in 1993, a 56% over 1992. Venezuela's low land costs, abundant water supplies, tropical climate, and experience in seafood production have contributed to the strong performance of local producers. Over the last 4 years, Venezuelan tilapia producers have invested heavily, increasing output over 53%. Opportunities for investment in tilapia production for domestic consumption and export are excellent.

\* **Canned and Frozen Tuna** -- Worldwide, canned and frozen tuna consumption has grown steadily over the last 10 years, and is projected to continue increasing in the 1990s. Venezuela's large, modern tuna fleet ranks it as Latin America's second largest Pacific tuna fishing country, and the largest in the Atlantic. Aided by supportive government policy, domestic tuna consumption has grown rapidly since 1989, providing a growing market for Venezuela's tuna producers. Though adversely affected by the US "dolphin safe" embargo, the industry is finding alternative export markets in Europe and Latin America.

\* **Softwood Plantations** -- World demand for products made from softwoods, including pine and eucalyptus, has grown throughout the 1980s, particularly in developing country markets like Latin America. Domestic sales of Venezuelan coniferous woods totalled more than \$1 million in 1991, an increase of more than 100% for the 1989-91 period. With one of the largest exploitable forest covers in Latin America and a tropical climate ideal for rapid growth, Venezuela's high yields and low costs make the country's forestry plantations industry and attractive investment area both for local sale and export.

\* **Paper and Board** -- The 1980s were a period of growth in the market for paper products, buoyed by new usages such as computers and facsimile machines. Prospects for continued growth in the 1990s are highest in Latin America and Southeast Asia. Venezuela's growing wood and pulp producing industry, its low energy costs and trained labor force, provide local producers with an edge over other competitors serving the region. The Venezuelan industry, currently operating at well over 80%, has been investing heavily in upgrading and expanding plant capacity. Opportunities for continued growth for domestic consumption and exports appear to be very good.

*J. E. Austin Associates*

Section I

**SELECTED AGRIBUSINESS AREAS**

*Agroinvest Consultores*

**SECTION I:  
SELECTED AGRIBUSINESS AREAS**

1. Poultry
2. Tuna
3. Tilapia
4. Forestry Plantations
5. Paper and Paperboard

**SECTION 1 ANALYSIS OF:  
THE VENEZUELAN POULTRY INDUSTRY**

**Documents Attached:**

- 1) Investor Profile
- 2) Catalogue of Venezuelan Industry, 1989-91
- 3) Explanatory Footnotes
- 4) International Industry Profile (text)
- 5) Datasheet for International Industry Profile (tables)

## INVESTOR PROFILE

for

### THE VENEZUELAN POULTRY INDUSTRY

(broiler meat, whole and parts)

Summary: Worldwide, poultry consumption has grown 5% annually from 1989-92, with particularly strong demand coming from developing countries that are enjoying increasing income. Venezuelan poultry producers' costs of production are competitive both domestically vis-a-vis beef and pork, and in some international markets. Export opportunities in neighboring Colombia are promising, and Venezuelan exports to other international markets have grown steadily over the last 3 years.

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## **CONAPRI Investor Profile:**

### **The Venezuelan Poultry Industry**

#### **I. Product Definition**

Producing a wide array of products including chicken, turkey and eggs, the poultry industry competes with other sources of dietary protein such as beef, pork and fish. Worldwide, over 75% of the poultry industry is devoted to raising and processing "broiler meat," or young chickens under 16 weeks old. Broiler meat is typically sold either whole or in parts (including breasts, legs, leg quarters, feet and wings). Broiler meat can be marketed fresh, chilled or frozen. This Investor Profile focusses on competitive conditions, and opportunities for investment, in the Venezuelan broiler meat sector.

#### **II. The Market**

##### **II.1. Demand**

**International.** Poultry is the world's fastest growing source of meat, and currently represents 23 percent of all meat production consumed worldwide. Bolstered by increasing health concerns about red meat, growing income levels (especially in developing countries) and significant price advantages, international consumption of poultry has increased an average of 5% annually from 1989-92, and is projected to continue to increase steadily in the mid-1990's.<sup>0</sup> The world's largest poultry consumer -- the United States -- has witnessed significant growth in poultry consumption since 1989. But developing country markets, especially Brazil and China, have showed the strongest recent growth in poultry consumption. From 1989-92, Brazilian poultry consumption increased 36%. Over the same period, China's poultry consumption grew 53%.<sup>1</sup>

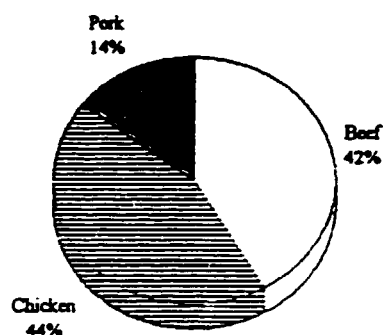
Although most poultry produced worldwide is consumed in local markets, the world's major importers of poultry products -- Japan, Germany, Hong Kong and Saudi Arabia -- also recorded strong growth. Led by these countries' increased imports, worldwide imports grew an average of 10.52% annually from 1989-92.

In Latin America, poultry consumption has also grown. Colombia, currently Venezuela's most important trade partner, has recorded growing domestic poultry consumption. Though annual per capita consumption in Colombia is lower than in Venezuela (10 kgs/person vs. 16 kg/person), the share of poultry in per-capita meat consumption jumped from 13% in 1982 to 24% in 1992.<sup>2</sup> Poultry's price advantage in Colombia (roughly 1/3 the cost of beef in mid-1992) and growing health consciousness suggest poultry's market share will continue to grow.

Venezuela. In 1991, poultry was Venezuela's leading source of animal protein, and per-capita poultry consumption grew 25% over 1990.<sup>3</sup> Growth in consumer demand for poultry in Venezuela, met almost exclusively by local producers, has been supported by several key trends. First, since 1989, patterns of consumer demand in Venezuela have been powerfully affected by inflation and declining purchasing power. This trend has intensified competition on the basis of price for sources of dietary protein. A second factor affecting patterns of demand is growing health consciousness. Though somewhat less prevalent than in Europe and the United States, consumer consciousness about cholesterol and saturated fat content has grown steadily in Venezuela. Both of these trends have favored poultry. Figure 1 shows Venezuelan animal protein consumption as of 1991.

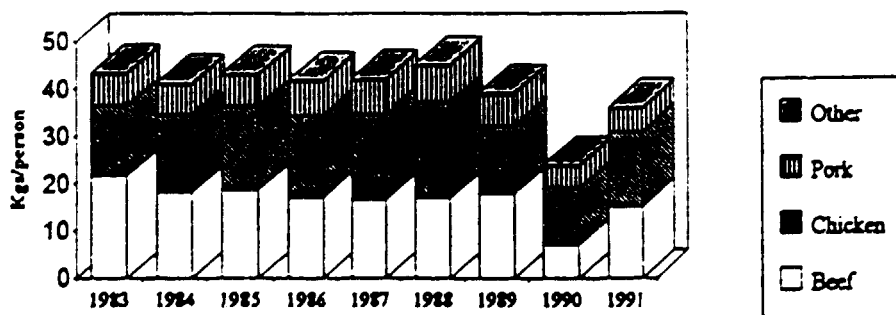
Venezuelan per capita poultry consumption fell in 1989 and 1990, but has rapidly regained ground, and in late 1992 reached levels comparable to the early 1980's. In comparison, per-capita consumption of beef, which also fell sharply in 1990, has not regained its earlier levels. Far smaller in quantity, per-capita pork consumption also declined in 1990 and 1991. Figure 2 shows changes in Venezuelan per-capita consumption for pork, chicken and beef, 1983-1991.

**Chart 1: Venezuelan Animal Protein Consumption, 1991**



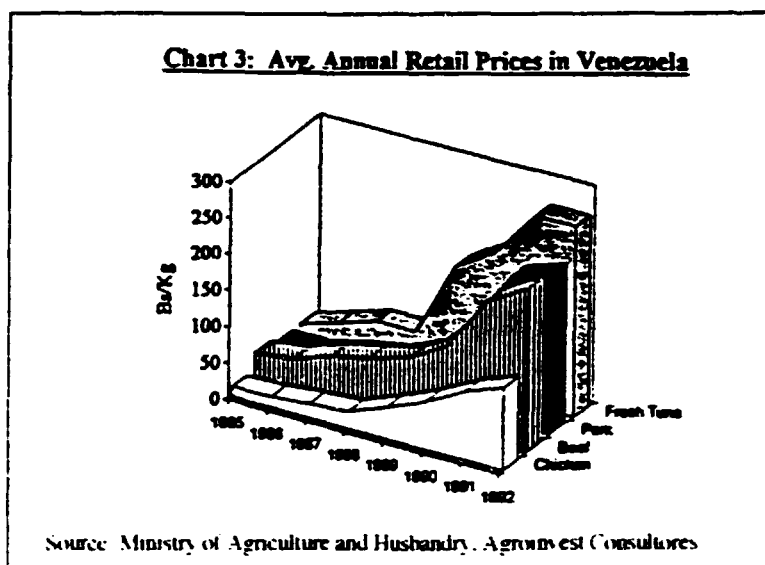
Source: Ministry of Agriculture and Husbandry, FENAVI

**Chart 2: Venezuelan Per Capita Consumption of Meats**



Source: Ministry of Agriculture and Husbandry, FENAVI.

Poultry's strong position in the Venezuelan market stems primarily from its price advantage, though also from the growing perception of poultry's health benefits (particularly vis-a-vis red meats). Figure 3 shows that chicken has enjoyed a price advantage of 50% or



more against beef, pork and tuna throughout the 1980's. In 1992, chicken cost, on average, 114 Bolivars per kilo. This was only 51% of the price of beef; 52% of pork; and only 43% of the cost of tuna. A modest increase in per capita poultry demand is forecast for 1993.

## II.2. Production

**International.** International poultry production has kept pace with increases in consumption. In addition, although only 9% of world production was exported in 1992, worldwide exports of poultry products showed strong growth averaging almost 10% from 1989-92. The world's leading poultry producers are the United States, Brazil and China. The US, producing almost 9.5 million MT of poultry produce in 1992, or 34% of total world poultry production, also ranks as the world's largest exporter. The US exported 658,000 MT of broiler meat in 1992, or 26% of total world poultry exports. Although a much smaller producer, France ranks as the world's second largest exporter of poultry in 1992. France exported 415,000 MT of poultry in 1992.

In Latin America, Colombian poultry production increased 3% from 1991-92, and in 1993 is expected to grow only 2% above 1992 output due to continued weak prices.<sup>4</sup> Annual production totalled 345,000 MT in 1992, roughly equivalent to Venezuelan production levels.

**Venezuela.** Though poultry meat production dropped sharply in 1989 and 1990, the industry's recovery has been impressive. Table 1 shows that monthly poultry meat production fell from a high of 28,000 metric tons (MT) in December 1988 to 13,000 MT in March, 1990. By the end of 1991, however, average monthly production climbed back to 28,000 MT, and



reached 29,200 in early 1992. On a yearly basis, production rose from 313,000 MT in 1991 to 325,000 MT in 1992, a 4 percent increase. Production for 1993 is forecast to total 340,000 MT, or a 5 percent increase over 1992.<sup>5</sup>

Month	1988	1989	1990	1991	1992
Jan	24931	27226	17378	23757	26936
Feb	26758	27300	17237	23675	29164
Mar	25827	25680	13786	23358	29147
Apr	26440	24421	14452	21435	23810
May	26103	23811	17286	25149	25279
Jun	27642	20776	16840	26241	25141
Jul	27297	18153	19462	28117	25705
Aug	26062	15497	21513	27827	29155
Sep	25837	15954	23004	28970	29129
Oct	27248	16223	22906	28152	N/A
Nov	28057	16992	20328	28422	N/A
Dec	28134	20303	21864	27869	N/A
<b>TOTAL</b>	<b>328336</b>	<b>252336</b>	<b>226856</b>	<b>312972</b>	<b>243466</b>

Source: FENAVI

### III. Competitive Conditions

This section reviews two key determinants of the competitiveness of Venezuelan poultry producers: costs of production and industry structure. Although as in other many other industries, competitive success in poultry production is a function of a number of factors including price, product differentiation, brand loyalty, and market access, competitiveness on the basis of price is one of the most important factors of success.

**Venezuelan costs of production.** Baby chicks and animal feed represent roughly 80% of the costs of poultry production in Venezuela. Table 2 breaks down approximate costs of production for 1991, in \$US. Figure 4 shows the major cost components.

**Animal feed.** Animal feed represents about 63% of the costs of production in the Venezuelan poultry industry. The quality, availability and price of animal feed all affect Venezuelan competitiveness. Quality of feed available in Venezuela varies primarily because of inadequate local production of high-protein animal feed.<sup>6</sup> The GOV's import licensing system only allows imports to complement available domestic feed grain supplies. As a result, some months poultry feed is based on imported corn, and some months it is based on local sorghum. Venezuelan sorghum is high in tannin, and considered less palatable to domestic poultry.<sup>7</sup> Average feed to weight conversion rates were 2.2 in 1991.

Due to the imported content and high tariffs, animal feed is also costly. Imports account for most of the protein meal and approximately half of the feed grains for Venezuelan producers. As a result, Venezuela's inflation and currency devaluations have raised the cost of poultry production directly. In 1989, the GOV eliminated preferential exchange rates for agricultural imports, and caused feed prices to double and triple. Inflation of poultry prices outpaced other foodstuffs, and in the midst of worsening economic

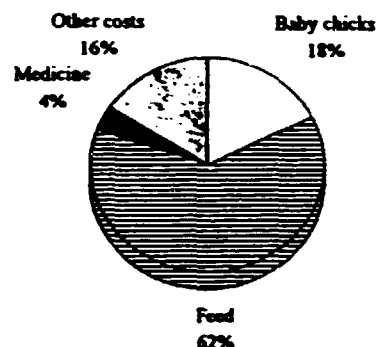
conditions generally, consumer demand collapsed. Growth projections for 1993 are modest as a result of uncertainty over how the government's trade policy will affect the cost of key inputs.

**Table 2: Avg. Costs of Production, 1991**

Input	US\$/Kg	Cost
Baby chicks	\$0.17	17.50%
Feed	\$0.60	62.96%
Vaccines	\$0.01	0.93%
Medicine and sanitation	\$0.04	3.70%
Labor	\$0.02	1.85%
Caleta	\$0.00	0.46%
Carra	\$0.01	0.74%
Transport	\$0.01	0.56%
Other costs	\$0.05	5.56%
Cost/Kg Live Weight	\$0.89	94.26%
Utilities/Kg Live	\$0.05	5.56%
TOTAL	\$0.95	100.00%

Source: Department of Statistics, FENAVI.

**Chart 4 Average Costs of Production, 1991**



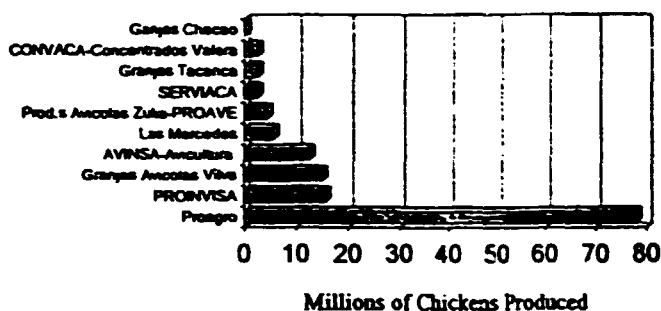
Source: Department of Statistics, FENAVI.

**Baby chicks.** Baby chicks represent approximately 18% of production costs for Venezuelan poultry producers. Baby chicks are produced domestically in sufficient quantity to meet demand from Venezuelan poultry producers. Imports correspond to the grandparents due to the need to incorporate improved genetic stock in accordance to the world trade are subject to exchange rate fluctuations. Costs of imports have varied significantly since 1988, and totalled more than \$5 million US dollars in 1991. The US supplied roughly 75% imported by Venezuelan poultry producers in 1990. This figure declined to 64% in 1991.

**Industry structure.** The Venezuelan poultry sector is highly integrated, with well over 50 percent of production coming from a few very large companies. Some 90% of producers own reproducers, incubators, feeding farms, slaughter houses, and processing plants. Only a few companies own transportation networks and channels of distribution. Over 66 percent of the country's more than 1,500 poultry producing companies are broiler farms. Roughly 80% of these companies are family-owned. One company, PROTINAL, is publicly traded on the Venezuelan stock exchange. Figure 5 shows the largest producers, and their quantity of production in 1991.

Installed capacity totalled 360,000 MT in 1991, and the industry's 1991 production reached approximately 87% of capacity. The industry faces some production limitations. Total meat

**Chart 5: Venezuelan Leading Poultry Producers, 1991**



Source: AgroInvest Consultores; Industria Avícola, 1991.

storage capacity, for example, is estimated at 18,000 mt, and most of this is used for beef.

Venezuelan producers invested \$800 million up to 1991 period, signaling optimism about earnings potential. With import controls still firmly in place, only Colombia presents a competitive threat in the domestic market in the near future (see also below).

Government policy affecting imports of animal feed and baby chicks may have a significant impact on costs of production and profitability.

#### IV. The Legal and Regulatory Environment

In the 1980's, Venezuelan policy affected the domestic poultry industry in three principal ways: restraining imports of poultry products, limiting and taxing imports of poultry inputs; and blocking exports until domestic market demand is met.

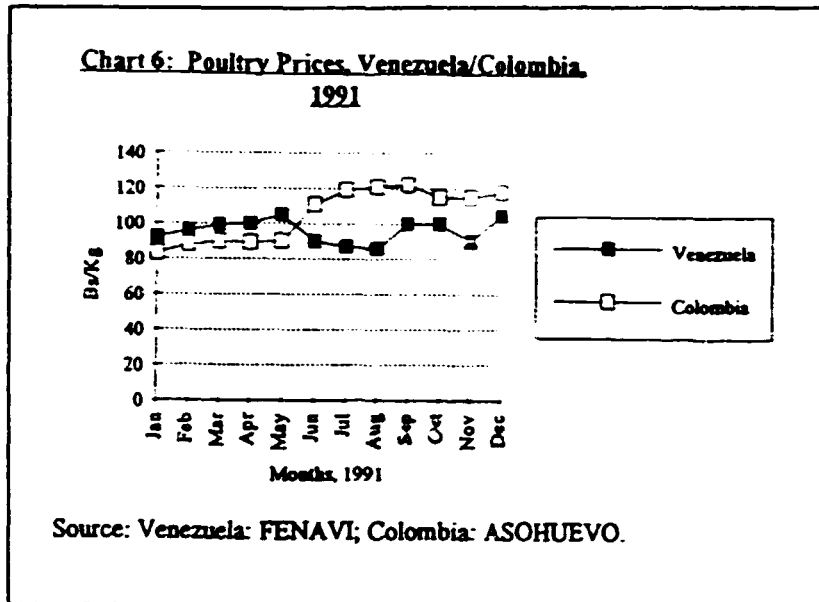
Until 1989, GOV used quantity restraints (chiefly Nota 2 of the import code) and tariffs to block imports of chicken into Venezuela. Currently, there are no quantity restraints applied except for the United States, which faces obstacles imposed by the Ministry of Health. Poultry meat imports are levied a 20% value-added tariff, with the exception of Colombia, whose goods are allowed in without duty. As mentioned above, GOV policy toward the imports of cheaper animal feed and grains from major producers such as the United States has caused both input quality, price and availability to vary. Pre-1990 GOV license requirements for exports were dropped.

#### V. Summary

**Colombia.** Regional trade discussions among the Andean Pact Countries (Venezuela, Colombia, Ecuador and Peru) opened the possibility of an integrated market of 90 million people. Though the political situation in Peru has slowed these talks, liberalized trade in agricultural products between Colombia and Venezuela is now an accomplished deed. Poultry can now flow back and forth duty free between the two countries, while poultry from third countries will be subject to an Andean Common External Tariff at a maximum of 20 percent.

The Colombian poultry market offers significant growth potential, and Venezuelan producers have proved cost-competitive with Colombian poultry. Poultry production in Colombia has grown very rapidly over the last two decades, showing an average annual growth of 10.7%. Though the Venezuelan poultry association feared that Colombian poultry would

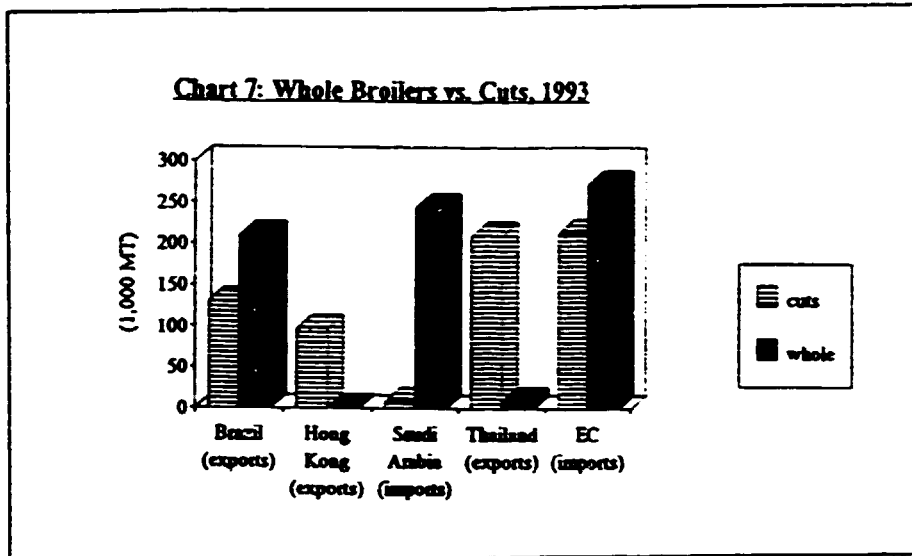
flood local markets after the signing of the free trade pact, Figure 6 shows that in the latter half of 1991 Venezuelan poultry prices fell below Colombia's. Despite these positive signs in the regional market, the volume of trade has been small, and near-term outlook does not call for greatly increased trade. Key limitations appear to be inadequate transportation and distribution systems for frozen poultry, and difficulties in gaining market penetration.



**Other international markets.** Until 1990, Venezuelan poultry exporters were burdened by license requirements that obliged exporters to demonstrate that domestic production exceeded local demand. Under the 1989 economic reform program, export licensing was eliminated, and excess capacity caused by depressed local demand created a major incentive to attempt exports. Venezuelan poultry exports grew sharply in 1990, 1991 and 1992, and are currently directed not only to Colombia, but also to other international markets including Cuba, Netherland Antilles and Angola (via Cuba).

In these and other international markets, the way poultry is sold will affect growth potential. As Figure 7 shows, in large world import markets such as the European Community (EC), almost 50% of all chicken imports are chicken parts. Saudi Arabia imports almost all parts. Though almost all Venezuelan exports are currently whole chickens, producers may be able to exploit these and other export markets by gearing domestic production toward this higher value-added product line.

**Chart 7: Whole Broilers vs. Cuts, 1993**



## V. Endnotes

<sup>0</sup>/ United States Foreign Agricultural Service, "World Poultry Situation," January, 1993; see also the International Industry Profile appended to this document.

<sup>1</sup>/ US Foreign Agricultural Service, January 1993, *ibid.*

<sup>2</sup>/ US Agricultural Attache, US Embassy, Bogota Colombia, "Annual Report," June 19, 1992.

<sup>3</sup>/ US Embassy, Agricultural Counselor, Caracas, Venezuela, "Poultry: Venezuela Annual Report," June 20, 1992.

<sup>4</sup>/ US Embassy, Agricultural Attache, Bogota, Colombia, *op cit.*

<sup>5</sup>/ Source: FENAVI.

<sup>6</sup>/ Due to different climate and soil conditions in the tropics, few high-protein feed components are produced locally. Though efforts have been made to explore the feasibility of using tropical products as substitutes for higher-protein grains produced at different latitudes, there has been little progress.

<sup>7</sup>/ Tanin is added to discourage wild birds from consuming it in the fields.

## CATALOGUE

<b>Industry:</b> Aviculture
<b>Segment:</b> Poultry
<b>Product:</b> Broilers

<b>1. Competitive Advantages</b>				
<b>A. Variables</b>	<b>% Growth</b>			
	<b>1991</b>	<b>89-91</b>	<b>Source</b>	<b>Footnote</b>
<u>Investments (cumulative, 1989-91)</u>				
local (US \$)	800.000.000	91,37%	1, 2	
foreign (US \$)	N/A	N/A		
Total (US \$)	800.000.000	91,37%	1, 2	1
<u>Number of Participants</u>	1.569			
<u>New Companies (1989-91)</u>	N/A	N/A		
<u>Local Sales</u>				
Volume (MT)	282.337	7,06%	1, 2	2
Value (\$US)	479.844.462	32,49%	1, 2	
<u>Production</u>				
Volume (MT)	312.972	11,37%	2	
Value (\$US)	509.255.749	34,90%	2	
<u>Imports</u>				
Volume (MT)	15	H.G.R.	4	3
Value (\$US)	24.064	H.G.R.	4	
<u>Exports</u>				
Volume (MT)	29.663	122,22%	1, 2, 4	4
Value (\$US)	29.411.287	113,49%	1, 2, 4	
<u>Capacity</u>				
Installed MT	360.000	N/A	3, 1	6
Utilized (%)	87,00%	N/A	3	
<u>Investment in R &amp; D</u>				
Percent of Total Investment	N/A	N/A		
<u>Investment in Distrib. Channels</u>				
Percent of Total Investment	N/A	N/A		

HGR: High Growth Rate

N/A: Not Available

**1. Competitive Advantages**

<b>B. Related Variables</b>						
<b>Principal Inputs</b>	<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>
			<b>% Local</b>	<b>% Imp'd</b>		
A) Animals Feed(ABA)	46	N/A	100%	0%	1, 6, 2	7
B) Animal Health(Pharmaceutical)	N/A	N/A	N/A	N/A	2	
C) Machinery and Equipment	44	N/A	N/A	N/A	1, 2	
D) Packing Industry	N/A	N/A	N/A	N/A	2	
<b>Related Industries</b>						
					<b>Source</b>	<b>Footnote</b>
A) Incubators					8	
B) Fast Food					8	
C) Cold Storage					8	
D) Processed Chicken Meat , E) Feed Silos					8	
<b>Barriers of Entry</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
A) Economies of Scale				3	2	
B) Product Differentiation				1	2	
C) Capital Requirements				2	2	
D) Difficulty in Accessing Capital				1	2	
E) Difficulty in Accessing Channels of Distribution				3	2	
F) Difficulty in Accessing Labor				1	2	
G) Other (specify):						
<b>Levels of Integration</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
Horizontal				1	2	8
Vertical				3	1, 2	9

\*Scale: None=0, Low=1, Medium=2, High=3

## 1. Competitive Advantages

### C. Qualitative Variables

#### Structure of Share Ownership (1991)

	Yes	No	Source	Footnote
Family	x		2	10
Few Shareholders	x		2	
Stock Market	x		2	10
Foreign Ownership		X	2	
Others:				

#### Ownership of Distribution Channels

	Yes	No	Source	Footnote
Owned by Producer	x		2, 6	11
Owned by Independent Entities	x		2, 6	

## 2. Comparative Advantages

Variables	National	Growth*	Int'l.	Growth*	Source	Footnote
	Data	1989-91	Data	1989-91		
Costs of Production in US\$/Kg	1,56	N/A	N/A	N/A	1, 5	12
Prices in US\$/Kg	1,63	21,54%	1,85	N/A	1	13

\*Annual compounded growth rate, in percent.



### 3. Social Criteria

Variables	Tendency #		
	1989-91	Source	Footnote
<b>Value Added:</b>	2		
This is a highly integrated industry; it goes from the production of ABA to retail sales of whole chicken or in pieces, including some firms which have begun processing chicken meat.			
<b>Employment:</b>	N/A	2	5
Workforce has extensive previous training; training takes place within the industry			
<b>Productivity:</b>	2		
The accelerated growth of the industry in recent years is reflected in a significant increment in its productivity, with intentions to achieve international competitiveness.			
<b>Per-Capita Consumption:</b>	2	3	14
Per capita consumption passed from 14 Kg/hab in 1989 to 16/kg/hab in 1991.			
Lower than in the developed countries, due to their higher health conscious ness, but it is higher than the per capita consumption of other countries in the region.			

# Tendency: High Growth=1, Medium Growth=2, Stable=3, Medium Contraction=4, High Contraction=5

### 4. Available Information

(1) Competitiveness of the Venezuelan poultry industry in the context of the liberalization of trade with Colombia. Carolina Castillo, UCAB, 1992.
(2) Interview with FENAVI
(3) Poultry farming census. 91-92. FENAVI
(4) Foreign Trade Yearbook. 1989-1991. OCEI
(5) Interview with Freddy Ferrer. PURINA OF VENEZUELA
(6) Venezuela Avicola Magazine. 1989-1992
(7) Agroinvest Newspaper Library
(8) AVIGUIA 1989

## Catalogue

Segment: Chicken  
Product: Broilers

### Footnotes

- | No. | Source  | Observation   |
|-----|---------|---|
| 1   | (1,2)   | <p>For 1990, investment was at the level of US\$336,700,336.7, which was totally private capital.</p> <p>The TCIP has been calculated for the years '90-'91 (n=1). Exchange Rate 1990: 47.52 Bs/\$. The narrow relationship established with the private bank strengthens the perspectives for an industry that has demonstrated solvency and a notable diversification of its products.</p>  |
| 2   | (1,2)   | <p>Local sales are calculated as the difference between national production and exports, given that the inventory is very low and didn't influence the volume of sales significantly.</p> <p>According to FENAVI 226,000 MT of chicken meat was produced in 1990, and the stock at the beginning of the year was only 10,400 Mt (4.6%).</p>   |
| 3   | (7)     | <p>Also, during 1992, chicken thighs originating from the US entered the market, and were strongly protested by national chicken farmers, who considered it a case of dumping. They alleged that the cost of the chicken in the US is 45 cents/kilo, and that the US was exporting at 38 cents/kilo.</p> <p>Faced with this situation, chicken farmers are requesting the establishment of a price band for these products.</p>   |
| 4   | (1,2,4) | <p>Chicken meat and breeding chicks (one-day old chicks) that lay eggs for consumption are Venezuela's most exported product.</p> <p>The principal destinations of chicken meat exports (97% of the total exported) are: Cuba, the US, the Antilles, Colombia, Jamaica, and Argentina.</p> <p>Exports in 1989 were 75% to Colombia, those in '91 (which rose 74.4% in comparison to 1990) were 92.11% to Cuba and 7.41% to Colombia.</p> <p>Of the 1991 chicken imports, 100% came from the US.</p> |
| 5   | (3)     | <p>Including chicken meat and eggs.</p> <p>Of the total of employees: 24% are in the area of production; 18% are in the industry itself; 21% are in distributing the product; 20%</p>   |

in the transporting of inputs and finished goods; and 17% in other occupations.

	1989	1991
6 (1,3) Feed	35	46
Slaughterhouses	63	54
Slaughterhouses capacity (unds)	975,520	1,043,536
Broiler farms	810	1,047
Population (chickens)	52,837,318	59,142,050
Progenitor farms	5	5

7 (1,6) The major cost component of this product is feed; of the total production of feed in 1991, 65% was consumed by the poultry-breeding sector, as the feed is composed of 56% cereal, 25% soy flour, 11% fiber, 5% other foods, and 3% molasses. The price of feed in 1991 (for broilers): 16,914 Bs/MT. Quantity produced for aviculture: 1,852,500 MT.

The actual installed capacity is 5 million tons. Utilized capacity is 50%. PROTINAL and PROMASA invest in R&D and their channels of distribution are their own.

Of the cereals that are utilized, soy is 100% imported and sorghum or yellow corn is 50% imported. These elements represent 80% of the cereals used in making feed. An option for resolving the dependency on foreign agricultural products is to substitute the national crop of "quinchoncho" for soy. Nevertheless, obstacles to this have been the lack of economic resources and the uncertainty generated by the changeability of the environment which affects the sector. A positioning on the part of medium sized companies has been observed, these are more solvent than the larger companies.

8 (2) Until now, there haven't been incentives in the industry to horizontally integrate, above all because the industry has had a sure subsidy, regarding packing, more than anything. MOLANCA sells egg cartons and various national companies manufacture plastic bags for chickens, the principal one being Plásticos Los Andes.

9 (1,2) As a consequence of the increment in feed prices since 1983, the process of vertical integration among poultry producers has accelerated. This process encompassed reproducers, incubators, broiler farms, poultry slaughterhouses, and feed plants, achieving an increase in productivity and, consequently, the placement of products at more competitive prices.

Today, the poultry industry is expanding its vertical integration in the direction of agriculture in order to seed its own farms or finance harvests to organized agriculturalists.

The national poultry industry is considered 90% totally vertically integrated to the poultry Slaughterhouses (source: AFACA).

- 10 (1) The only firm of the sector quoted on the stock market is **PROTINAL**.
- 11 (2,6) One of the most worrying weaknesses of the sector is distribution of the final product from the slaughterhouse to the consumer. Up to now it has been done by refrigerated trucks; nevertheless, this has been to the detriment of the rest of the production chain. Stronger investments should be undertaken to consolidate the position of the market further on than the slaughterhouse (a point where the industry is highly integrated), and to ensure direct access to the consumer, which would serve as a vehicle for a direct and aggressive marketing campaign and would diminish the high commercialization margin which have the final links in the production chain.
- 12 (1,5) After establishing a new pattern of free trade, the poultry industry is confronting a process of inflationary adaptation. Thus, this industry suffers the impact of an increase in production costs as a consequence of an increase in the price of ABA for broilers of 147.43% between 1989-1991.  
Cost Structure: Feed: 63%; Chicks: 18%; Sanitation: 4%; Others: 12.44%; Labor: 2%; and Transportation: 0.56%.
- 13 (1) The international price refers to Colombia.  
Venezuelan price 1991: 93.69 bolivares/kg. Colombian price 1991: 67.65 bolivares/kg.  
Exchange rate: 11.60 pesos/bolivares.
- 14 (3) Poultry products are valuable for their protein content, are a source of iron and phosphorous, and contain substances, such as calcium and vitamins, which are essential for growth and human development. In addition, they help to balance essential aminoacids and constitute a complementary source of calories. In Venezuela, for each kg. of protein that is consumed per capita, chicken meat and eggs comprised 29% in 1990 and in 1991, this figure increased to 38%.

## INTERNATIONAL INDUSTRY PROFILE

Industry: meat  
Segment: poultry  
Product: whole or parts

### DEFINITION

More than 75% of the world poultry meat industry is devoted to raising and processing chickens. An inexpensive source of animal protein, chicken end-products include whole birds and parts (including breasts, legs, leg quarters, feet and wings). These may be sold fresh, chilled or frozen.

### WORLDWIDE DEMAND

- \* poultry is the world's fastest growing source of meat, and currently represents 23 percent of all meat production
- \* worldwide, total poultry meat production is forecast to increase about 4 percent in 1993.
- \* much of the growth in demand has come from developing countries, which have increased their share of worldwide demand to 46% today from 25% in 1970

### PRODUCTION

- \* poultry meat production has more than tripled over the last 20 years
- \* in 1992, total poultry meat production totalled more than 40 million metric tons (mt)
- \* modern technological advances have made it relatively easy to construct efficient poultry production complexes almost anywhere near labor and markets

### EXPORTS AND IMPORTS

- \* the world's largest exporter of poultry meat is the United States, with 28 percent of total poultry exports worldwide
- \* France (23%) and Brazil (19%) are the second and third largest exporters

- \* Japan accounts for 27 percent of the world's poultry imports.
- \* other large markets for poultry meat include the former USSR (22 %), Saudi Arabia (16.5%), and Hong Kong (16%)

## **INDUSTRY STRUCTURE AND TRENDS**

- \* the international poultry meat industry has become increasingly concentrated in order to maximize productive efficiency
- \* in major producer markets today there are fewer, but much larger, and more vertically integrated firms
- \* in the US, the number of individual poultry producers dropped nearly a third between 1959 and 1988. In 1992, the largest four US producers accounted for 40 percent of total US production volume; the top 20 companies account for over 80 percent of industry production
- \* in Mexico in 1991, the 11 largest Mexican poultry producers accounted for almost 60 percent of production volume

## **KEYS TO COMPETITIVE SUCCESS**

- \* technical advances that reduce price are a key source of competitive advantage
- \* the "conversion rate" (the amount of feed required per pound of poultry weight gained) is a key measure of efficiency
- \* other cost savings such as economies of scale in purchasing animal feed, the largest cost component in poultry production, also lower producer costs
- \* rapid adoption of biological and technological advances

## **BARRIERS TO ENTRY**

- \* technical know-how; cost of building facilities; distribution
- \* relatively low

## **SUBSTITUTES**

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- \* beef and pork are principal substitutes for animal protein
- \* other include fish; poss. beans and rice, etc.

## **GOVERNMENT POLICY**

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- \* over 90% of poultry is raised for domestic markets; government protection through tariffs, quotas, subsidies on poultry products and other principal inputs

## Datasheet for International Section of Investor's Profiles

Industry: Meat  
 Segment: Poultry  
 Product: Whole Broilers, Cuts

Worldwide Production	1989	1990	1991	1992	1993e	% Total
(1,000 metric tons)						
Major producing countries						
1 United States	7,814	8,360	8,886	9,453	9,811	33%
2 Brazil	2,084	2,356	2,628	2,865	3,130	11%
3 China (PRC)	1,210	1,400	1,745	2,025	2,350	8%
4 Japan	1,355	1,332	1,269	1,260	1,230	4%
5 FSU-12	1,820	1,800	1,750	1,350	1,245	4%
6 Mexico	590	660	790	940	1,030	4%
7 France	898	959	995	1,010	1,010	3%
WORLD TOTAL	24,252	25,635	27,182	28,205	29,297	100%
Percent Change		5.39%	5.69%	3.63%	3.73%	

Worldwide Consumption	1989	1990	1991	1992	1993e	% Total
(1,000 metric tons)						
1 United States	7,443	7,487	8,309	8,797	9,135	31%
2 Brazil	1,840	2,056	2,306	2,495	2,790	10%
3 China (PRC)	1,500	1,600	1,734	2,000	2,300	8%
4 Japan	1,626	1,632	1,634	1,637	1,670	6%
5 FSU-12	1,907	1,873	1,804	1,677	1,600	5%
6 Mexico	7,443	7,847	8,309	8,797	9,135	31%
7 United Kingdom	825	876	994	1,043	1,047	4%
WORLD TOTAL	24,183	25,340	26,710	28,007	29,163	100%
Percent Change		4.57%	5.13%	4.63%	3.96%	



Worldwide Exports	1989	1990	1991	1992	1993e	% Total
(1,000 metric tons)						
Major Exporters						
1 United States	369	518	572	658	674	26%
2 France	349	358	401	415	425	16%
3 Netherlands	265	286	317	338	355	14%
4 Brazil	244	300	322	370	340	13%
5 Thailand	96	108	139	164	160	6%
WORLD TOTAL	1,864	2,135	2,326	2,539	2,592	100%
Percent Change		12.69%	8.21%	8.39%	2.04%	

Worldwide Imports	1989	1990	1991	1992	1993e	% Total
(1,000 metric tons)						
Major Importing Countries						
1 Japan	271	291	347	395	400	19%
2 Germany	205	240	281	290	295	14%
3 Hong Kong	172	208	246	289	292	14%
4 Saudi Arabia	194	209	244	249	253	12%
5 United Kingdom	72	111	112	145	135	6%
WORLD TOTAL	1,544	1,709	1,871	2,084	2,107	100%
Percent Change		10.69%	9.48%	11.38%	1.10%	

Consumption per capita	1989	1990	1991	1992	1993e
(Kilograms)					
Major consumers					
1 Hong Kong	26.20	26.99	29.38	35.49	35.63
2 United States	30.60	31.34	32.91	34.56	35.61
3 Saudi Arabia	26.90	27.16	29.99	31.32	31.45
4 Singapore	32.10	32.50	33.01	31.52	31.14
5 Israel	24.30	25.56	26.66	26.33	26.02
6 Canada	22.30	23.03	23.15	23.47	23.47
7 Spain	21.10	20.97	21.80	21.78	21.96

Sources: United States Department of Agriculture, Foreign Agricultural Service, Circular Series, various months, 1991-93; US Embassies, Agricultural Counselors, various countries; US Dept. Agriculture, Economic Research Service, Commodity Economics Division, publications 1992, 1993.

**SECTION I ANALYSIS OF:  
THE VENEZUELAN TUNA INDUSTRY**

**Documents Attached:**

- 1) Investor Profile
- 2) Catalogue of Venezuelan Industry, 1989-91
- 3) Explanatory Footnotes
- 4) International Industry Profile (text)
- 5) Datasheet for International Industry Profile (tables)

## INVESTOR PROFILE

for

## THE VENEZUELAN TUNA INDUSTRY

**Summary:** Worldwide, canned and frozen tuna consumption has grown steadily over the last 10 years, and is projected to continue increasing in the 1990's. Venezuela's large, modern tuna fleet ranks it as Latin America's second largest Pacific tuna fishing country, and the largest in the Atlantic. Aided by supportive government policy, domestic tuna consumption has grown rapidly since 1989, providing a growing market for Venezuela's tuna producers. Though adversely affected by the US "dolphin safe" embargo, the industry is finding alternative export markets in Europe and Latin America.

*prepared for*

The National Council for Investment Promotion  
CONAPRI

Caracas, Venezuela

*prepared by*

AgroInvest Consultores, S.A.  
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Arlington, VA

## **Investor Profile**

### **Canned and Frozen Tuna**

#### **I. Product Definition**

Worldwide, tuna is an important and growing sector of the commercial seafood industry. Sold fresh, frozen and canned, tuna products compete with other leading fish and meat products as a source of dietary protein.

Although there are five principal species of tuna fished commercially around the world, Venezuela catches are primarily yellowfin. To a much lesser extent, Venezuela also catches skipjack and bigeye. This Investor Profile focuses on competitiveness, and investment potential, in Venezuelan frozen and canned tuna.

#### **II. The Market**

##### **II.1. Demand**

**International.** World demand for fresh, frozen and canned tuna is projected to increase 180,000 tons per year, reaching 1.1 million tons by 1995.<sup>1</sup> Japan was the world's largest tuna consuming nation in 1991, followed by the US, and then the European Community (EC). Despite many changes in the industry, canned tuna's share of total world consumption has remained steady at 80%. In the EC, most of the growth in demand for canned tuna was attributable to Spain and France, where consumption almost doubled. Italy was one of the biggest consumers of canned tuna in 1991.

Trade in fresh and frozen tuna almost doubled during the 1980's. Japan, Thailand, Italy and the US accounted for 70 percent of the imports of fresh and frozen tuna in 1989. Thailand imported 325,000 MT of frozen tuna in 1989, primarily for processing in the country's rapidly growing canning industry. The US imported 225,000 MT of frozen tuna in 1989.

While overall growth rates in world tuna consumption have risen over throughout the 1980s, increasingly intense price competition and dolphin safe policies have had a significant impact on consumption patterns in the world's major markets. In the US, embargos against countries that have failed to demonstrate dolphin safe fishing practices (principally for yellowfin tuna caught with purse seine nets) have dramatically shifted consumption patterns away from previous US suppliers including Mexico and Venezuela. While not as severe, the EC has also begun to apply dolphin safe policies to its suppliers. And for these and other world markets, steadily increasing efficiency in Thailand's canned tuna production industry has won that country a larger share of the world marketplace.

Venezuela. Tuna is one of the two most popular processed seafoods consumed in Venezuela. A seafood-eating nation with 3,500 km of coastline on the Atlantic, tuna has long been a staple of the Venezuelan diet, and is rivalled in quantity consumed only by sardines. Venezuelan consumption of canned tuna rose 10% in 1991, and is expected to have increased 20% in 1992.<sup>2</sup> Roughly 40% of tuna consumed domestically is canned, in oil, and 60% is fresh.

While it is unclear if the domestic market is saturated, some observers believe the domestic tuna sales will continue to grow in the near future. Sales of locally caught tuna have grown significantly since 1990. In 1988, over 60% of Venezuela's catch, or roughly 45,500 MT, was marketed domestically. Though this figure dropped in 1989, the percentage of total tuna catch sold domestically has risen since 1990, and now may total as much as 80% of total catch, or 50,000 MT in 1992.<sup>3</sup>

Growth in Venezuela's domestic tuna market is partly a product of the US "dolphin-safe" trade embargo, which has encouraged Venezuelan fishermen to find alternative markets, including domestic sales. Other factors behind the tuna market's growth include the longstanding popularity of tuna as seafood product and, to a lesser extent, health concerns about red meats.

## II.2. Production

International. World canned tuna production increased more than 50 percent from 1980 to 1989, reaching a total of over 1 million MT, and increasing price competition. World exports of frozen tuna have also increased steadily over the 1980's, and increased almost 40% from 1987-88. The US remained the world leader in canning, producing 275,000 tons per year, or 28% of total production in 1990. But US production has fallen sharply from 48% in 1979, and all but one canning plant in the continental US was closed and transferred by 1990.

Thailand's canned production grew the most over the last decade, from almost zero in 1980 to over 20% of total world production in 1989. Taking advantage of low labor costs, Thailand was expected to overtake the US in production volume in the early 1990's. Paralleling Thailand's rapid growth, the share of developing countries in total canned production increased from 16 percent in 1980 to 44 percent in 1989.

Venezuela. Although the Venezuelan domestic market has recently grown in importance, the Venezuelan tuna industry has historically been export-oriented. Tuna is one of Venezuela's leading fishery exports, and shipments of frozen and canned tuna expanded significantly in the 1980s. Venezuelan tuna catches of yellowfin are high quality, and prices for export-quality product can be five times domestic prices. In international markets, the competitiveness and growth potential of Venezuelan tuna processors center on two key issues: "dolphin-safe" trade embargos against yellowfin tuna fished with purse seine nets, and cost efficiency in the increasingly price-competitive world markets.

**Venezuelan production of canned tuna.** Venezuelan canned tuna production totalled 11,300 tons in 1990, and production during 1991 and 1992 appears to have increased significantly.<sup>3</sup> The US Embassy reports that all tuna production totalled 18,000 and 19,000 tons in 1990 and 1991, respectively. Production is almost exclusively light meat tuna, reportedly about one-third skipjack and two-thirds yellowfin.

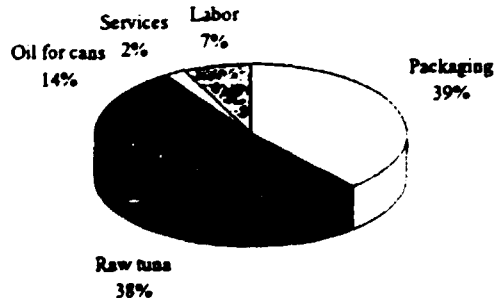
As of 1991, the Venezuelan tuna canning industry was relatively small and highly concentrated. In 1991 there were approximately 12 tuna canning companies with a total capacity of 379 MT.<sup>4</sup> The two largest companies, Alimentos Margarita and Eveba jointly accounted for roughly 85% of the national market. Both companies have long been involved in tuna production and processing -- 54 and 25 years, respectively. Alimentos Margarita forms part of the holding company Aledo Investments, which is traded on the Caracas stock exchange. Continental Bank has held 25% of its shares since 1990. Recently, Heinz showed interest in the acquisition of the Aledo Holding Company, which had sales by the amount of \$60 million in 1992.

In tuna canning, only Alimentos Margarita is totally integrated, from tuna fishing vessels to production plants and channels of distribution. Alimentos is also the owner of a labelling company and an oil producing company that supply 100% of the company's needs for these inputs. Although Eveba is not highly integrated, in the last 3 years it has become one of the country's principal tuna canners in terms of both domestic and foreign sales.

**Table 2: Estimated Costs of Production for Venezuelan Canned Tuna**

Item	Bs/Kg	US\$/Kg*
Packaging	46.14	0.71
Raw tuna	45.00	0.69
Oil for cans	17.00	0.26
Services	2.60	0.04
Labor	8.00	0.12
<b>Total</b>	<b>118.74</b>	<b>1.83</b>

\*Exchange rate: 65 Bs/\$US.  
 Source: Ministry of Agriculture,  
 Venezuela, as reported by US Embassy,  
 Caracas, May 29, 1992.



Venezuelan production of frozen tuna. Though detailed data on Venezuelan frozen tuna production is not available, frozen tuna represents more than 75% of Venezuelan tuna exports (very little tuna is frozen for use in the domestic market). The country's aggregate installed capacity totals about 250 tons per day. Frozen tuna production totalled 50,000 MT in 1990, but dropped to 38,000 in 1991.<sup>6</sup> Venezuelan companies producing frozen tuna have recently expanded their processing capacity. Modernization of the COPEUCRE plant in Cumaná and construction of a new plant at Guanta began in 1989. COPEUCRE estimates the renovated plant will process 36,000 tons of tuna annually, and plans to invest \$2.6 million in renovation.

The United States, the European Community and Japan have been the largest foreign markets for Venezuelan frozen and canned tuna over the 1980's. Table 1 shows Venezuelan tuna imported by these countries for the period 1989-92.

**Table 1: Imports of Venezuelan Tuna, by country and product, 1989-92**

	1989	1990	1991	1992
EEC		(in metric tons)		
Fresh	1426	0	0	na
Frozen	23990	28642	8578	na
Canned	0	0	1684	na
Total	25416	28642	10262	na
United States				
Fresh	257	329	633	456
Frozen	22859	9479	3268	192
Canned	1037	464	795	69
Total	24153	10272	4696	717
Japan				
Fresh	0	0	0	na
Frozen	1509	1132	615	na
Canned	0	0	0	na
Total	1509	1132	615	na
World				
Fresh	1683	329	633	na
Frozen	48358	39254	12461	na
Canned	1037	464	2479	na
Total	51078	40047	15573	na

Sources: US Bureau of Census; EC: Nimex; Japan Tariff Association; Japan Marine Products Importers Association; as reported in NOAA, "Venezuelan Tuna Industry," op cit.

**Venezuelan exports to the US.** Although Venezuelan exports to the US have fallen drastically with the US trade embargo, US tuna imports from Venezuela surged over the 1980's.<sup>7</sup> Venezuelan export shipments to the US expanded from only 4,100 MT in 1980 to a record 25,500 MT in 1986, or by over 500 percent. Shipments declined in 1987 and 1988, but exceeded 24,000 MT in 1989.

Shipments plummeted in 1990 after the large U.S. canneries in April 1990 adopted a "dolphin safe" purchasing policy, which primarily blocked purchase of yellowfin tuna fished with purse seine nets. The impact on Venezuelan exports to the US was dramatic. Like frozen tuna, most of the country's canned tuna is yellowfin, and thus subject to the U.S. embargo (see also below, Costs of Production). Venezuelan exports totaled nearly 4,700 MT in 1991, and less than 750 MT in 1992. Venezuela exported only small quantities of tuna to the United States in 1992.

**Venezuelan exports to the EC.** The European market has been especially important for Venezuelan exporters, as the Europeans purchase primarily whole frozen yellowfin.<sup>8</sup> However, European canners are especially interested in Caribbean caught fish, which has the advantage of being dolphin safe, an increasingly important factor on the European market. Although the EC market grew strongly in the mid- and late-1980's, the EC reports that the market weakened in 1991. EC data shows that Venezuelan shipments fell to under 10,300 MT in 1991, from over 28,500 MT in 1990.<sup>9</sup>

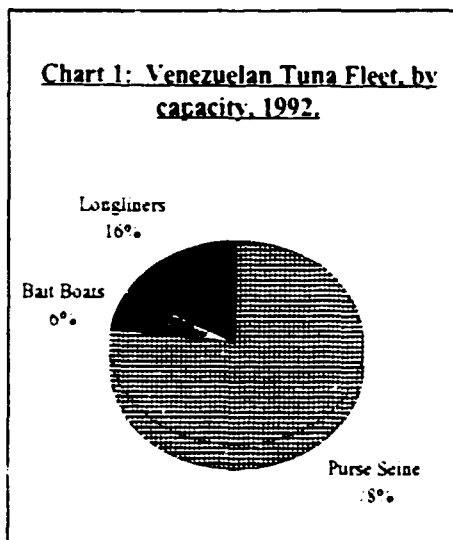
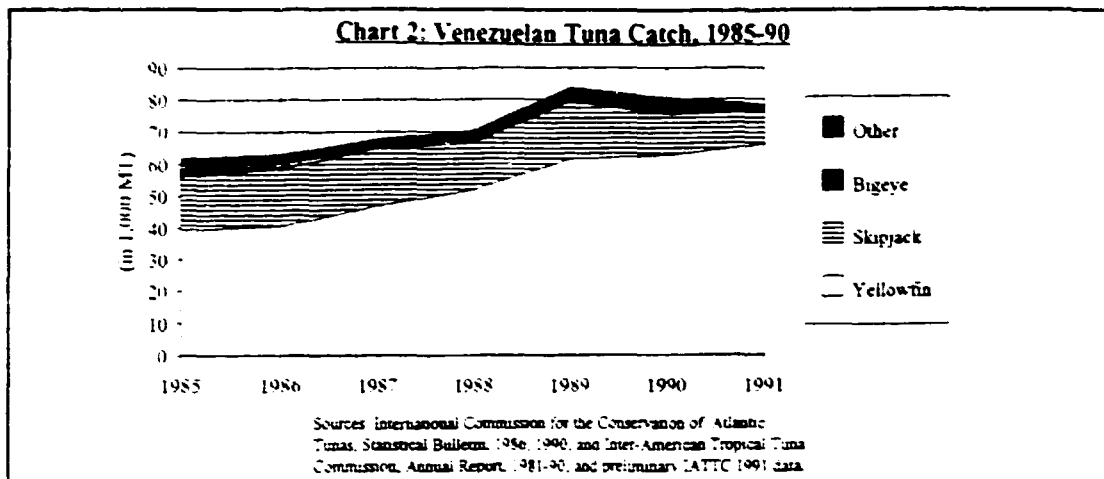
Spain, France and Italy are Venezuela's primary EC markets. Market leadership has varied with Spain leading in the 1990-91 period, Italy in 1989, and France in 1988. Exports to Spain have steadily increased, but shipments to France and Italy have fluctuated significantly.

### **III. Competitive Conditions**

**Costs of Production.** The principal inputs in canned tuna production are raw tuna, packaging materials, oil (brine and water are also used for other products) and labor. On average, costs of production for Venezuelan canned tuna total approximately \$1.83 per kilogram. Table 2 and its accompanying chart show that over 75% of production costs in Venezuela are canning materials and raw tuna.

**Raw tuna.** The Venezuelan tuna industry is supplied almost exclusively by its tuna fleet, which provides inexpensive, high-quality raw tuna.<sup>10</sup> The Venezuelan tuna fishing industry is the most modern sector of the country's fishing industry. The fleet's size, capacity and technologically modern vessels have made Venezuela the leading Atlantic/Caribbean-coast fishing country in Latin America and, despite not having a Pacific coast, the second leading Latin American Pacific tuna fishing country. Venezuelan companies invested millions of dollars into building a fleet of 32 purse seiners, 19 baitboats, and 82 longliners (Table 3). Chart 1 shows that, by capacity, the Venezuelan tuna fleet consists primarily of purse seine vessels. Total capacity was 36,365 MT in 1991.





**Table 3: Venezuelan Tuna Fleet, 1992**

Type	No. Vessels	Capacity*
Purse Seine	32	28,099
Bait Boats	19	2,335
Longliners	82	5,931
<b>Total</b>	<b>133</b>	<b>36,365</b>

\*Capacity in metric tons.  
Sources: MAC; Association of Venezuelan Tuna Fisheries, as reported by US Embassy, Caracas.

Both in the Pacific and Atlantic, the Venezuelan tuna fleet primarily targets yellowfin tuna. Chart 2 shows that yellowfin catch totaled roughly 80% of the total catch in 1991, and yellowfin tuna catch experienced the strongest growth since 1985. Total catch set an all-time record of 84,000 MT in 1989, before dipping to roughly 78,000 MT in 1991.

All Venezuelan canneries obtain canning materials from the same government company, SIDOR. Most canners now use two-ply cans, and though they pack in both water and oil, the oil pack is most popular on the domestic market.

Moderately high production costs have been reported at domestic canneries, apparently due to low yields as tuna flesh is removed from the fish and canned. In the late-1980's, canning yields were a fairly low 35%.<sup>11</sup>

#### IV. Legal and Regulatory Environment

Although the Venezuelan tuna industry has never received significant government support, GOV policy has directly affected tuna producers and processors through: 1) price controls, 2) landing requirements, 3) control of the exchange rate, 4) fuel subsidies, and 5) import restraints. While some elements of GOV policy ran against tuna producers' interests in the mid- and late-1980's, since 1989 the Venezuelan government has taken significant steps to reform these policies and support the domestic tuna industry.

Except for fuel subsidies and import restraints, GOV policy adversely affected the domestic tuna industry in the 1980's. Enacted in 1984 as part of the government's effort to make a basket of domestic foods widely affordable to Venezuelans, price controls on canned tuna hurt both fishermen and canneries, and encouraged both under-reporting of production data, and offshore sales. Through an accompanying requirement that fisherman land 40% of their catch in Venezuelan ports, the GOV attempted to reduce these offshore sales, further cutting tuna producers' earnings. In addition, exporters were compelled to exchange earnings at controlled (below market) rates.

In 1989 the new Venezuelan government sharply revised policies affecting the tuna industry, and adopted a more supportive position. Through an agreement reached in April 1989 between government officials and tuna industry representatives, the GOV lifted price controls, suspended the 40% landing requirement, and liberalized currency exchange regulations. The GOV also adjusted the price of diesel fuel, although fuel is still inexpensive for fishermen. Import restraints remain in force. Other recent steps include GOV efforts to support new investment, and encourage the formation of joint-ventures.

## V. Endnotes

1.1./ For these and other international data, see ADB/INFOFISH. "Global Industry Update: Tuna," 1991.

2.2./ The National Chamber of Canneries, as reported by the U.S. Embassy, Caracas, Venezuela, January 27, 1992, and as published in "Venezuelan Tuna Industry," NOAA, ibid.

3.3./ Data on Venezuelan production taken from "Resumen: Tuna," compiled by AgroInvest Consultores, Caracas, and from "Venezuelan Tuna Industry," a report completed in April, 1993 by the National Oceanic and Atmospheric Administration (NOAA), US Department of Commerce.

4.4./ FAO, "Yearbook of Statistics," 1990, 1992.

5.5./ This data taken from NOAA, op cit; in "Resumen: Tuna," AgroInvest Consultores report that there are 8 domestic canneries.

6.6./ Reported by the US Embassy, and published in NOAA, "Venezuelan Tuna Industry," op cit.

7./ Venezuelan exports to the US have been mostly frozen yellowfin; only small quantities of canned tuna were exported in the 1980s.

8.8./ Almost 90% of Venezuelan exports to the EC were yellowfin in 1990; though overall trade figures were significantly lower, yellowfin accounted for 98% of EC purchases from Venezuela in 1991.

9.9./ The EC statistics may be misleading and are suspect due to problems associated with transshipping; Venezuelan export data indicates that shipments to the EC have actually increased in 1991.

10.10./ Although domestic canneries faced shortages of raw tuna in the mid-1980's, partially as a result of government price controls, there have been no reported shortages since 1989.

11.11./ ADB/INFOFISH, "Global Industry Update: Tuna," op cit, p. 115.

## CATALOGUE

<b>Industry:</b> Fish
<b>Segment:</b> Tuna
<b>Product:</b> Canned

<b>1. Competitive Advantages</b>				
<b>A. Variables</b>	<b>% Growth</b>			
	1991	89-91	Source	Footnote
<u>Investments (cumulative, 1989-91)</u>				
local (US \$)	105.000.000	67.72%	1, 2, 6, 7	1
foreign (US \$)	25.000.000	-	1, 6	2
Total (US \$)	130.000.000	67.72%	1, 2, 6, 7	1
<u>Number of Participants</u>	8		1, 6	3
<u>New Companies (1989-91)</u>	N/A	N/A		
<u>Local Sales</u>				
Volume (tons)	20.696	23.58%	6, 7,	4
Value (\$US)	50.247.151	33.78%	6, 7	4
<u>Production</u>				
Volume (tons)	20.825	23.32%	6, 7	5
Value (\$US)	50.982.505	33.10%	6, 7	5
<u>Imports</u>				
Volume (tons)	N/A	N/A	6	6
Value (\$US)	N/A	N/A		
<u>Exports</u>				
Volume (tons)	760	-77.40%	2, 6, 9	7, 15
Value (\$US)	1.739.035	-71.60%	2, 6, 9	7, 15
<u>Capacity</u>				
Installed (tons)	15.000	N/A	6	9
Utilized (%)	90%	8.11%	2, 6	9
<u>Investment in R &amp; D</u>				
Percent of Total Investment	Small	N/A		
<u>Investment in Distrib. Channels</u>				
Percent of Total Investment	N/A	N/A		

N/A: Not Available

**1. Competitive Advantages**

<b>B. Related Variables</b>						
<b>Principal Inputs</b>	<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>
			<b>% Local</b>	<b>% Imptd</b>		
A) Raw Materials: Tuna	5	10,517,090	100%	0%	6	10
B) Oil	6	2,103,418	100%	0%	6	10
C) Tin cans	1	3,155,127	90%	10%	6	10
D) Labeling	1		100%	0%	1	10
<b>Related Industries</b>						
					<b>Source</b>	<b>Footnote</b>
A) Canning						
B) Oil						
C) Fishing Fleets						
D)						
<b>Barriers of Entry</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
A) Economies of Scale				3	6	
B) Product Differentiation				0	6	
C) Capital Requirements				2	6	
D) Difficulty in Accessing Capital				1	6	
E) Difficulty in Accessing Channels of Distribution				2	6	
F) Difficulty in Accessing Labor				2	6	
G) Other (specify):						
<b>Levels of Integration</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
Horizontal				2	1, 6	11
Vertical				2	1, 2, 6	11

\*Scale: None=0, Low=1, Medium=2, High=3

## 1. Competitive Advantages

### C. Qualitative Variables

#### Structure of Share Ownership (1991)

	Yes	No	Source	Footnote
Family	X	1(X)%	2	12
Few Shareholders	X	75%-1(X)%	1,6, 2	12
Stock Market	X	75%	1, 6	12
Foreign Ownership	X	25%	1, 6	12
Others:				

#### Ownership of Distribution Channels

	Yes	No	Source	Footnote
Owned by Producer	X		1, 6	13
Owned by Independent Entities	X		2	13

## 2. Comparative Advantages

Variables	National Data	Growth* 1989-91	Int'l. Data	Growth* 1989-91	Source	Footnote
Costs of Production in \$US/Kg	1,83	0,72%	N/A	N/A	6	14
Prices in \$US/Kg	3,02	0,72%	N/A	N/A	6	14

\*Annual compounded growth rate, in percent.

### 3. Social Criteria

Variables	Tendency#		
	1989-91	Source	Footnote
<b>Value Added:</b>	3	1.6	
Processed tuna has a high national value added, given that its inputs are primarily of internal origin			
<b>Employment:</b>	2	1.2.6.7	8
This sector is a great employment generator; many stages of the process are manual			
<b>Productivity:</b>	3	3.4	
Good quality patterns have been reached, but efforts must still be made regarding productivity			
It has a high technology level in fresh tuna, even worldwide			
<b>Per-Capita Consumption: in 1991 was 0.850 Kg.</b>	2	8	
Consumption of canned tuna has grown in recent years at national level; it is an important source of protein. It has increased slightly in the last few years (0.280 Kg/person). Nevertheless, it still is lower than that shown in developed countries.			

#Tendency: High Growth=1, Med. Growth=2, Stable=3, Med. Contraction=4, High Contraction=5

### 4. Available Information

(1) Call Report of A. Margarita 5-11-92
(2) Call Report of A. Eveba 28-10-92
(3) Management Magazine: 500 firms: Article on Fish Canneries
(4) Study on the Fishing Industry in Venezuela, levels of export and determining factors
(5) Various articles on Tuna - Agroinvest Newspaper Library
(6) Survey of A. Margarita
(7) Data supplied by O.C.E.I
(8) Survey of Continuation to the Consumption of Foodstuffs 1989-1991, O.C.E.I.
(9) Article from Economía Hoy: 09/09/93

## Catalogue

Segment: Tuna  
Product: Processed, canned tuna

### Footnotes

**NOTE:** In the cases which refer to the Total of the Industry of Tuna Canneries, we refer to 90% of the industry, composed of Alimentos Margarita, C.A., Empaques Venezolanos de Bacalao C.A. - EVEBA o PROPISCA, Conservas Alimenticias La Gaviota S.A., y Alimentos El Faro, C.A.

No.	Source	Observation
1	(1,2,6,7)	Total cumulative investments for 1991 of the two largest firms, A. Margarita and Eveba (87% of the market share) were US\$130,000,000. For 1991, the actual, total investment in the Industry was US\$4,139,907, indicating a compounded increase of 41.16% from 1989.
2.	(1,6)	The registered foreign investment in the sector refers to the participation of a foreign investor in 25% of the shares of Alimentos Margarita. This participation was registered in 1990.
3	(1,6)	In Venezuela there are 8 canning firms: Alimentos Margarita, Eveba, Alimentos Mar C.A., La Esmeralda, Copesucre, Caid, La Gaviota and El Faro.
4	(6,7)	The Sales figures refer to the total of the industry. Local sales and the consumption of canned tuna experienced a great increase since the commercial opening. The percentage of expenditures of consumption of tuna within the total expenditures in food stuffs has increased equally. Alimentos Margarita designates 92% of its production to the internal market, while Eveba designates a much smaller percentage.
5	(6,7)	Production in the sector has increased at par with local sales.
6	(6)	In 1989 tuna was not imported. Figures for 1991 are not available.



- 7 (2,6,9) In 1989 no canning company registered exports. By 1990 only one of the firms registered exports above 920 MT, at US\$1,898,148. which fell in 1991 to US\$539,035., suffering a decline of 71.6%. This fall was due to the tuna embargo imposed by the US at the end of 1990 on tuna producing countries of the Western Pacific, which included Venezuela, along with Mexico, Vanuatu, Panama and Ecuador. In '91 one firm exported tuna for a total of US\$1,200,000.; the figure shown in the catalogue corresponds to the exports of the two largest firms.
- 8 (1,2,6,7) In 1989, total direct jobs by companies were: A. Margarita 1,200; Eveba 1,304; La Gaviota 624; and El Faro 309. By 1991 direct employment had reached: 1,400; 1,504; 614; and 321, respectively. According to different opinions, the relationship of indirect employment generated by the tuna sector is three jobs per every direct employee.
- 9 (6) The installed capacity of one of the major firms for 1991 was 1,500,000 boxes/year, which is approximately equal to 15,000 MT. The same capacity was 8,000 MT in 1989. In 1991, its utilized capacity was 90% in '89 it only reached 77%.
- 10 (1,2,6) The three principal inputs are frozen Tuna, which represents 55% of the cost of production, Vegetable Oil, 10% of the cost, and Tin, which represents 15%. Additionally, the labor is 5% of the cost. The only imported component is part of the Tin; close of 10% of the total input of it (easy open can imported from France) is imported.
- 11 (1,2,6) According to A. Margarita, one of the principal factors to take into account when competing is total vertical integration. Eveba is not vertically integrated at all; nevertheless, it has managed to take over a large part of the national market for this product and, at the international level, seems to be selling more than A. Margarita. A. Margarita is the only totally vertically integrated firm (100%) while the rest of the industry is only partially vertically integrated. For example, Eveba owns a fleet of 67 refrigerated trucks to transport its raw

materials, but its distribution is done by Alimentos Plumrose.

- 12 (1,2,6) Eveba is a 100% nationally-owned company whose participation is purely family; Inversiones Aledo, the holding company of A. Margarita, is initially structured by few shareholders and has participated in the stock market. Additionally, Margarita is the only company with a 25% share participation of a foreign company .
- 13 (1,2,6) A Margarita, like other firms, does its own distribution. Eveba contracts a third party to undertake its distribution.
- 14 (1,2) The compounded increase has been the same for costs as well as for prices: a positive compounded change of 0.45% vis-a-vis the dollar.
- 15 (1,2,9) Exports have been directed primarily to Latin America, North America, France, and Italy. Efforts are being undertaken to penetrate markets in the rest of Europe, Arab-speaking countries, the Caribbean Islands and the Antilles. Colombia, a country with low per capita tuna consumption, is beginning to increase its consumption. Relating the US tuna embargo to Venezuelan exports, by 1992, Venezuela had stopped collecting 3,400 millions of bolivares on account of commercialization.

## **INTERNATIONAL INDUSTRY PROFILE**

Industry: Commercial Fishing

Segment: Tuna

Product: Canned

### **DEFINITION**

Internationally, tuna is traded fresh, frozen or canned. Japan remains virtually the only major market for fresh tuna, consuming roughly 16 percent of the world's traded tun in 1990. Eighty percent of the frozen tuna traded internationally is eventually canned, and sold in product forms including: solid, chunk, flakes, grated and smoked. Canned products are packed in oil, brine, or sauce through a highly labor-intensive process. A small quantity of tuna is traded for use as pet foods, for oil, and as tuna meal. The principal species of tuna are skipjack, hellowfin, albacore, bluefin, and bigeye. Skipjack constitutes roughly 50% of all tunas caught.

### **WORLDWIDE DEMAND**

- world demand is projected to increase 180,000 tons per year, reaching 1.1 million tons by 1995
- despite many changes in the industry, canned tuna's share of total world consumption has remained at 80%
- Japan remains the main tuna consuming country, and Japan's percentage consumption of canned tuna (at 30% in 1990) is likely to increase over the 1990's
- per capita consumption in the US expanded only incrementally over the 1980's (from 2.4kg in 1980 to 2.7 kg in 1988) suggesting market saturation
- consumption of canned tuna in Spain and France almost doubled

### **PRODUCTION**

- total canned tuna production increased more than 50 percent from 1980 to 1989, reaching a total of over 1 million MT
- the US remains the world leader in canning, producing 275,000 tons per year, or 28 % of total production in 1990, though US production has fallen sharply from 48% in 1979; all but one canning plant in the continental US was closed and transferred by 1990

- Thailand's canned production grew the most over the last decade, from almost nil in 1980 to over 20 % of total world production in 1989, and may well overtake the US in production volume
- the share of developing countries in total canned production increased from 16 percent in 1980 to 44 percent in 1989

### **EXPORTS AND IMPORTS**

- Thailand has emerged as the leading exporter of canned tuna
- other low labor-cost countries like Indonesia, the Philippines and the Pacific Islands are likely to expand their production of canned tuna
- Mexico is expected to profit both as supplier of raw tuna to canneries, and as an exporter of canned tuna
- the Japanese market is unique, centered on raw consumption of tuna, called sashimi: requirements are for larger size fish with higher fat content (northern, not tropical)

### **INDUSTRY STRUCTURE AND TRENDS**

- currency movements and increasing competition based on price has realigned the industry, favoring low cost producers (with cost of labor the critical item in canning)
- intensifying controversy over dolphin killings has a major impact on the industry; the US embargoed all tuna from Mexico and Venezuela caught with purse seine nets in \_\_\_\_\_
- horizontal integration has allowed major producers to use all parts of the tuna, minimize waste and increase production efficiency
- large, vertically-integrated producers are capturing larger market shares from smaller producers, and competing more aggressively against one another

### **KEYS TO COMPETITIVE SUCCESS**

- quality requirements: size; method of handling; skin and eyes appearance; and fat (oil) content of the flesh
- dolphin-safe fishing practices and/or certification (particularly important for US and EC markets)
- efficiency and low production costs (particularly low labor costs)

- horizontal and vertical integration increase efficiency

### **SUBSTITUTES**

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- canned salmon; surimi; sardines.

### **GOVERNMENT POLICY**

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- government policies such as dolphin safe regulations have had a tremendous impact on the industry
- international agreements over fishing waters and rights are extremely important to the industry's productivity and profitability

Datasheet for International Section of Investor's Profiles

Industry: Seafood  
 Segment: Tuna  
 Product: Canned & Frozen

Worldwide Production (Canned)	1988	1989	1991	% Total
(in metric tons)				
Major canning countries				
1. USA	271.4	311.3	n.a.	28.33%
2. Thailand	207.8	225.1	n.a.	20.48%
3. Japan	110.8	103.8	n.a.	9.44%
4. Italy	80	85	n.a.	7.73%
5. Spain	67.7	62.5	n.a.	5.69%
6. France	28.1	32.6	n.a.	2.97%
7. Philippines	31.6	47.5	n.a.	4.32%
TOTAL WORLD CANNED	1003.5	1099	n.a.	100.00%
Percent Change		9.52%	n.a.	

Source: FISHDAB/FAO, "Global Industry Update: Tuna," 1991.

Worldwide Exports (canned)	1988	1989	1991	% Total
(in MT)				
Major Exporters				
1. Thailand	207,756	225,123	n.a.	51.48%
2. Philippines	37,137	47,499	n.a.	10.86%
3. Cote d'Ivoire	31,564	38,294	48,000	8.76%
4. Indonesia		21	n.a.	0.00%
5. Senegal	17,801	18,936	n.a.	4.33%
6. Spain	11,250	9,499	n.a.	2.17%
Latin American Exports				
1. Mexico	23.10	35.50	n.a.	0.01%
2. Costa Rica			n.a.	
3. Venezuela	12.30	11.30	n.a.	0.00%
WORLD EXPORT TOTAL	391,885	437,304	n.a.	100.00%
Percent Change				

Source: FISHDAB/FAO, "Global Industry Update: Tuna," 1991.

Worldwide Imports (canned)	1988	1989	1990
(of canned tuna, in MT)			
Major Importing Countries			
1. USA	29,957	152,472	n.a
2. UK	47,619	66,063	n.a
3. France	54,753	48,160	52.6
4. Germany (FR)	27,988	31,936	n.a
5. Canada	20,365	25,884	n.a
6. Italy	9,284	10,886	n.a

Source: FISHDAB/FAO, "Global Industry Update: Tuna," 1991.

Worldwide Exports (frozen)	1988	1989	1990	% Total
(frozen tuna, in MT)				
Major Exporters				
1. Rep. Korea	143,699	148,438	n.a	15.77%
2. Spain	108,388	115,788	n.a	12.30%
3. France	77,311	112,908	n.a	11.99%
4. Mexico	53,428	59,570	n.a	6.33%
5. Singapore	57,290	52,039	n.a	5.53%
WORLD EXPORT TOTAL	889,113	941,549	n.a	100.00%
Percent Change		5.90%		

Worldwide Imports	1988	1989	1990	% Total
(frozen tuna, in MT)				
Major Importers				
1. Japan	211,612	193,741	n.a	19.18%
2. USA	171,655	173,508	n.a	17.17%
3. Spain	124,196	110,961	n.a	10.98%
4. Italy	84,080	109,638	n.a	10.85%
5. France	34,222	27,161	n.a	2.69%
WORLD EXPORT TOTAL	1,010,376	1,065,906	n.a	100.00%
Percent Change		5.50%		

Tuna Consumption per capita (in kg per capita)	1988	1995e
Japan	2	2.2
USA	2.7	2.8
France	2.7	3
Italy	2.4	2.4
Spain	3.7	3.5
*JK	1.6	1.4
Germany	0.9	1.2

Source: GLOBEFISH



**SECTION 1 ANALYSIS OF:  
THE VENEZUELAN TILAPIA INDUSTRY**

**Documents Attached:**

- 1) Investor Profile
- 2) Catalogue of Venezuelan Industry, 1989-91
- 3) Explanatory Footnotes
- 4) International Industry Profile (text)
- 5) Datasheet for International Industry Profile (tables)

## INVESTOR PROFILE

for

## TILAPIA

**Summary:** An inexpensive, high-quality source of protein, tilapia is a very competitive aquaculture product. Worldwide, tilapia production has grown more than doubled from 1985-90, and markets for aquaculture products are projected to grow robustly. In the US market alone, tilapia imports are projected to increase to 6,800 MT in 1993, a 56% increase over 1992. Venezuela's low land costs, abundant water supplies, tropical climate and lengthy experience in seafood production have contributed to strong performance of local producers. Over the last 4 years, Venezuelan tilapia producers have invested heavily, and increased output over 90%. Opportunities for investment in tilapia production for domestic consumption and exports are excellent.

*prepared for*

The National Investment Promotion Council  
(CONAPRI)

Caracas, Venezuela

*prepared by*

AgroInvest Consultores, S.A.  
Caracas, Venezuela

J.E. Austin Associates, Inc.  
Arlington, VA, USA

May, 1993

## CONAPRI Investor Profile

### The Venezuelan Tilapia Industry

#### I. Product Definition

A white, mild-flavored fish, tilapia is both a low-cost and high-quality source of dietary protein that has rapidly gained acceptance in both developing and developed country markets. Though found naturally in tropical areas of Africa, tilapia is raised commercially through aquaculture, and competes with other leading aquaculture products including catfish, trout, salmon and shrimp. In addition, like all aquaculture products, tilapia competes with numerous other fish products of the commercial seafood industry as well as other sources of animal protein such as beef, pork and chicken. Tilapia is marketed either fresh or frozen in fillets and whole. This Investor Profile examines competitive conditions for tilapia production in Venezuela.

#### II. The Market

##### II.1. Demand

**International.** Though detailed figures on tilapia demand are only just beginning to appear in country data, tilapia is a segment of the larger seafood industry which has shown considerable growth potential. Demand for fish in developed countries increased significantly in the 1970's and 1980s as a growing body of medical research raised concerns with the consequences of high fat and high cholesterol diets. Fish has become an attractive and increasingly low-cost substitute for meat products. Total world seafood consumption is projected to increase from 12.4 kg per capita in 1991, to 15.5 kg in 2000, and world population is expected to jump from 5.25 billion to 6.13 billion during the same period. Seafood supplies will therefore need to grow to 94.5 million tons (from 63.5 million tons currently) to meet the demand.<sup>1</sup>

Aquaculture, benefitting from costly environmental pressures on commercial fishing and cost-saving technological advances, is expected to make up roughly 33% of this growing market. One of the fastest-growing segments of the aquaculture industry, tilapia consumption is likely to continue to experience strong growth.

In the United States, tilapia imports increased dramatically in 1992, and promise to continue growing rapidly. Roughly 5,500 MT of tilapia was imported for domestic consumption in 1992, and in 1993, this figure is expected to jump to 6,800 MT.<sup>2</sup>

**Venezuela.** In Venezuela, though precise figures are not available, tilapia consumption has also increased dramatically. Venezuela, with 3,500 km of coastline, has long had high per-capita rates of fish consumption. And tilapia, which can be genetically engineered so that its skin is very similar to the red snapper found in local waters, has been quickly accepted by consumers. In addition, in the domestic market for fish, tilapia has faced few competitors since other comparable fish products such as trout, are considerably more expensive. In 1991, whole tilapia sold in local Venezuelan markets for \$2.63/kg. In comparison, trout sold for \$5.80/kg; catfish for \$3.00/kg; red snapper for \$4.80/kg, and grouper for \$6.00/kg. Long term, tilapia fillets are expected to sell at the same prices as catfish, which suggest that room for upward growth in prices still exists.

## II.2. Production

**International.** Although tilapia is a relatively new aquaculture product (particularly in developed country markets), it has proved extremely competitive against other farm-raised fish products including catfish and trout. Strong growth in tilapia production is due primarily to the fish's rapid, year-round reproduction cycle. Tilapia can be grown on a year-round basis in the tropics, and harvesting time at approximately 600 grams is reached in 5 to 6 month cycles, at inexpensive costs of production. An additional advantage is that tilapia can also survive under extremely low oxygen conditions, and in both fresh and brackish water.

Worldwide production of tilapia has grown over 85% during the 1980's, and by 1990 totaled 391,000 metric tons (MT).<sup>3</sup> Roughly 51% of world production was the Nile species (*Oreochromis niloticus*). Chart 1 provides a breakdown of the principal species of tilapia produced in 1990, and Chart 2 shows that the Nile species as both the largest and fastest growing species of tilapia. In 1989, production of Nile tilapia leaped 70% over the preceding year; and in 1990, production grew another 16%. (NEI: Not Elsewhere included)

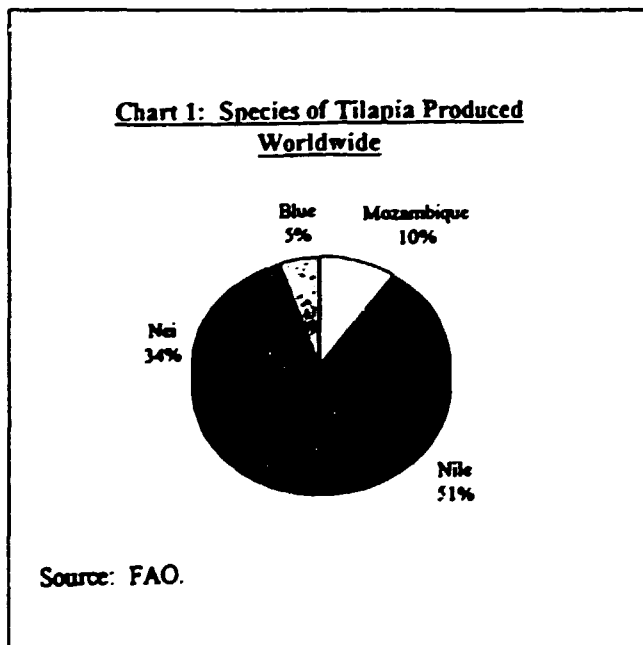
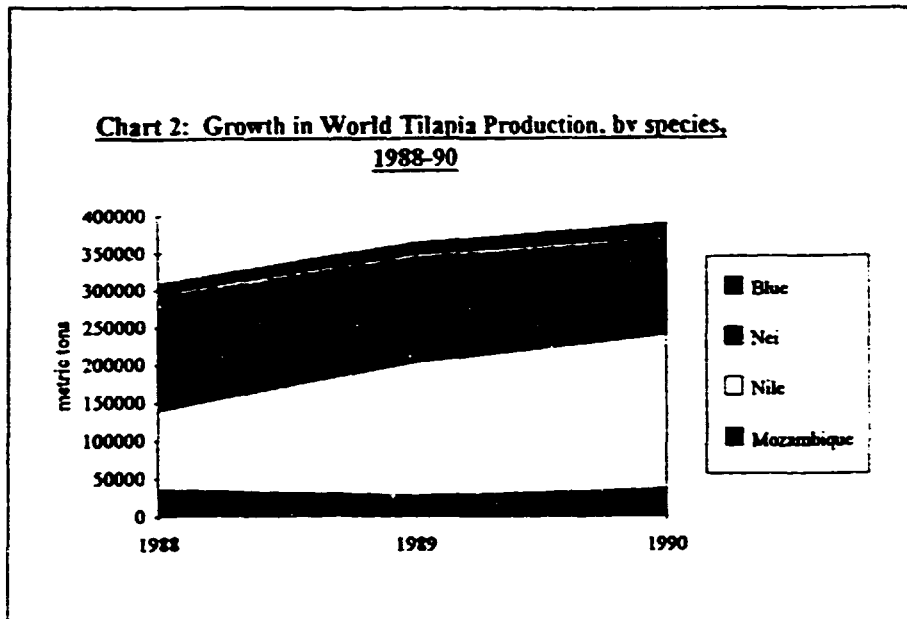


Table 1 shows that in 1990 the world's largest producers of tilapia were China, the Philippines and Indonesia.

Tilapia production in 1992 in the United States was estimated at 4,091 MT. The projected production for 1993 stands at 5,454 MT, and it is expected to increase at a rate of 60 percent, based on the experience of the last two years.<sup>4</sup>

In Latin America, tilapia production has increased significantly. While aggregate data is just beginning to be collected in the region, a number of



Source: FAO.

examples illustrate this trend. A \$10 million intensive tilapia farm near Cali, Colombia, came on line in 1991 with an annual output of 7,000 MT -- almost twice as much as Israeli's total tilapia production. A farm in Costa Rica is already harvesting 70 MT of fish a month for the US market, and the owners have plans to double production. There are also farms being built in Mexico, Honduras and El Salvador.

Tilapia specialists predict that total tilapia production from Latin America will reach 9,091 MT in 1992-93 (from under 1000 MT in 1991), putting downward pressure on prices.

**Venezuela.** The Government of Venezuela prohibited tilapia production until June of 1992 because of environmental concerns. Since then tilapia production in Venezuela has increased at a compounded rate of over 90.3% from 1989-91. Production is expected to continue growing rapidly. Official statistics record tilapia production of 120.0 MT in 1991, up from 4.0 MT in 1989.<sup>5</sup>

<b>COUNTRY</b>	<b>1990</b>
(Metric tons)	
CHINA	106,071
PHILIPPINES	76,142
INDONESIA	50,530
EGYPT	24,916
THAILAND	21,900
<b>TOTAL</b>	<b>279,559</b>

Source: FAO

### III. Competitive Conditions

Successful tilapia aquaculture requires qualified technical expertise and management; low costs of production; and consumer acceptance. Tilapia farming requires expertise in technical areas, including control of water temperature, acidity and salinity; control of soil quality and chemical composition; and sound management of productive efficiency. Productive efficiency issues include disease control; feed/fish conversion rates; and generation period. Many large companies are involved in research and development in genetic engineering.

**Costs of production.** Venezuelan costs of production averaged \$0.85/kg in 1991, in comparison with international costs averaging between \$2.00 and \$3.00/kg. Most of the main cost components -- land, water, fingerlings (fish stock), chemicals (for fertilizer and disease control) and electricity -- are inexpensive in Venezuela. Feed tends to be more expensive because most of it must be imported. This is expected to change when there are enough farms to justify building local feed plants.

Productive efficiency is also internationally competitive. The average stocking density of fish in Venezuela ranges between 1 and 5 fish per square meter. Output yields vary from 3,000 to 10,000 kg/ha of net live fish annually, although greater yields have been recorded.

**Industry structure.** As of 1992, roughly 26 Venezuelan companies had registered as producers of aquaculture products. Of these, 6 are tilapia producers, though only 3 have reached commercial levels of production. Total area currently in production is 68 has, represented by Aquafin, Inagrozooteca and Aquafresh.

Levels of vertical integration in these companies are low. Few companies own distribution facilities, as most sell tilapia fresh from farm sites, or locally at marketplaces. Local distribution is available by refrigerated trucks either owned by companies or rented on contract. All of the Venezuelan tilapia companies are family owned. To date, no foreign investment in tilapia aquaculture has been reported. In addition, no tilapia processing activities, including value-added steps like filleting whole fish, have been reported.

The performance of Venezuelan tilapia producing companies has been strong, permitting both solid profit margins and affordable prices. Local sales in 1991 totaled \$263,000 for production volume of 100 MT. Total sales for the same year summed to \$350,000 for 120 MT. In foreign markets, Venezuelan-produced tilapia sold for significantly higher prices, including the US: \$6.00/kg for imported frozen tilapia; in France fresh tilapia on ice sold for \$4.00/kg. One of the Venezuelan companies succeeded in selling 20,381 kg of tilapia to European Community (EC) countries in 1991 at an average price of \$4.00/kg. Colombia and Costa Rica exported tilapia the same year at prices ranging from \$5.00 and \$6.50/kg.

Signalling optimism among producers, Venezuelan aquaculture companies invested a total of \$526,000 in improved or expanded production facilities over the period 1989-91. By late 1992, almost every company had advanced plans for expansion of tilapia production capacity.

#### **IV. Legal and Regulatory Environment**

Since the ban on tilapia was lifted, the Ministry of Agriculture and Husbandry, and the Ministry of Environment and Natural Resources, have implemented programs to inform the public that tilapia production has been legalized, to attract fresh investment into the aquaculture crop. Currently, Venezuelan citizens and foreign citizens can invest without restriction except for assurance that projects comply with legal regulations on the environment and fishing.

The Ministry of Agriculture also requires potential investors to submit detailed technical feasibility studies. There are no special taxes levied on agricultural activities, including aquaculture.<sup>6</sup>

#### **V. Endnotes**

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1/ Seafood-Leader, "Aquaculture 2000: Fish by Design," February, 1991, p. 70.

2/ American Tilapia Association, Iowa, "Annual Status Report - 1993."

3/ FAO, Fisheries Circular No. 815 Revision 4, Rome, June, 1992.

4/ American Tilapia Association, *op cit*.

5/ These figures may be misleading. Domestic tilapia production during the GOV ban dedicated itself mainly for research purposes. Since mid-1992, aquaculture firms have not only steadily increased tilapia production, but also improved reporting of these activities.

6/ Venezuelan tax breaks for agricultural projects do not extend to agribusiness activities.

# CATALOGUE

Industry: <u>Fish</u>
Segment: <u>Aquaculture</u>
Product: <u>Tilapia. (Pink Snapper)</u>

<b>1. Competitive Advantages</b>				
A. Variables	% Growth			
	1991	89-91	Source	Footnote
<u>Investments (cumulative, 1989-91)</u>				
local (US \$)	525.855	220.00%	1.8	1
foreign (US \$)	0.00	-		
Total (US \$)	525.855	220.00%	1.8	1
<u>Number of Participants</u>	9		4	2
<u>New Companies (1989-91)</u>	4	34.16%	10	3
<u>Local Sales</u>				
Volume (Kgs.)	100.000	73.20%	1.8	4
Value (\$US)	263.000	60.44%	1.8	4
<u>Production</u>				
Volume (Kgs.)	120.382	90.03%	1.8	
Value (\$US)	350.642	83.71%	1.8	
<u>Imports</u>				
Volume (Kgs.)	0.00	-		
Value (\$US)	0.00	-		
<u>Exports</u>				
Volume (Kgs.)	20.382	N/A	1.8	5
Value (\$US)	87.642	N/A	1.8	5
<u>Capacity</u>				
Installed (Kgs./year)	500.000	33.63%	8	6
Utilized (%)	80.0%	N/A	8	6
<u>Investment in R &amp; D</u>				
Percent of Total Investment	% High	N/A		7
<u>Investment in Distrib. Channels</u>				
Percent of Total Investment	N/A	N/A		

N/A: Not Available



**I. Competitive Advantages**

<b>H. Related Variables</b>							
<b>Principal Inputs</b>		<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>
				<b>% Local</b>	<b>% Imptd</b>		
A)	Concentrated feed	N/A	50%	100%	0%	1, 8	9
B)	Electricity	N/A	15%	100%	0%	1, 8	9
C)	Consulting	N/A	10%	0%	100%	1, 8	9
D)	Raw Material	N/A	N/A	N/A	N/A	1, 8	9
<b>Related Industries</b>							
						<b>Source</b>	<b>Footnote</b>
A)	Concentrated feed					1	
B)							
C)							
D)							
<b>Barriers of Entry</b>							
					<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
A)	Economies of Scale				2	1, 8	
B)	Product Differentiation				0	1, 8	
C)	Capital Requirements				2	1, 8	
D)	Difficulty in Accessing Capital				3	1, 8	
E)	Difficulty in Accessing Channels of Distribution				1	1, 8	
F)	Difficulty in Accessing Labor				1	1, 8	
G)	Other (specify):						
<b>Levels of Integration</b>							
					<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
Horizontal					1	1, 8	17
Vertical					2	1, 8	17

\*Scale: None=0, Low=1, Medium=2, High=3

## 1. Competitive Advantages

### C. Qualitative Variables

#### Structure of Share Ownership (1991)

	Yes	No	Source	Footnote
Family	X		8	10
Few Shareholders	X		1	11
Stock Market		X	10	
Foreign Ownership		X	10	
Others:				

#### Ownership of Distribution Channels

	Yes	No	Source	Footnote
Owncd by Producer	X		1, 8	12
Owncd by Independent Entities	X		1, 8	12

## 2. Comparative Advantages

Variables	National Data	Growth* 1989-91	Int'l. Data	Growth* 1989-91	Source	Footnote
Costs of Production in \$US/Kg.	1,6	N/A	2,0-3,0	N/A	1, 6, 10	13
Prices in \$US/Kg.	2,63	-7,25%	4	N/A	1, 6	14
Productivity or Yield (Kgs/Ha)	6.000-1.000	14,47%	NA	NA	1, 10	15
Net Profit	>40.00%	NA	NA	NA	1	16

\*Annual compounded growth rate, in percent.

### 3. Social Criteria

Variables	Tendency#		
	1989-91	Source	Footnote
Value Added:	2		
Uses almost all national inputs. Production is basically of primary origin with a reduced industrial transformation, although the sales of fillets and other processed products are being developed mainly for the exports market.			
Employment:	N/A		8
1,275 jobs are generated for each 14 hectares cultivated - a great knowledge of fish is not required			
Productivity:	2		
High physical production relation, good yields per hectare and a good conversion relation between food input and fish obtained			
Per-Capita Consumption:	2		
There is no precise information on the consumption of Tilapia; it can only be said that its consumption is increasing as production increases			

#Tendency: High Growth=1, Med. Growth=2, Stable=3, Med. Contraction=4, High Contraction=5

### 4. Available Information

(1) Data on the cultivation of Tilapia. MAC
(2) Report on Colapia S.A., Colombia
(3) Report on the cultivation of Red Snapper
(4) M.A.C., Directory of Aquaculture firms
(5) National Aquaculture Plan 1990-1993 MAC
(6) Article of Agroinvest Newspaper Library from 10/26/92 on the cultivation of Tilapias
(7) Fish and Aquaculture: Opportunities, problems and Institutional requirements in Venezuela
(8) Aquafin C.A. Survey
(9) Infofish International by FAO
(10) Information supplied by Cesar Alceste of MAC

## Catalogue

**Segment:** Aquaculture  
**Product:** Tilapia, Cherry Snapper, Red Tilapia, or Pink Porgy

### Footnotes

No.	Source	Observation
1	(1,8)	There are no cumulative figures for the businesses of this sector. Very few of these firms began directly in the cultivation of tilapia. Until very recently (including '89 and '90), the cultivation of Tilapia was not allowed legally. Nevertheless, small cultivations existed in the traditional aquicultural firms. The investment of US\$525,854.81 was realized by only one company in 1991.
2	(4)	Currently in the country there are nearly 80 firms dedicated to Aquaculture, of which a total of nine firms cultivate Tilapia. They are: Aquafin, C.A., Aquacria Maruria, Aquafresh (Acuacultura Integral C.A.), Aquapez, Granja Los Canamos, Lagos de Sibaragua, Los Monitos - Miraflores, Granja Las Majaguas y Inagrozooteca.
3	(4)	In general, the newly registered businesses were previously aquaculturists, but not in tilapia, or if they were, they didn't register themselves as such, given that it was illegal.
4	(1,8)	Local sales, like consumption, have risen rapidly at the national level. 10% of one of the firms's total sales is consumed in the Falcon state, 60% in the rest of the country, and 30% is consumed outside of the country, specifically in Europe (EEC). The internal price in 1991 was 150 Bs/Kg. of whole tilapia, which translates into a very good price for the national consumer of any social strata.
5	(1,6,8)	Generally speaking, exports in this sector began in 1991. This year, one of the firms managed to place in the EEC more than 20,000 kilograms of the product at an approximate price of 4.3 US\$/kg.

- 6 (1,8) Installed capacity of one of the firms is 500,000 kg. which includes shrimp and tilapia. The utilization of the capacity has not varied since 1989 when it was 80%. Tilapia can be cultivated in pools utilizing densities of up to 20 fish per square meter, depending on the oxygenation and other factors. The average density utilized in the country is 1.5 to 2 fish/square meter.
- 7 (1,8) It was not possible to obtain exact figures of how much has been invested in R&D and distribution channels, but it is known that this percentage is high in relation to annual budgeted expenditures. A firm consulted reported, for example, answered that the total of its investments in recent years has been designated to improving productive capacity and production technology, which they called investigation and development.
- 8 (8) The employment rolls at according to the firms interviewed went from 15 direct employees in 1989 to 30 in 1991. They only have one contract employee: a professional staff member in charge of promotion and sales. In general, the cultivation of Tilapia doesn't require large quantities of personnel.
- 9 (1,8) Inputs are primarily national (80%): concentrated feed and electricity, among others. The rest of the inputs originate in Asia, such as Fingerlings (Raw Material), and Consulting, which has been of vital importance for the sustained development in this cultivating concern.
- 10 (8) There has not been a lot of foreign participation evident up to now. One of the firms is constituted primarily of few stockholders who are members of the same family.
- 11 (1) One of the firms has three stockholders, who are related also.
- 12 (1,8) According to Aquafin and Aquafresh, the manner in which the fish is distributed at the local level is through wholesale and retail sales from the same factory. National distribution is carried out via refrigerated trucks used exclusively for distribution. Exportation is done through third parties. Aquafresh has a landing strip which could be utilized to these ends.

- 13 (1,6,10) Production costs are relatively low. This fish grows rapidly and needs little food; energy costs are generally cheap. Total costs could reach US\$2 per kilogram of whole fish; according to Cesar Alceste (MAC), said costs in reality are lower, closer to US\$1.50. Outside of the country, the costs for the fish vary between US\$2 and 3 per kilogram depending on the country and if it is whole or filleted.
- 14 (1,6) The domestic price for 1991 was 150 Bs/kg or US\$2.63/kg for whole fish, while exports were getting prices higher than US\$4/kg. Colombia and Costa Rica exported at prices between US\$5/kg. and US\$6.5/kg.
- 15 (1,10) Annual normal yields of national cultivated Tilapia are close to 6,000 kg./hectare of pure fish. One company declares that it is getting annual yields closer to 10,000 kg./hectare.
16. (1) The average income-yielding capacity, taking into account that exporting yields more income than selling internally, surpasses 40% annually. New investment projects stipulated by private companies possess an internal rate of return close to 100%.
- 17 (1,8) Levels of integration in this sector are reduced, given that only some firms own part of the channels of distribution. Integration in this sector is not necessary for its income-yielding capacity.

# INTERNATIONAL INDUSTRY PROFILE

Industry: Fish  
Segment: Aquaculture  
Product: Tilapia

## DEFINITION

A white, mild-flavored fish, tilapia is grown through aquaculture and marketed as a low-cost, high-quality source of dietary protein. There are six principal species of tilapia grown worldwide; the most abundant is the Nile species (see Chart 1). Tilapia is naturally found in east Africa, though it is now raised throughout the world, primarily in tropical climates. The fish's rapid breeding (generation time of roughly 4 months) and year-round growth in the tropics make it an excellent source of income for rural communities.

## WORLDWIDE DEMAND

- demand for tilapia is dependent on total demand for seafood, of which tilapia is a growing component
- world per capita seafood consumption is projected to grow to 34 lbs in the year 2000 from 27.3 lb in 1991; world population will grow to 6.13 billion from 5.25 during the same period
- seafood supplies will grow from 63.5 to 94.5 million tons, and aquaculture will make up 33 % of this increase

## PRODUCTION

- tilapia production increased at triple-digit levels in the early and mid-1980s; growth in 1988-1990 was 7%
- worldwide production was greater than 800,000 MT in 1990, and increase of over 85% since 1981

## EXPORTS AND IMPORTS

- most tilapia is consumed in local markets

## **KEYS TO COMPETITIVE SUCCESS**

- technical expertise; qualified personnel
- key technical areas: water temperature, acidity, salinity; soil quality and chemical composition; genetic engineering
- productive efficiency: disease control; feed/fish conversion rates; generation period
- consumer acceptance

## **BARRIERS TO ENTRY**

- capital for start-up (perceived risk high)

## **SUBSTITUTES**

- commercially fished seafood
- aquaculture products, including: shrimp, salmon, catfish, and trout



**Data Sheet for International Section of Investor's Profiles**

Industry: Fish  
 Segment: Aquaculture  
 Product: Tilapia

Worldwide Production	1988	1989	1990	% Total
(Mozambique tilapia)				
1. Indonesia	34000	27000	36660	98.06%
2. Malaysia	2350	2158	201	0.54%
3. Thailand	320	394	400	1.07%
SPECIES TOTAL	36753	29657	37386	100.00%
Percent Change		-19%	26%	

Worldwide Production	1988	1989	1990	% Total
(Nile tilapia)				
1. China	39,000	89,473	106,071	52.53%
2. Philippines	26,719	43,145	49,156	24.34%
3. Thailand	18,810	21,115	21,500	10.65%
4. Indonesia	10,750	11,000	13,870	6.87%
SPECIES TOTAL	102,706	174,550	201,933	100.00%
Percent Change		70%	16%	

Worldwide Production	1988	1989	1990	% Total
(blue tilapia)				
1. Cuba	13,268	15,744	18,663	99.89%
SPECIES TOTAL	13,282	15,759	18,683	100.00%
Percent Change		19%	19%	0.00%

Worldwide Production	1988	1989	1990	% Total
(tilapia nei)				
1. Philippines	48327	38530	26986	20.47%
2. Egypt	31000	31000	24916	18.90%
3. Japan	4760	5283	5825	4.42%
4. Sri Lanka	5000	5000	5000	3.79%
5. Israel	4536	4447	4769	3.62%
SPECIES TOTAL	157380	145065	131817	100.00%
Percent Change		-8%	-9%	

ALL SPECIES TOTAL	311099	366005	390825
Percent Change		18%	7%

Source: FAO Fisheries Circular No. 815, Revision 4, June 1992.

**SECTION I ANALYSIS OF:  
THE VENEZUELAN FORESTRY PLANTATIONS INDUSTRY**

**Documents Attached:**

- 1) Investor Profile
- 2) Catalogue of Venezuelan Industry, 1989-91
- 3) Explanatory Footnotes
- 4) Datasheet for International Industry Profile (tables)

## INVESTOR PROFILE

for

### THE VENEZUELAN FORESTRY PLANTATIONS INDUSTRY

**Summary:** World demand for products made from softwoods including pine and eucalyptus has grown throughout the 1980's, particularly in developing country markets like Latin America. Domestic sales of Venezuelan coniferous woods totalled more than \$1 million in 1991, an increase of more than 100% for the 1989-91 period. With one of the largest exploitable forest covers in Latin America and a tropical climate ideal for rapid growth, Venezuela's high yields and low costs make the country's forestry plantations industry an attractive investment area both for local sales and exports.

*prepared for*

The National Investment Promotion Council  
CONAPRI

Caracas, Venezuela

*prepared by*

AgroInvest Consultores, S.A.  
Caracas, Venezuela

J.E. Austin Associates, Inc.  
Arlington, VA, USA

May, 1993

## CONAPRI Investor Profile

### The Venezuelan Forestry Plantation Industry

#### I. Product Definition

This profile focuses on the production of softwoods, primarily pine and eucalyptus, that are grown commercially on forestry plantations in Venezuela. Worldwide, commercial forestry plantations primarily grow coniferous trees, or "softwoods."<sup>0</sup> In 1992, softwoods accounted for about 84% of the value of the world wood trade. A key reason for this is that the most common softwoods -- pine, eucalyptus, and spruce -- generally grow much faster than hardwoods such as maple, ebony, oak, poplar, teak and others.<sup>1</sup>

Venezuela's commercial forestry plantations produce pine and eucalyptus trees almost exclusively, and these softwoods serve domestic wood pulp producers, paper mills, and other wood products manufacturers.<sup>2</sup> Key end-users of these products include the furniture and construction industries. Softwoods such as eucalyptus are also used to produce charcoal for heating and cooking.

#### II. The Market

##### II.1. Demand

**International.** Though world demand for eucalyptus and pine woods is difficult to measure because international trade statistics for softwoods do not commonly disaggregate by species, trade statistics from the US, the world's largest exporter, indicate that demand over the last several years has been lackluster. Over the 1991-92 period, the value of all US softwood lumber exports showed an increase of only 1%, while trade in softwood sawn wood and chips actually declined by 2%, and volume by 17%. The decline in exports reflects a slump in construction activity in the major consumer countries (primarily Japan).

The value of US pine lumber exports, however, actually doubled over this same time period, making up 11% of US softwood exports in 1992 (compared to 5% the previous years). But this was due primarily to an increase in the price for softwood chips (caused by a relative scarcity of the product).

The market for paper and paperboard products, another indicator of growth in softwood lumber demand, expanded significantly in the 1980s, buoyed by new usages such as computers and facsimile machines. The market has also become increasingly globalized, spurred in part by more competitive transport prices and expansion of processing capacity. Per capita consumption of paper and board is strongly correlated to national income and industrialization levels, as all top per capita consumers are also the most industrialized nations. The United States is the largest consumer of paper and board products, with an apparent per capita consumption of 302.3 kg in 1991.<sup>3</sup>

Consumption growth in paper and paperboard has tended to concentrate in developing countries. Consumption levels in the US dropped by almost 2% over the 1990-91 period, and those in Finland and Sweden, two other leading world consumers, dropped 9% and 4% respectively. But in Argentina and Mexico, consumption increased 34.3% and 8.7%, respectively, over the same time period. Consumption in Colombia, which recently formed a customs union with Venezuela, is expected to grow by 5 percent over the 1992-1995 period.

**Venezuela.** Venezuelan per capita paper and board consumption in 1990 was estimated at 39.4 kgs, well above average for the Latin American region<sup>4</sup> of 27 kgs. Despite the industrial downturn experienced in Venezuela over the same 1989-91 period, paper and board consumption grew from 688,000 to 788,000 tons. Most of this growth had to be met by imports, as Venezuela does not produce enough coniferous woods commercially to meet its industries' needs. Imports of wood were recorded at \$8 million in 1991.<sup>5</sup> The volume of paper and board imports grew from 135,000 to 176,000 tons between 1990 and 1991.

Sales in Venezuela of locally produced coniferous woods reached US\$1.1 million, for 473,000 cubic meters.<sup>6</sup> Sales volume grew at an average yearly compounded growth rate of 79.19% between 1989-91, while the value of sales grew by 102.44% over the same time period.

## II.2 Production

**International.** The largest commercial softwood wood producers are Canada, the US and the Scandinavian countries (Sweden, Norway and Finland). The US also dominates the world's trade in softwoods, accounting for over 90% of the world's exports of coniferous logs and chips in 1989.

**Venezuela.** Venezuela has one of the largest exploitable forest covers in Latin America. On average, 45% of the country's total forest cover, or about 18.45 million ha.s, is estimated to be commercially exploitable. An additional, 9 million ha.s have been set aside by the Government of Venezuela (GOV) for the establishment of coniferous commercial wood plantations. As of 1993, only 6% of the 9 million set aside are currently being exploited. Total pine production for 1991 was estimated at 33 million stereo cubic meters. There have been no sales of locally produced eucalyptus, as these plantations are not yet mature enough to allow harvesting.

Growth rates have in general been high. Venezuela's pine plantations, established in late 1960s by the GOV's National Forestry Company (CONARE part of the Ministry of Environment and Renewable Resources) and the Guyana Development Corporation, have attained good growth rates (10 cubic meters per ha. per year). Eucalyptus plantations have also attained very high yields (25 cubic meters per ha. per year). Unfortunately, because many of the existing tree stands are now over-mature and susceptible to disease and insect infestation, current growth rates are lower.

**Industry structure.** By 1991 there were 15 commercial operations planting pine and eucalyptus in Venezuela. The largest of the 15 companies was CVG-Proforca, which actually

controls about 60% of the total surface planted commercially with pine in the country. The company is 100% state owned, and is not expected to be privatized in the near future. The next largest operation belongs to CONARE, also a 100% GOV owned company. Both GOV operations are dedicated exclusively to pine.

Private enterprise is expected to become increasingly involved in the management of the state-owned operations. CONARE has recently concluded a letter of intent with the US company Stone Container and the local pulp and paper mill Venezolana de Pulpa y Papel in which the private parties agree to oversee the management and harvesting of 280,000 has. of CONARE's forestry plantations. The project also involves building a chip mill and a shipping facility in an industrial zone in the Orinoco River. CVG-Proforca is considering a similar agreement with Louisiana Pacific.

The younger eucalyptus plantations are all privately held and managed. All, except three companies are planting on GOV-owned land. The largest private planting of eucalyptus is by the SMURFIT Cartón de Venezuela.

In Pine, the largest plantations belong to Corporación Forestal Guayamure-- A mixed Venture in which the GOV owns 24% and Venezuelan investors the rest. Corporación Forestal Imatca, the second largest pine plantations, is 100% private.

Though GOV-owned companies control most of the planted area, the private sector accounts for most of the sales of commercial fiber and lumber. Of the total of 473,000 stereo cubic meters of wood sold by local firms in 1991, Guayamure accounted for 55% of sales, CVG-Proforca accounted for 38% and CONARE for 7%. Two companies, Smurfit Cartón de Venezuela and Papeles Venezolanos, have foreign participation, though foreigners have controlling interests in just one of these (Smurfit). Smurfit Carton de Venezuela is controlled the Irish multinational Smurfit Group.

**Integration.** The industry in Venezuela is characterized by high levels of forward vertical integration, towards control of pulp production operations and in some cases paper and board mills as well. By 1993, most of the companies planting also own pulp and paper mills. The exceptions are the two 100% GOV-owned companies (CVG-Proforca and CONARE) and one other private company specializing exclusively on production. The usual development pattern of the industry in Venezuela is for pulp and/or paper producers to venture into planting in an effort to improve the availability and quality of raw materials, as well as the costs involved in transporting wood. The remaining companies sell directly to pulp and paper mills locally.

The country continues to depend on recycled paper and board--mostly from local recovery programs--and imported pulp to meet its papermaking fiber requirements.

The dynamism of the industry is reflected in the investments announced by the industry for the next decade. ASOPLANT, the industry lobby group, reported a total of \$22.85 million invested by local companies for 1991, excluding actual investments made by CVG-Proforca which did not supply any data on its investment activities. The dynamic nature of the sector is also reflected in the relatively large number of entrants coming into the Venezuelan market

every year. Over the 1989-91 period 2 companies established new planting operations in Venezuela.<sup>7</sup>

Many companies are investing in expanding the area planted. The Venezuelan Association of Tree Planters (ASOPLANT), reported in 1992 that its members are planning to plant 353,000 has. over the next 10 years. Moreover, on average, local companies are dedicating 3% of their total capital invested to research and development of new forestry management and harvesting technologies.

**Prices.** Prices for wood vary by species, yield and degree of processing. The FAO reports that a standard roll of coniferous sawn wood (spruce-pine-fir) sold for an average of \$187 per cubic meter in 1990 and 1991 (FOB eastern US mill). The price had climbed to \$230 by May 1992. In Venezuela prices for pine logs ranged between \$2.40 and \$3.50 per stereo cubic meter in 1991. Sawn wood pine imported from Chile in 1991 was sold at an average price of \$157 per cubic meter.

### III. Competitive Conditions

**Climate.** Venezuelan plantations can obtain yields as high as 25 stereo cubic meters per ha. per year for eucalyptus and other faster growing varieties. The country's temperate climate and abundant sunlight allows pine and eucalyptus varieties to mature more rapidly than in colder growing zones. Presently, high yields and fast maturing time for Eucalyptus allow for a cutting time of just 7 years. This compares favorably with yields and maturing time in Chile and Brazil. Pine, which matures in 12 years, yields 8-10 cubic meters per ha. per year.

**Inputs.** Planting costs remain very competitive relative to costs in the US and the Scandinavian countries. They are also competitive relative to other growers in the region. In the Venezuelan savannas, where less land preparation is needed, the planting costs for pine range between \$250-300 per ha. for the first year for pine. First year planting costs for eucalyptus range from \$350-400 per ha.

Venezuela offers investors in forest plantations access to relatively cheap labor resources. On the other hand, Venezuela currently suffers from a lack of trained forest engineers. Only one of the country's many universities and centers of higher learning, has a program to train forest engineers. As a result, forestry companies have had to invest heavily in training and remain dependent on foreign technicians.

Another key component in the cost structure are seeds, a large proportion of which must be imported, though local plantation owners report that the availability and quality of locally produced seed is improving.<sup>8</sup> All fertilizer needs are presently being met through local production. Fertilizer prices have been heavily subsidized by the GOV, though these subsidies are expected to be terminated, as part of the GOV's economic reform program, by the end of 1993.

Land rental costs are also fairly low, as the GOV has been trying to encourage commercial planting activity in its lands in order to reduce the amount of hard currency used to



import wood and paper products (see also below).

#### **IV. Legal and Regulatory Environment**

**Land Tenure.** Although the GOV does provide long-term leases to land, land ownership and government policy continue to make it difficult to enter this market, particularly for a foreigner. Most of the 9 million has. available for commercial coniferous wood planting and exploitation belongs to the Instituto Agrario Nacional (IAN), the GOV land reform agency. Under current agrarian reform legislation, large plots of land are subject to expropriation for redistribution under the agrarian reform program. It is worth noting that at no time in the last two decades has the GOV enforced this law.

Because in effect few of those enjoying usufruct to the land have title, land cannot be used as collateral. This makes access to financing large scale forestry activities taking place on government land extremely difficult.

**Special Incentives.** ASOPLANT, the industry representative, is currently lobbying GOV for the creation of special tax incentives to stimulate plantation investment, including a combination of tax rebates and holidays. Currently forestry, like other agricultural activities targeted by GOV for special treatment, is exempt from income tax. The tax holiday begins from the time planting starts. The tax holiday is of indefinite duration, lasting as long as the law is in effect.

Forest plantations also enjoy preferential access to financing, at subsidized rates. Financing, for those who can get loan approval, is currently available at 6 points below the commercial rate on average, and is expected to be available 15% less than the commercial lending rate in near future.

**Environmental regulations and other permits.** The GOV recently passed one of the most stringent environmental laws in the history of the country--the Ley Penal del Ambiente. This law has proved very positive for commercial forestry plantations, as it levies extremely onerous fines and jail sentences on those who burn and slash. In effect this law has made squatting on plantation land much less attractive, and helped lessened the land invasion problem that has in the past hindered commercial plantings.

The GOV has recently streamlined procedures for establishing plantations. While all investors must present a technical feasibility study of the project to the GOV Ministry of the Environment and Renewable Natural Resources (MARNR), approval is relatively quick and routine.

**Protection from imports.** Venezuelan wood producers are currently protected by a total ban on all wood imports from plantations. The GOV only permits the importation of wood derivatives such as wood pulp, and even these are currently protected by a 15% tariff on imports.<sup>9</sup>

## V. Endnotes

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<sup>0</sup> Coniferous refers to all woods derived from trees classified botanically as Gymnospermae: e.g., fir, parana pine, deodar, ginkgo, larch, spruce, pine, chir, kraill, etc.

<sup>1</sup> Foreign Agricultural Service, United States Department of Agriculture. *Wood Products: International Trade and Foreign Markets*. December 1992.

<sup>2</sup> United States Department of Commerce. International Trade Administration. Office of Forest Products. "Developing Paper Products Markets in Mexico and the Caribbean." November 1987.

<sup>3</sup> Additional information on the paper and board market can be found in CONAPRI's Paper and Paper Board Investment Profile, April 1993.

<sup>4</sup> PPI 7/92 and 7/91.

<sup>5</sup> The importation of logs is prohibited in Venezuela. Paper and pulp mills import wood pulp, chips, or wastepaper from foreign suppliers.

<sup>6</sup> As indicated in the *Catálogo* found in Annex A, production that year was valued \$173 million. The difference between sales and production indicates that most of the commercial plantations are still too young to be harvested and sold.

<sup>7</sup> See the Catalogue, appended to this document.

<sup>8</sup> Responses to a survey of agroindustry undertaken by Agroinvest and J.E. Austin Associates for CONAPRI, December 1992-January 1993.

<sup>9</sup> This tariff is expected to be reduced to 10-5% by the end of 1993, however.

## CATALOGUE

<b>Industry:</b> Forestry
<b>Segment:</b> Forestry plantations
<b>Product:</b> Pine and Eucalyptus plantations

<b>1. Competitive Advantages</b>				
<b>A. Variables</b>	<b>% Growth</b>			
	<b>1991</b>	<b>89-91</b>	<b>Source</b>	<b>Footnote</b>
<b><u>Investments (cumulative, 1989-91)</u></b>				
local (US \$)	22,849,869	>0	2, 3, 6	5
foreign (US \$)	N/A	N/A		
Total (US \$)	N/A	N/A		
<b><u>Number of Participants</u></b>	15		1	1
<b><u>New Companies (1989-91)</u></b>	2	7.42%	1	1
<b><u>Local Sales</u></b>				
Volume (m3 St.)	473,000	79.19%	2, 3, 10	3
Value (\$US)	1,182,500	102.44%	2, 3, 10	3
<b><u>Production</u></b>				
Volume (m3 St.)	33,000,000	47.20%	9, 10	4
Value (\$US)	173,531,990	35.27%	9, 10	4
<b><u>Imports</u></b>				
Volume (m3 St.)	N/A	N/A		
Value (\$US)	8,035,458	50.45%	2	2
<b><u>Exports</u></b>				
Volume (units)	0	-	1, 2, 3	
Value (\$US)	0	-	1, 2, 3	
<b><u>Capacity</u></b>				
Installed Has.	893.5	>0	6	7
Utilized (%)	65.70%	>0	6	7
<b><u>Investment in R &amp; D</u></b>				
Percent of Total Investment	1.50%	>0	1	6
<b><u>Investment in Distrib. Channels</u></b>				
Percent of Total Investment	N/A			

N/A: Not Available

**1. Competitive Advantages**

<b>B. Related Variables</b>								
<b>Principal Inputs</b>		<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>	
				<b>% Local</b>	<b>% Imptd</b>			
A)	Raw Material	various	N/A	20%	80%	3	9	
B)	Herbicides	various	N/A	100%		1	9	
C)	Fertilizers	various	N/A	high imported value		1	9	
D)	Labor	N/A	N/A	100%		1	9	
<b>Related Industries</b>								
						<b>Source</b>	<b>Footnote</b>	
A) Agricultural Machineries.								
B)								
C)								
D)								
<b>Barriers of Entry</b>								
						<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
A) Economies of Scale						2	1,2,3,4, 10	10
B) Product Differentiation						0	1,2,3,4,10	10
C) Capital Requirements						3	1,2,3,4,10	10
D) Difficulty in Accessing Capital						3	1,2,3,4,10	10
E) Difficulty in Accessing Channels of Distribution						0	1,2,3,4,10	10
F) Difficulty in Accessing Labor						2	1,2,3,4,10	10
G) Other (specify): Land Tenancy and GOV Policies						3	1,2,3,4,10	10
<b>Levels of Integration</b>								
						<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
Horizontal						1	4	11
Vertical						3	4	11

\*Scale: None=0, Low=1, Medium=2, High=3

## 1. Competitive Advantages

### C. Quantitative Variables

#### Structure of Share Ownership (1991)

	Yes	No	Source	Footnote
Family		X	1,2,3	12
Few Shareholders	X		1,2,3	12
Stock Market	X		1,2,3	12
Foreign Ownership	X		1,2,3	12
Others: Owned by the State	X		1,2,3	12

#### Ownership of Distribution Channels

	Yes	No	Source	Footnote
Owned by Producer	X		3	13
Owned by Independent Entities	X		2	13

## 2. Comparative Advantages

Variables	National Data	Growth* 1989-91	Int'l. Data	Growth* 1989-91	Source	Footnote
Costs of Production in \$US/Has.	300-350	>0	N/A	N/A	2,6,7,10	14
Prices in \$US/m <sup>3</sup> St.	2,5-3,0	1,50%	N/A	N/A	2,6,7,10	15
Productivity or Yield (m <sup>3</sup> St/Has)	25	N/A	N/A	N/A	10	

\*Annual compounded growth rate, in percent.

### 3. Social Criteria

Variables	Tendency#		
	1989-91	Source	Footnote
<b>Value Added:</b>	2	8	
The plantations have a considerable Value Added. A seed is planted and after a while there is a tree which is equal to Wood			
<b>Employment:</b>	1	2	8
Great contribution in rural zones with disfavorable economic conditions, where the generating of employment is greater. Employment primarily depends of the cases of seasonal factors			
<b>Productivity:</b>	3	6	
Depends on the type of plantation. Eucalyptus has the greatest growth rate. Its average yield is 25 cubic meters per hectare per year. It has excellent growth rates, even compared with the international levels. Research mechanisms which allow further genetic advances still needs to developed.			
<b>Per-Capita Consumption:</b>	N/A		
Not applicable			

#Tendency: High Growth=1, Med. Growth=2, Stable=3, Med. Contraction=4, High Contraction=5

### 4. Available Information

(1) TRAFORCA Survey
(2) CONARE Survey
(3) GUYAMURE-IMATACA Survey
(4) ASOPLANT Call Report
(5) NUMERO Magazine, July 1991: "A Sleeping Giant"
(6) ASOPLANT, Various Articles and Supplied information
(7) APROPACA: 1991 Report, and Special Report 1992
(8) CICEPLA: Fora and Conferences, CICEPLA '92
(9) Statistical Yearbook of Venezuela 1991, OCEI 1992
(10) Interview with Jacobo Gehlman, President of TRAFORCA

## Catalogue

Segment: Forestry Sector  
Product: Forestry Plantations

### Footnotes

- | No. | Source | Observation   |
|-----|--------|---|
| 1   | (1)    | <p>In the sector of plantations with industrial end-uses like pine (long fiber) and eucalyptus (short fiber), in 1989 there were a total of 13 firms, which increased to 15 in 1991. These are: La Compañía Nacional de Reforestación "CONARE"; Transformadora Forestal TRAFOR, C.A.; CVG-PROFORCA; Grupo Forestal Soledad "ASAGROTE"; TREMCO FORESTAL del Grupo CORIMON; SMURFIT Cartón de Venezuela, C.A.; Venezolana de Pulpa y Papel "VENEPAL"; Explotaciones Forestales y Agrícolas "EFASA"; AGROFORESTAL GUARGUAPO; Desarrollos Forestales San Carlos "DEFORSA", AGROPECUARIA LA BOMBONERA; CONTACA C.A.; Corporación Forestal GUAYAMURE; Grupo Forestal IMATACA; and La Asociación de Agrotécnicos La Tentación. The largest firm of the sector is CVG-Proforca, which is 100% owned by the state. This was the company which pioneered plantations in Venezuela with its plantations of Caribbean pine in Uverito during the 1960s. The state owns other companies in their totality, such as Conare, and maintains participation in others. Additionally, the private companies which have planted in our country have close relations with the national paper industry.</p> |
| 2   | (2)    | <p>Since 1989 Venezuela has significantly increased its wood imports; according to Conare, they rose in 1991 to more than US\$8,000,000. In Venezuela importing wood in logs is prohibited. Current imports refer to sawed wood and wood pulp.</p>  |
| 3   | (2, 3) | <p>Domestic sales have shown positive trends, totaling for 1991 473,000 stereo cubic meters, divided approximately in the following way: 260,000 St. M3 sold by Guayamure and Imataca; 180,000 St. M3 sold by Proforca (Proforca's total sales figures were not available); and 33,000 sold by Conare.</p> <p>There are also firms such as Smurfit, which own plantations exclusively for their own use.</p>  |
| 4   | (9)    | <p>According to data published by the Central Office of Statistics and Information (OCEI), the production of caribbean pine in cubic</p>  |

meters surpassed 33 million M3. These figures don't necessarily represent the cubic meters actually extracted and utilized; they represent the production potential for 1991.

- 5 (1,3) The data concerning investment presented refers to investment carried out by the members belonging to the Venezuelan Association of Tree Planters (ASOPLANT) for 1991, including Traforca and Guayamure. The cumulative data as well as the actual investments by CVG-Proforca have not been ascertained.
- 6 (1) In this sector, the introduction and adaptation of new technologies is fundamental, and both have maintained a good rhythm in current years. The firm Traforca designated 1.5% of its invested capital in 1991 directly to R&D. According to ASOPLANT, the average of expenditures designated to R&D has risen in the last couple of years, and could be near an average of 3% for the sector.
- 7 (6) In the next 10 years, the members of ASOPLANT project the development of tree plantations reaching nearly 350,000 hectares. The number of hectares actually planted for this year were 132,000. Additionally, the potential of hectares which belong to the plantations of Uverito reaches 540,000; those planted for 1991 reached a total of 455,000. On the average, the utilization, or planted hectares, is near 66%.
- 8 (1,2, 3,4) The majority of the planting companies primarily contract their direct jobs on a part-time, rather than full time, basis. Among others, some of the reasons for this is that the jobs vary according to the season of the year and according to the stage of the plantation.
- 9 (1,3) The raw material, such as seed, for the plantations is primarily imported. Herbicides and fertilizers are obtained in the country but their contents are generally imported. One forestry group obtains 20% of its raw materials locally, 10% from South America, 20% from Central America and the Caribbean, and the rest from North America.
- 10 (1,2, 3,4) In the forestry sector, problems with land tenancy and the lack of coherence and incentives from the government are considered principal factor inhibiting investments. Additionally, the high totals of investment demanded by the plantations form an enormous barrier to entry. Other barriers of lesser relative importance are the Economies of Scale and the problems with obtaining qualified labor at the managerial level.



- 11 (4) The tendency of this sector is toward vertical integration. From this point on, we'll speak of vertical integration from the point of view of the planter; later on, the wood will be used for industrial ends or to obtain pulp, activities which form part of the areas of activity of the primary planting firms. Integration is most easily described from the point of view of the paper industry.
- 12 (1,2,3) The stockholder structure of the firms of this sector, more specifically of those surveyed, varies greatly. There are firms which are 100% state owned, as are Conare and CVG Proforca; there are firms in which the state and a few stockholders share participation, such as the Forestry Group Guayamure-Imataca; there are those which are 100% privately owned with diverse stockholders, such as Traforca and Agropecuaria la Bombonera; and there are also private firms with foreign participation, like Smurfit Cartón de Venezuela; and occasionally, some firms have used the mechanisms of the stock market.
- 13 (2,3) Some firms of this sector own their own distribution channels while the majority carry out their distribution through third parties. The distribution of wood products is quite difficult and very costly. The optimum solution would be that the plants for obtaining wood pulp, whose construction has been planned for a while now, be placed as closely as possible to the very plantations in order to diminish costs and the time needed in processing the raw material into pulp.
- 14 (2,6,7) Planting costs can vary greatly depending on the type of plantation and the specie planted. To simplify matters, an average cost per hectare of US \$ 350 was calculated. Planting Eucalyptus is more expensive than planting Caribbean Pine.
- 15 (2,6,7) As with costs, prices vary depending on the species and the obtained yields. The prices per M3 of wood vary from US\$2.4 to US\$ 3.5, yielding an average of US\$2.5/M3. The yields obtained from the tree farms are near 25 M3 St/hectare/year.

## Data Sheet for International Section of Investor's Profile

**Industry: Softwood Forest Plantations**

**Segment: Pine & Eucalyptus**

**Product: Sawwood or roundwood , logs and chips**

<b>Worldwide Production</b>	<b>1989</b>
(All coniferous wood)	
('000 CUM= cubic meters)	
1 USA	223.800
2 USSR	140.500
3 Canada	116.869
4 China (PRC)	30.402
5 Sweden	22.473
6 Brazil	21.299
7 Finland	18.300
8 Japan	17.175
9 Germany (FR)	16.000
10 France	12.730
11 Poland	8.736

<b>Worldwide Apparent Consumption</b>	<b>1989</b>
(All coniferous wood)	
(Imp+ Prod.-Exp: '000 CUM)	
Major Consumers	
1 USA	203.325
2 USSR	183.099
3 Canada	117.469
4 China (PRC)	37.906
5 Japan	34.603
6 Sweden	22.992
7 Finland	18.317
8 Germany	15.863
9 France	12.450
10 Poland	8.818

<b>Worldwide Exports of Coniferous Logs, Chips</b>	<b>1989</b>
('000 CUM)	
Major Exporters	
1 US	20.654
2 Canada	2.200
3 Germany	1.065
4 USSR	7.401
5 Chile	922

Worldwide Imports of Coniferous Logs, Chips	1989
('000 CUM)	
Major Importers	
1 Japan	17.428
2 Republic of Korea	3.198
3 Canada	2.800
4 Italy	1.233
5 Germany (FR)	928

Consumption per capita ('000CUM/capita)	1989
Major Import Markets	
1 Italy	0.2138286
2 Japan	0.1416911
3 Canada	0.1067928
4 Korea	0.0747318
5 Germany	0.011676

World Market Prices. (US\$/cubic meter)	1990	1991	1992
Coniferous Sawnwood (spruce, pine, fir, std. roll FOB mill)	187	187	230**
Sawnwood pine (Chile)	157	157	NA

**DEFINITIONS:**

Sawnwood includes all unplanned, planed, grooved, or tongued, sawed lengthwise to produce a profile chipping.

Sawnwood figures include chips (wood deliberately reduced to small pieces from wood in the rough or industrial residues, suitable for pulping, particle board, fibrewood production and firewood.

All data from FAO except as indicated.

\* Data from "Wood Products: International Trade and Foreign Markets," FAS, USDA, WP 6-92, December 1992.

\*\* May, 1993 price.

**SECTION I ANALYSIS OF:  
THE VENEZUELAN PAPER AND PAPERBOARD INDUSTRY**

**Documents Attached:**

- 1) Investor Profile
- 2) Catalogue of Venezuelan Industry, 1989-91 (paper & board)
- 3) Catalogue of Venezuelan Industry, 1989-91 (pulp)
- 4) Explanatory Footnotes
- 5) Datasheet for International Industry Profile (tables)

## **INVESTOR PROFILE**

for

### **THE VENEZUELAN PAPER AND PAPERBOARD INDUSTRY**

**Summary:** The 1980s were a period of growth in the market for paper products, buoyed by new usages such as computers and facsimile machines. Prospects for continued growth in the 1990s are highest in Latin America and Southeast Asia. Venezuela's growing wood and pulp producing industry, its low energy costs and trained labor force provide local producers with an edge over other competitors serving the region. The Venezuelan industry, currently operating at well over 80%, has been investing heavily in upgrading and expanding plant capacity. Opportunities for continued growth for domestic consumption and exports appear to be excellent.

*prepared for*

The National Council for Investment Promotion  
CONAPRI

*prepared by*

AgroInvest Consultores, S.A.  
Caracas, Venezuela

J.E. Austin Associates, Inc.  
Arlington, VA, USA.

May, 1993

## CONAPRI Investor profile

### The Venezuelan Paper and Paperboard Industry

#### I. Product Definition

This profile focuses on the primary paper and paperboard manufacturing industry in Venezuela.<sup>0</sup> Worldwide, paper products from this industry fall into 4 major categories: printing and writing paper, newsprint, tissue, and packaging paper. Newsprint accounted for 13% of the world's total output of paper and board products in 1991, printing and writing paper accounted for 26% and packaging paper and board made up 38%. Venezuelan producers manufacture paper and paperboard for each of these product categories except newsprint.

#### II. The Market

##### II.1 Demand

**International.** World demand for paper and paperboard products expanded significantly in the 1980s, buoyed by new usages such as computers and facsimile machines. Worldwide, demand for paper and paperboard is lead by higher income, industrialized countries of North America and Western Europe, where per-capita consumption is almost 10 times higher than in middle-income Latin America (27.5 kg.in 1991), and over 50 times higher than in low-income African countries (5.2 kg). The world's largest paper consumer is the United States, with a total apparent per capita consumption of paper and board of 302 kg in 1991.<sup>1</sup>

Growth in international demand over the 1989-91 period has been strongest in Southeast Asia and Latin America. US consumption levels dropped by almost 2%: levels in Finland and Sweden dropped 9% and 4%, respectively. But apparent consumption for paper and paperboard in Latin America grew by almost 7% between 1989 and 1990 (11.2 to 12.1 million tons). Consumption increased 34.3% in Argentina and 8.7% in Mexico over the same time period. Consumption in Colombia, a close trading partner for Venezuela, is expected to grow by 5% the 1992-1995 period.

Industry observers expect the fastest growth over the next decade will continue to be concentrated in Southeast Asia and Latin America.<sup>2</sup> World consumption of primary paper and board is expected to reach 290 million metric tons (MT) by 1997 , from 240,811 in 1991, an increase of 20%. Prices for raw materials used in paper production, such as pulp and secondary fiber, are forecasted to remain below their 1990 levels, and are therefore expected to contribute to lower production costs, lower prices, and higher demand for primary paper and board

products over the next decade.

World prices for paper have fluctuated, reflecting in part large price swings for raw materials (mainly pulp) over the 1989-91 period. Wrapping paper, accounting for 41% of Venezuela's production, have fluctuated significantly in the 1989-91 period. Linerboard was \$400 per ton in 1988 and \$325 in mid 1991 and \$360 in mid-1992.<sup>3</sup>

**Venezuela.** Venezuelan per capita paper and board consumption in 1990 was estimated at 39.4 kgs. well above average for the Latin American region. By volume, apparent consumption for paper and board grew by 11.71% from 1990-91 (from 688,000 to 788,000 tons). Apparent consumption growth was fairly even across most paper types, with tissue being the only product group to record a decline (of 8%) over this time period.<sup>4</sup>

Total sales in Venezuela for locally produced paper and paper board grew by over 10.39% (volume), and 15.65% (value) for the 1989-91 period. On average, the local industry met about 82% of the country's total paper and board needs in 1991. The remaining 18% of local consumption was met by imports, primarily from the US and Chile. In 1991, the bulk of these imports, or 68%, was for newsprint, which is not produced in Venezuela.

## II.2 Production

**International.** International paper and paperboard production has become increasingly globalized, with the world's largest manufacturers taking advantage of more competitive transport prices and expanding processing capacity in lower-cost regions. These trends have expanded growth opportunities for operators located outside the five dominant producer countries (United States, Canada, Sweden, Norway and Finland). In addition, environmental concerns have dampened growth prospects of primary paper and board producers, particularly in industrialized countries, and may further shift production toward developing nations. The growing urban solid waste problem in industrialized countries has led to pressure for increasing secondary fiber use, reducing demand and prices, and presenting a long-term threat to primary paper producers sales and earnings.

**Venezuela.** In 1991, of the 651,000 tons of paper and board produced locally, 20% was writing paper, 22% was tissue, 41% was Kraftliner and other wrapping paper, and 17% was board. Venezuela has the fourth largest installed capacity for paper and board production in Latin America, with 13 paper and board mills and an installed capacity in 1992 of 838,700.<sup>5</sup>

Venezuelan paper and board producers are currently operating at 80% of their capacity.<sup>6</sup> The four largest local producers, Compañía Anónima Venezolana de Pulpa y Papel (VENEPAL), Manufacturas de Papel C.A. (MANPA), Smurfit-MORCARPEL, and Papeles Venezolanos C.A. (PAVECA), account for 80% of the installed capacity. Chart 1 shows installed capacity, by company, for Venezuela's 6 largest paper producers, in 1991.

Traditionally, the larger producers have preferred to specialize in different products and market niches rather than compete with each other directly in different product categories. MANPA and VENEPAL account for 100% of the installed production capacity for printing and

writing paper. Papeles Venezolanos and Fábrica de Papel Maracay have traditionally dominated tissue paper production, accounting for 83% of tissue producing capacity in the country. Three paper manufacturers, VENEPAL, MOCARPEL, and Cartones Nacionales, have about 75% of the market for packaging material. The most diversified producer is VENEPAL, with production capacity in all major paper and board categories except tissue and liner paper.

Most of the 13 companies are 100% Venezuelan owned. Two companies, VENEPAL and Smurfit, have foreign ownership, though foreign owners have controlling shares in just one. Some of the companies are members of larger local conglomerates. For example, MANPA and Maracay belong to one of the largest industrial groups in Venezuela, the Grupo Delfino. One company, VENEPAL, is quoted in the Caracas Stock Exchange.

While 94% of the paper and board production in Venezuela is destined for local consumption, there has been some modest export activity. Tissue paper comprised the bulk of Venezuelan paper and board exports over the 1989-91 period (about two thirds). The main markets for Venezuelan exports in the 1989-91 period were the US, UK and Trinidad & Tobago.

**Changes in the Industry.** The degree of concentration in each product group is starting to decrease as companies are now faced with cheaper imports from abroad and new entrants. Venezuelan industry leaders, anticipating changes in the competitive environment as the Venezuela economy becomes increasingly open, are upgrading their operations. Strategic alliances between local and foreign manufacturers are also becoming more common.

The 1991-92 period was particularly dynamic. For example, Fábrica de Papel Maracay reported investments totalling \$12 million for the acquisition of new equipment and technology in primary pulp production and conversion into paper products. In 1991 MANPA made investments totalling more than \$15 million to optimize production and conversion facilities, and to develop new products, information systems and branch operations. Papeles Venezolanos invested \$1.5 million in 1991 upgrading machinery and equipment, and announced plans to invest an additional \$4 million in 1992. The VENEPAL group invested over \$65 million in several major projects, including building a new corrugated box plant with a capacity of 25,000 tons/year, and increased the capacity of its recycled fiber plant from 250 to 450 tons/day.<sup>7</sup>

### **III. Competitive Conditions**

**Costs of production.** Relatively low cost pulp prices and access to wood and non wood fiber resources, coupled with access to inexpensive energy and labor, provide the investor with an attractive locale for operations. Results of a recent industry survey illustrate this: labor costs in Venezuela as a percentage of total production costs tend to fluctuate between 2-6%; energy costs account for less than 20% of the total, while raw materials account for 62% to 74%.<sup>8</sup> Thus in total, labor and energy costs make up about a quarter of the total production costs, compared roughly to 70% of delivered production costs for an average North American mill.<sup>9</sup>

**Inputs and integration.** Assured access to low-cost, good-quality raw materials helps insulate operations from wide price swings in the pulp and wood market. Backward integration



into pulp and timber production is therefore becoming an increasingly common phenomenon worldwide and in Venezuela. Four of the largest local companies, Smurfit Cartón de Venezuela, Compañía Anónima Venezolana de Pulpa y Papel, Papeles Venezolanos, and Fábrica de Papel Maracay are integrated backward into pulp production. A fifth company, MANPA does not own pulp production facilities directly, but it does hold shares in Fábrica de Papel Maracay. PAVECA and the Smurfit group are also currently managing their own softwood plantations in-country.

Recent investment in commercial plantations, focusing on fast-growing eucalyptus and pine, promise to improve access to quality fibers for all local producers. Local paper and pulp producers also have abundant supplies of bagasse and other non wood fiber products. Local private sector investment activity in establishing, expanding and upgrading saw mills and pulp plants has been in high gear since 1990, as well.<sup>10</sup> Access to high quality locally produced virgin fiber should also be improving, as investment for upgrading pulp manufacturing facilities is on the rise. For example, Fábrica de Papel Maracay and MANPA, two of Venezuela's 4 pulp mills, have invested almost \$10 million upgrading their pulp production operations<sup>11</sup>.

**Distribution channels.** All major paper and board producers in Venezuela control their distribution channels directly through a net of subsidiary enterprises. For example, MANPA distributes through five subsidiary companies, and transport the products via Transportes Alpes, another group subsidiary. Some companies also control consumer retail outlets. For example, ABCD Le Cartiere, a small company specializing in art paper, has its own retail store. On a larger scale, VENEPAL has a network of retail paper stores.

In 1991, Venezuela's total pulp production was estimated at 87,806 tons. Though it has the 7th largest in the Latin America region, Venezuela continues to be dependent on pulp imports. Imports of pulp continue to outstrip local production by about 2 to 1. In 1991, Venezuela imported 168,595 MT of pulp and 198,251 MT of recyclable fibers.

Local prices for pulp are influenced by world prices, which in turn are affected by exchange rate fluctuations in the currencies of the largest producers (US, Canada, Sweden, Norway and Finland). World and therefore local prices have experienced wide fluctuations since 1990. In the first quarter of 1992 world prices for market pulp were about \$600/mt for Bleached Softwood Kraft and \$550/mt for southern pine, down from about \$800/mt 18 months earlier.<sup>12</sup>

#### **IV. The Legal and Regulatory Environment**

Pulp and paper imports are currently levied a 20% tariff. But under the Andean Pact and other free trade agreements, lower tariffs apply to imports from member countries. Currently, pulp imported from member countries faces a 10% tariff, paper a 15% tariff and finished paper products (e.g writing paper blocks, pads) a 20% tariff. Nevertheless, under current legislation, if local pulp production is determined to be insufficient to meet local needs (as is currently the case), the tariff rate levied on pulp is reduced to 5%.

Venezuela has one of the more stringent environmental laws in the region, and investors contemplating establishing or expanding paper and pulp production in the country must submit a technical feasibility study of all planned activities to the Ministry of the Environment and Renewable Natural Resources (MARNR). An economic feasibility study must also be submitted. Plant construction requires civil works permits. Local industry experts estimate that, from preparation of the feasibility studies to securing the last operating permit, it takes anywhere from three to four years to bring a paper mill on line.

There are no special fiscal incentives that benefit the paper and board industry. Forestry plantations, considered an agricultural activity do enjoy exemption from income tax and access to preferential financing and interest rates.<sup>13</sup>

## V. Endnotes

<sup>0</sup> The paper and board industry consists of two types of firms: primary paper and board producers, and converters. The primary paper and board manufacturing sector, which includes paper and board mills, obtains wood fibers from company-owned or managed timberlands, or purchases virgin and recycled fibers. It is highly capital intensive. The converting sector includes firms that are either integrated with the primary producers or firms that purchase paper and paper board from the primary sector and transform them into a wide range of finished products (from cardboard boxes to toilet paper). This section focuses on the primary producer sector only.

<sup>1</sup> Pulp and Paper International, "Annual review: All the World's Output and Trade," July 1991. [referred hitherto as PPI 7/91]

<sup>2</sup> See Pulp and Paper International, 7/91, *ibid*.

<sup>3</sup> Pulp and Paper International, *op cit*.

<sup>4</sup> PPI, 7/92 and 7/91.

<sup>5</sup> PPI Annual review, 7-92.

<sup>6</sup> Survey of agribusiness carried out by Agroinvest and J.E. Austin Associates for CONAPRI, December 1992 to January 1993.

<sup>7</sup> PPI, Annual review, 7-92.

<sup>8</sup> See the "Catalogue" appended to this document.

<sup>9</sup> Figures taken from a project paper on the potential for the Venezuelan newsprint manufacturing sector, produced by OPIC.

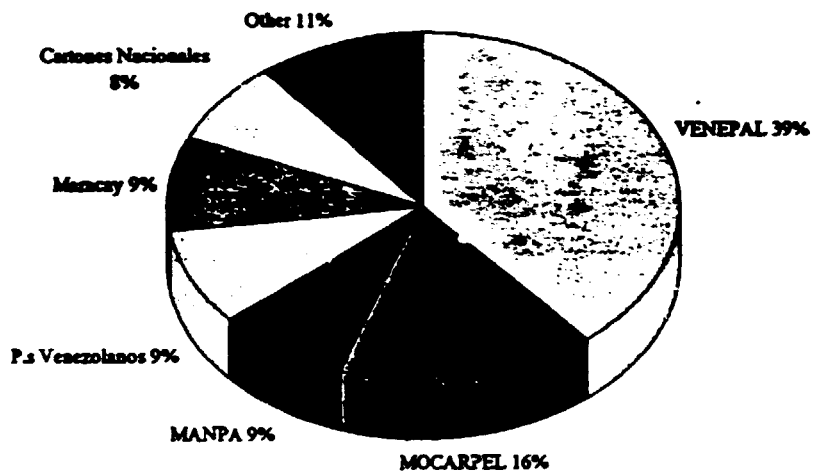
<sup>10</sup> See CONAPRI Industry Profile on Forestry Plantations.

<sup>11</sup> One is a soda mill, another is a non-wood pulp producer, and two are chemi-thermomechanical facilities. See PPI, *op cit*., 7/92.

<sup>12</sup> US Industrial Outlook 1993--Paper and Allied Products, 1993.

<sup>13</sup> See CONAPRI *Forestry Plantations Profile*.

**Chart 1: Installed Capacity, by Major Venezuelan Paper Producer**



Source: Agroinvest Consultores, 1993.

## CATALOGUE

<b>Industry:</b> <u>Wood Industrv</u>
<b>Segment:</b> <u>Chemical Wood Industry</u>
<b>Product:</b> <u>Paper and Cardboard</u>

<b>1. Competitive Advantages</b>				
<b>A. Variables</b>	<b>% Growth</b>			
	<b>1991</b>	<b>89-91</b>	<b>Source</b>	<b>Footnote</b>
<b><u>Investments (cumulative, 1989-91)</u></b>				
local (US \$)	N/A	N/A		
foreign (US \$)	N/A	N/A		
Total (US \$)	566.233.507	8.78%	1, 10, 11	1
<b><u>Number of Participants</u></b>	13		1	
<b><u>New Companies (1989-91)</u></b>	1	4.08%	1	2
<b><u>Local Sales</u></b>				
Volume (MT)	612.014	10.93%	1	
Value (\$US)	542.856.418	15.65%	1, 8, 9	
<b><u>Production</u></b>				
Volume (MT)	651.770	11.42%	1	3
Value (\$US)	578.119.990	16.17%	1, 8, 9	
<b><u>Imports</u></b>				
Volume (MT)	176.383	14.55%	1	4
Value (\$US)	171.989.702	24.25%	1, 7, 8, 9	
<b><u>Exports</u></b>				
Volume (MT)	39.756	20.00%	1	5
Value (\$US)	44.613.924	15.96%	1, 7, 8, 9	
<b><u>Capacity</u></b>				
Installed (MT)	838.700	3.33%	2	6
Utilized (%)	77.71%	7.83%	2	7
<b><u>Investment in R &amp; D</u></b>				
Percent of Total Investment	N/A	N/A		
<b><u>Investment in Distrib. Channels</u></b>				
Percent of Total Investment	N/A	N/A		

N/A: Not Available

**I. Competitive Advantages**

<b>II. Related Variables</b>						
<b>Principal Inputs</b>	<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>
			<b>% Local</b>	<b>% Imptd</b>		
A) Machinery and Equipment	N/A	N/A	0%	100%	12, 13	
B) Chemical (Ink)	N/A	N/A	N/A	N/A	12, 13	
C) Paper Pulp and Waste (Recyclable Paper)	N/A	N/A	20%	80%	12, 13	8
D)						
<b>Related Industries</b>						
					<b>Source</b>	<b>Footnote</b>
A) Graphic Industry						
B)						
C)						
D)						
<b>Barriers of Entry</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
A) Economies of Scale				3	11, 12, 13	
B) Product Differentiation				1	11, 12, 13	
C) Capital Requirements				3	11, 12, 13	
D) Difficulty in Accessing Capital				3	11, 12, 13	
E) Difficulty in Accessing Channels of Distribution				2	11, 12, 13	
F) Difficulty in Accessing Labor				2	11, 12, 13	
G) Other (specify): GOV Policies				3	11, 12, 13	
<b>Levels of Integration</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
Horizontal				1	11, 12, 13	
Vertical				3	11, 12, 13	9

\*Scale: None=0, Low=1, Medium=2, High=3

## I. Competitive Advantages

### C. Qualitative Variables

#### Structure of Share Ownership (1991)

	Yes	No	Source	Footnote
Family	X		6,12,13,14	10
Few Shareholders	X		6,12,13,14	10
Stock Market	X		6,12,13,14	10
Foreign Ownership	X		6,12,13,14	10
Others:				

#### Ownership of Distribution Channels

	Yes	No	Source	Footnote
Owned by Producer	X		12,13,14	
Owned by Independent Entities	X		12,13,14	11

## 2. Comparative Advantages

Variables	National	Growth*	Int'l.	Growth*	Source	Footnote
	Data	1989-91	Data	1989-91		
Costs of Production	N/A	N/A	N/A	N/A		12
Prices in \$US/ton	887.0	425%	N/A	N/A	1, 3, 7	

\*Annual compounded growth rate, in percent.

### 3. Social Criteria

Variables	Tendency#		
	1989-91	Source	Footnote
<b>Value Added:</b>	2		
Modernization of the different companies, with new pulp plants, improved paper and cardboard machines, higher quality standards, competitiveness, and highly qualified staff.			
<b>Employment:</b>	2	6	13
Contributes to the employment, urbanization, and development in rural zones Is an industrial activity which generates technical and qualified employment			
<b>Productivity:</b>	2		
Modernization in the different companies, with new pulp plants, improvements in paper and carton making machines, criteria of total quality and competitiveness and a highly trained personnel			
<b>Per-Capita Consumption:</b>	2	2	
1989: 34.26 Kgs/Hab/year : 1991 40.52 kgs/person/year It's higher than the Latin American average of 27,5 Kgs. but it still is way below the developed countries average. Western Europe 160 Kgs/pc and North American 293 Kgs/pc			

#Tendency: High Growth=1, Med. Growth=2, Stable=3, Med. Contraction=4, High Contraction=5.

### 4. Available Information

(1) APROPACA Magazine 1991
(2) APROPACA Magazine. Special Edition 1992.
(3) Industrial Survey 1989-1991 OCEI
(4) Thesis A. Chaparro 1991. Paper Industry 1993-2000, UCAB.
(5) Fora and Conferences CICEPLA 1992
(6) Agroinvest Newspaper Library
(7) Foreign Trade Yearbooks. OCEI 1989, 1990, 1991
(8) Statistical Yearbooks. OCEI 1989, 1990
(9) Forestry Products Yearbooks. 1979-1990 FAO
(10) Pulp and Paper International Magazine. Dec. 1992. pgs. 21-25
(11) Interview with APROPACA
(12, 13, and 14) CONAPRI Surveys 1993: A MANPA, PAVECA y ABCD L. Cartiere

## CATALOGUE

<b>Industry:</b> Wood Industry
<b>Segment:</b> Chemical Wood Industry
<b>Product:</b> Wood Pulp and Recycleable Fibres

<b>1. Competitive Advantages</b>				
<b>A. Variables</b>	<b>% Growth</b>			
	1991	89-91	Source	Footnote
<b><u>Investments (cumulative, 1989-91)</u></b>				
local (US \$)	N/A	N/A		
foreign (US \$)	N/A	N/A		
Total (US \$)	566.122.507	8.78%	1, 10, 11	1
<b><u>Number of Participants</u></b>	4		1	
<b><u>New Companies (1989-91)</u></b>	N/A	N/A	1	2
<b><u>Local Sales</u></b>				
Volume (MT)	361.481	5.03%	1	
Value (\$US)	126.518.350	-11.88%	1, 3, 8, 9	
<b><u>Production</u></b>				
Volume (MT)	361.481	5.03%	1	3
Value (\$US)	126.518.350	-11.88%	1, 3, 8, 9	
<b><u>Imports</u></b>				
Volume (MT)	366.846	22.24%	1	4
Value (\$US)	140.502.230	1.83%	1, 7, 8, 9	
<b><u>Exports</u></b>				
Volume (MT)	0.0	-	1	5
Value (\$US)	0.0	-	1, 7, 8, 9	
<b><u>Capacity</u></b>				
Installed (MT)	215.000	13.46%	2	6
Utilized (%)	40.84%	-12.05%	2	7
<b><u>Investment in R &amp; D</u></b>				
Percent of Total Investment	N/A	N/A		
<b><u>Investment in Distrib. Channels</u></b>				
Percent of Total Investment	N/A	N/A		

N/A: Not Available



**I. Competitive Advantages**

<b>B. Related Variables</b>						
<b>Principal Inputs</b>	<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>
			<b>% Local</b>	<b>% Imptd</b>		
A) Wood (Pine, Eucalyptus)	N/A	N/A	0%	100%	12, 13	
B) Chemical (Ink)	N/A	N/A	N/A	N/A	12, 13	
C) Sugar Cane	N/A	N/A	N/A	N/A	12, 13	8
D) Waste (Recyclable Paper)	N/A	N/A	N/A	N/A	12, 13	8
D) Machinery and Equipment	N/A	N/A	60%	40%	12, 13	
<b>Related Industries</b>					<b>Source</b>	<b>Footnote</b>
A) Paper Industry						
B)						
C)						
D)						
<b>Barriers of Entry</b>				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
A) Economies of Scale				3	11, 12, 13	
B) Product Differentiation				1	11, 12, 13	
C) Capital Requirements				3	11, 12, 13	
D) Difficulty in Accessing Capital				3	11, 12, 13	
E) Difficulty in Accessing Channels of Distribution				2	11, 12, 13	
F) Difficulty in Accessing Labor				2	11, 12, 13	
G) Other (specify): GOV Policies				3	11, 12, 13	
<b>Levels of Integration</b>				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
Horizontal				1	11, 12, 13	
Vertical				3	11, 12, 13	9

\*Scale: None=0, Low=1, Medium=2, High=3

## 1. Competitive Advantages

### C. Qualitative Variables

#### Structure of Share Ownership (1991)

	Yes	No	Source	Footnote
Family	X		6,12,13,14	10
Few Shareholders	X		6,12,13,14	10
Stock Market	X		6,12,13,14	10
Foreign Ownership	X		6,12,13,14	10
Others:				

#### Ownership of Distribution Channels

	Yes	No	Source	Footnote
Owned by Producer	X		12,13,14	
Owned by Independent Entities	X		12,13,14	11

## 2. Comparative Advantages

Variables	National Data	Growth* 1989-91	Int'l. Data	Growth* 1989-91	Source	Footnote
Costs of Production	N/A	N/A	N/A	N/A		12
Prices in \$US/MT	349	-16,22%	N/A	N/A	1, 3, 7	

\*Annual compounded growth rate, in percent

### 3. Social Criteria

Variables	Tendency#		
	1989-91	Source	Footnote
<b>Value Added:</b>	2		
Modernization of the different companies, with new pulp plants, improved paper and cardboard machines, higher quality standards, competitiveness, and highly qualified staff.			
<b>Employment:</b>	2	6	13
Contributes to the employment, urbanization, and development in rural zones Is an industrial activity which generates technical and qualified employment			
<b>Productivity:</b>	2		
Modernization in the different companies, with new pulp plants, improvements in paper and carton making machines. criteria of total quality and competitiveness and a highly trained personnel			
<b>Per-Capita Consumption:</b>	2	2	
1989: 34,26 Kgs/pc/year : 1991 40.52 kgs/pc/year It's higher than the Latin American average of 27.5 Kg., but it still is way below the developed countries average. Western Europe: 160 Kgs/pc and North American: 293 Kgs/pc.			

#Tendency: High Growth=1, Med. Growth=2, Stable=5, Med. Contraction=4, High Contraction=5.

### 4. Available Information

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(5) Fora and Conferences CICEPLA 1992
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(7) Foreign Trade Yearbooks. OCEI 1989, 1990, 1991
(8) Statistical Yearbooks. OCEI 1989, 1990
(9) Forestry Products Yearbooks. 1979-1990 FAO
(10) Pulp and Paper International Magazine. Dec. 1992. pgs. 21-25
(11) Interview with APROPACA
(12, 13, and 14) CONAPRI Surveys 1993: A MANPA, PAVECA y ABCD Le Cartiere

## Catalogue

**Segment:** Chemical Wood Pulp Industry  
**Product:** Pulp, paper and paperboard

### Footnotes

No.	Source	Observation
1	APROPACA	<p>Includes investment in wood pulp, paper and board. This industry requires considerable investments for the expansion and installation of plants as well as at the primary and industrial level. Until now, financing has come from national and foreign financing institutions, and self financing by company stockholders; nevertheless, currently one is seeing a tendency to use the stock market to finance, by the issuance of stocks, commercial papers, GDRs, bonds, among others.</p> <p>A typical characteristic feature of the paper and cellulose sector is to be capital intensive and having long term requirements for the installation and beginning of operations of the new industrial units. To make possible the expansion in the next years, thus allowing continuity in the internal provisioning (supplying) and an increase in the exports, the Venezuelan paper industry needs to complement it's own resources with long term financing.</p> <p>Investment in 1991 rose US \$ 131,463,628 for improvement, environmental protection, and increasing productivity, via improving the quality.</p> <p>The following is a description of some of the announced and undertaken investments:</p> <p>The C.A. Venezolana de Pulpa y Papel (VENEPAL), Stone Container and CVG Proforca signed an agreement to install a Chip Production Plant, VENEPAL to start expanding the Treatment System of Effluents associated with the expansion of productive capability, VENEPAL acquired 25% of the CELGAR mill, producer of whitened, long fiber Kraft pulp, located in the outskirts of the city of Castlegar, British Columbia, Canada, and initiated the start up of its second line of whitened sugar cane fiber pulp with an additional capacity of 180 metric tons/day. Smurfit Carton of Venezuela announced the modernization and expansion of its plant in San Felipe,</p>

Yaracuy State, with a considerable investment and significant increase in its production.

C.A. Fabrica de Papel de Macaray is investing in the assembly of a new line paper converter.

- 2 (1) It's the newest firm of the sector, with a total investment of US \$ 6,415,425; it uses three machines; it employs 52 people; its annual remuneration for personnel and technology is US \$ 245,399; it dedicates itself to the manufacture of papers for fine arts, serigraphy, safety and others.  
In Venezuela there are four wood pulp producers VENEPA, PAVECA, Papeles de Maracay y Smurfit Cartón de Venezuela.
- 3 (1) Of the 1,013,251 metric tons produced, 361,481 are raw materials, of which 273,675 is recyclable fiber, 87,806 is pulp and 651,770 are paper, cardboard, and carton. Kraft liner paper and medium corrugated cardboard are a totally national production ('82-'91); during '91, tissue paper is 99.99% a totally national production and wrapping paper is 99.75% a national production. Of the total apparent consumption, 738,700 MT are raw materials and 828,153 MT are paper, cardboard box.
- 4 (1) Newspaper as well as paper for cigarettes are totally imported ('82-'91).  
Of the total of imports, 366,846 MT (67.53%) are prime materials, and 176,383 MT (32.47%) are paper, cardboard, and cardboard box. The total is 543, 229 MT.
- 5 (1) Only paper; pulp isn't exported.
- 6 (1) Of the total installed capacity, 838,700 MT are paper and cardboard box, and 215,000 MT are paper pulp. The total is 1,053,700 MT.
- 7 own figures The utilized capacity of pulp is 40.8% and of paper is 77.71%.
- 8 (13) There are 3 international suppliers of recycled paper. There are 34 national suppliers of recycled paper. There are 4 national suppliers of wood pulp.

9 survey of the company MANPA and PAVECA

Vertical integration is essential in the income-generating capacity of this sector, in fact, all the firms of the paper industry are investing in their own plantations and pulp plants in order to obtain certain and cheap raw materials, thus improving their international competitiveness. Development of the forests in order to obtain supplies at the lowest cost of fibers currently imported.

10

MANPA and ABCD Le Cartiere have a stock structure primarily comprised of family members; VENEPAL has its stocks traded in the stock market; and PAVECA and Smurfit Cartón de Venezuela (22% of the national capital) are characterized by few stockholders and are the two firms of mixed capital established in the country.

11

A few enterprises make distribution by Independent Entities.

12

(12,13)

Two of the cost structure available were:

1.-

Raw materials	74.6%
Workforce	2.2%
Production costs	23.2%

2.-

Raw Materials	61.62%
Workforce	5.47%
Production costs	23.79%
Packing	9.12%

13

Apart from the number of jobs and their remuneration, the industry gives work to a large number of qualified workers who had been trained within the industry, and relies on a professional, managerial personnel of excellent training and formation.

## Data Sheet for International Section of Investor's Profile

Industry: Chemical Wood Processing

Segment: Primary

Product: Printing, Writing, Newsprint, Tissue Packing and Paper

Worldwide Production ('000 tons)	1989	1990*	1991**
Paper & Board			
Major Producing Countries			
1 USA	69,514	71,519	72,151
2 Japan	26,800	28,086	29,068
3 Canada	16,555	16,466	16,571
4 China (PRC)	15,336	13,719	14,787
5 Germany	12,610	11,873	12,762
6 USSR/CIS	10,654	10,100	7,682e
7 Finland	8,752	8,958	8,777
8 Sweden	8,362	8,426	8,342
9 France	6,752	7,049	7,322
10 Italy	5,555	5,601	5,786

\* Source: "Pulp and Paper International," Annual Review, "World Trends and Trade," 1991 and 1992.

\*\*Source: Food and Agricultural Organization, "Forestry Statistics Today for Tomorrow," 1991.

Worldwide Consumption ('000 tons)	1989	1990	1991
Paper & Board			
Major Consumers			
1 US	76,297	77,732	76,378
2 Japan	27,312	28,218	29,106
3 Germany	15,279	14,560	15,931
4 China (PRC)	16,126	14,429	15,888
5 CIS	10,344	9725e	7692e
6 UK	8,321	8,755	9,177
7 France	9,624	9,273	8,766
8 Italy	6,675	6,954	7,121
9 Canada	6,197	5,724	5,688
10 Spain	3,949	4,341	4,582

Worldwide Exports ('000 tons)	1989	1990	1991
Major Exporting Countries			
1 US	11,284		
2 UK	5,046		
3 Germany, FRG	4,313		
4 Finland	7,436		
5 Sweden	6,435		

Worldwide Imports ('000 tons)	1989	1990	1991
Major Exporting Countries			
1 US	11,830		
2 UK	5,991		
3 Germany	5,865		
4 France	3,537		
5 Italy	2,319		
<b>WORLD TOTAL</b>	<b>51,776</b>	<b>54,615</b>	<b>55,350</b>

Consumption per capita (Major Import Markets)	1989	1990	1991
1 US	308	311	302
2 UK	207	232	200
3 France	168	164	160
4 Germany	148	155	155
5 Italy	116	121	123
6 Venezuela	34	34	41

World Market Prices (US\$/metric ton)	1989	1990	1991
Newsprint, Eastern US Price	564	544	551
Venezuelan Price	613		
Linerboard	400		324
Kraftliner, German price CIF Hamburg		665	635



*J. E. Austin Associates*

Section II

AGRIBUSINESS AREAS NOT SELECTED

*Agroinvest Consultores*

**SECTION 2:  
AGRIBUSINESS AREAS NOT SELECTED**

1. Palm Oil
2. Processed Tropical Fruits
3. Baby Food
4. Milled Rice

**SECTION 2 ANALYSIS OF:**

**PALM OIL**

**Documents Attached:**

- 1) Catalogue of Venezuelan Industry, 1989-91
- 2) Explanatory Footnotes
- 3) International Industry Profile (text)
- 4) Datasheet for International Industry Profile (tables)

## CATALOGUE

<b>Industry:</b> Food Industry
<b>Segment:</b> Oils and Fats
<b>Product:</b> Palm Oil

<b>1. Competitive Advantages</b>				
<b>A. Variables</b>	<b>% Growth</b>			
	1991	89-91	Source	Footnote
<u>Investments (cumulative, 1989-91)</u>				
local (US \$)	30.475.000	72.40%	9	
foreign (US \$)	2.650.000	N/A	9	1
Total (US \$)	33.125.000	11.80%	9	
<u>Number of Participants</u>	9		1	2
<u>New Companies (1989-91)</u>	3	22.47%	9	
<u>Local Sales</u>				
Volume (MT Crude Oil)	5.459	23.61%	1	3
Value (\$US)	2.129.166	26.23%	1	
<u>Production</u>				
Volume (MT Crude Oil)	5.459	23.61%	1, 9	4
Value (\$US)	2.129.166	26.23%	1, 9	
<u>Imports</u>				
Volume (MT Crude Oil)	6.363	-38.71%	1, 8	5
Value (\$US)	2.481.570	-37.41%	1, 8	
<u>Exports</u>				
Volume (MT Crude Oil)	0	0	1, 8	
Value (\$US)	0	0	1, 8	
<u>Capacity</u>				
Installed Mt /Hour	45	22.47%	9, 10	6
Utilized (%)	50.00%	-13.40%	9, 10	
<u>Investment in R &amp; D</u>				
Percent of Total Investment	0.10%	N/A	9	
<u>Investment in Distrib. Channels</u>				
Percent of Total Investment	N/A	N/A		

N/A: Not Available

**I. Competitive Advantages**

<b>B. Related Variables</b>						
<b>Principal Inputs</b>	<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>
			<b>% Local</b>	<b>% Imptd</b>		
A) Fertilizers	N/A	N/A	X	X	3	
B) Agrochemicals	N/A	N/A	X	X	3	
C)						
D)						
<b>Related Industries</b>						
					<b>Source</b>	<b>Footnote</b>
A) Edible Oils Industry					9, 10	
B) Soap Industry					9, 10	
C)						
D)						
<b>Barriers of Entry</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
A) Economies of Scale				2	2, 3	
B) Product Differentiation				1	2, 3	
C) Capital Requirements				3	2, 3	
D) Difficulty in Accessing Capital				3	2, 3	
E) Difficulty in Accessing Channels of Distribution				1	2, 3	
F) Difficulty in Accessing Labor				1	2, 3	
G) Other (specify): Length of the growing period of palm plantations				2	2, 3	7
<b>Levels of Integration</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
Horizontal				1	3, 9	
Vertical				3	3, 9	8

\*Scale: None=0, Low=1, Medium=2, High=3

## 1. Competitive Advantages

### C. Qualitative Variables

#### Structure of Share Ownership (1991)

	Yes	No	Source	Footnote
Family	X		3	9
Few Shareholders	X		3	
Stock Market	X		3	
Foreign Ownership	X		3	
Others:				

#### Ownership of Distribution Channels

	Yes	No	Source	Footnote
Owned by Producer	X		3, 2	10
Owned by Independent Entities	X		3, 2	

## 2. Comparative Advantages

Variables	National Data	Growth* 1989-91	Int'l. Data	Growth* 1989-91	Source	Footnote
Costs of Production in US\$/MT	338,40	N/A	N/A	N/A	9	11
Prices in US\$/MT	390, (N)	2,12%	N/A	N/A	1, 9	12

\*Annual compounded growth rate, in percent.

### 3. Social Criteria

Variables	Tendency#		
	1989-91	Source	Footnote
<b>Value Added:</b>	2	1, 2, 3	
Significant because it represents a totally integrated product			
It represent an industrial process that allows the total utilization of the fruit for the elaboration of several products.			
<b>Employment:</b>	1	2	13
Important source of employment in economically depressed rural zones			
Has a high growth rate between 1989-1991(11.8%)			
<b>Productivity:</b>	1	2	
It's the highest yielding oleaginous that exists. Because of its diverse uses			
It's completely usable (the pulp as well as the seed)			
<b>Per-Capita Consumption:</b>	2	1, 2	
Per-capita consumption varies between 13 and 15 kg/person/year of F.U. (of edible oil)			
Important to qualitatively and quantitatively improve the Venezuelan diet			

#Tendency: High Growth=1, Med. Growth=2, Stable=3, Med. Contraction=4, High Contraction=5

### 4. Available Information

(1) ASOGRASAS. Monthly Bulletins. Nos. 1-5. Feb-Nov 1992
(2) M. A. C. Analysis of the behavior of Oleaginous oils in Venezuela. Nov. 1991
(3) CONAPRI Survey 1993. MAVESA
(7) Data supplied by OCEI. Statistic yearbook
(8) Data supplied by OCEI. Foreign Trade Yearbook 1989 and 1991
(9) Interview with Bruno Mazzani
(10) Interview with MAVESA

## Catalogue

Segment: Oils and Fats  
Product: Palm Oil

## Footnotes

- | No. | Source | Observation   |
|-----|--------|---|
| 1   |        | <p>These investment figures refer exclusively to plantations. Foreign investment in 1991 was the purchase by the Unilever company of a palm oil plantation located in the Zulia State, property of the FACEGRA company.</p>   |
| 2   |        | <p>The six planting firms which existed in 1989 were: MAVESA, LAURAK (Cargill), Grasas de Valencia, FACEGRA (Unilever), Productora Bananera and the Majaguas Plantation. The three new firms are Fincas Ganaderas of the Zulia State which have begun to cultivate palm oil; one of these farms is Palmera El Uvero.</p>  |
| 3   |        | <p>National sales are equal to national production, given that there is very little inventory.</p>  |
| 4   |        | <p>Production of tons of bunches for 1989 was 35,000 tons, a rate equivalent to (oil content) 10.21%, and that of 1991 was 45,495 tons, at a rate equivalent to 12%.<br/>Palm oil is not directly sold to the consumer, but passes through refining plants, where it is mixed with other crude oleaginous oils to obtain an Edible Oil.</p>   |
| 5   |        | <p>Imports of crude palm oil represents approximately 2% of the total imports of crude oils (300,000 tons/year). Of the total consumption of crude palm oil, between 60 and 80 percent approximately is imported, and almost all from Malaysia and Colombia.</p>  |
| 6   |        | <p>It is the installed and utilized capacity, of the extracting plant, of crude oil.<br/>The installations are modular and their capacity will be added to in successive stages; if the harvest increases, another module of the extracting plant will be installed. In this case it's probable that the utilized capacity will diminish; a situation which is considered normal.</p> |



- 7           The three years are considered required for a plantation to begin the commercial production stage, and the fact that the plantation doesn't achieve its optimal productive level until 7 years poses itself as the principal entry barrier, given that it makes difficult obtaining financing.
- 8           MAVESA, Grasas de Valencia and Unilever are integrated from the Palma plantation, through the refinement of Edible Oils, to the distribution of oils and fats.
- 9           Structure of Share Ownership: Family: 20%; Few Shareholders: 70%; Stock Market: 10%.
- 10          Transportation from plantation to extracting plant, is undertaken by the company, given that the extracting plant should be within the plantation, because the bunches should be processed in a time period less than 24 hours, or else the seed acidifies.  
Palm Oil uses almost 100% of the same distribution channels as does edible oils.  
Transportation from extracting plant to refining plant is subcontracted to transportation companies.
- 11          Cost structure for palm oil plantations for MAVESA is: Agrochemicals 25%; Fertilizers 60%; and Workforce 15%. For Grasas de Valencia, the most important cost elements are: land, financing, labor, and fertilizer.
- 12          Until 1991, there was an increase in production greater than that of the demand, which meant that international prices contracted, for Palm oil as well as for the rest of the oleaginous oils.  
Since 1992, the consumption of palm oil has increased, elevating its international price to US\$450/Ton in 1993.  
In Venezuela, it's difficult to measure the yield because the plantations are new, and the optimal yield will be visible seven years after sowing.
- 13          Refers to employment in the plantation as well as in the extracting plants.

## INTERNATIONAL INDUSTRY PROFILE

Industry: Edible & Industrial Oils

Segment: Vegetable Oils

Product: Palm oil

### DEFINITION

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Extracted from the the seeds of the African oil palm tree, palm oil is used to manufacture a wide number of edible and industrial products ranging from margarine and compound cooking fats to soap and combustible fuel. Worldwide, roughly 90% of palm oil is used in food preparation or manufacture. The remaining 10% is used in manufacturing industrial products. For most of these end-markets, palm oil is only one of more than a dozen comparable vegetable and marine oils, also derived from oil seeds, that are used in manufacturing edible and industrial products (see substitutes, below).

### WORLDWIDE DEMAND

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- World demand for palm oil is projected to grow by 4 percent in 1993: between 1990 and 1992, demand grew an average of 8.5% annually.
- World demand for palm oil is driven by the full range of end-products requiring oil for manufacture.
- Edible end-products include margarine, shortenings, cooking and salad oil, and oil products used in ice-cream, creamers, biscuits, bread and pastries. Food uses account for 90% of demand.
- Non-food uses include the manufacture of soaps, resins, candles, fatty acids, ink, polishing liquids and cosmetics.

### PRODUCTION

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- Production is forecast to reach 12.3 million tons in 1993, a 7% increase over 1992.
- Two countries-- Malaysia and Indonesia -- account for 80% of world palm oil production.
- Malaysian production is expected in increase as more hectares are planted. Area planted is forecast to increase 60,00 hectares annually, reaching 2.3 million by 1995, and 2.6 million by the year 2000.

- Indonesia produced 3.2 million tons of palm oil in 1992, or roughly 22 percent of world production. Indonesian production is estimated to increase 15 percent over the in 1993.
- Six other countries including Ecuador and Colombia account for the remaining 20 percent of world palm oil production.

## **EXPORTS AND IMPORTS**

- Malaysia is the largest exporter; in 1992 its 6.2 million tons of exports comprised 54% of world palm oil trade.
- Another 12% of world palm oil exports originate in Indonesia.
- Demand for palm oil has increased faster in developing countries than in developed countries.
- China, Singapore, and Papua New Guinea are the largest palm oil importers. The latter two and Pakistan were Malaysia's primary markets in 1991.
- The European Community is also an important market, accounting for 18 percent of global shipments.

## **INDUSTRY STRUCTURE AND TRENDS**

- In both Malaysia and Indonesia, major producers of palm oil are involved in both cultivating palm trees, and processing palm seeds to extract oil.
- Malaysian palm oil producers are highly integrated, capital-intensive agribusinesses that operate on very large plantations where they can harvest continually throughout the year.

## **KEYS TO COMPETITIVE SUCCESS**

- Because of the large number of substitutes, palm oil is extremely price sensitive. Low cost production is essential.
- Highly efficient Malaysian companies maintain low production costs and high yields per acre.

- Climate (optimally 75-80 degrees fahrenheit), soil quality, and rainfall (above 80" per year) are important to yield and efficiency.
- Successful producers focus on plantation management and research and development to enhance extraction rates through improved species development and effective chemical usage,

### **BARRIERS TO ENTRY**

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- African palms have a long growth period: 4-5 years before significant yield, and 12-15 years to full fruit bearing.
- Capital investment in land, saplings and processing equipment is necessary.

### **SUBSTITUTES**

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- Other vegetable oils including soy, cotton, sunflower, and sesame can be used for many of the same purposes.
- Oil quality can be important for edible applications, though less so for industrial uses; quality issues include saturated fat content, odor, color and viscosity

### **GOVERNMENT POLICY**

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- Palm oil industry tends to be protected in producer countries; much less so in non-producer countries.

## Data Sheet for International Section of Investor's Profiles

**Industry:** Vegetable Oils  
**Segment:** Palm oil  
**Product:** Palm Oil

Worldwide Production (in 1,000 tons)	1989	1990	1991	1992	1993e	
Major producing countries						
1. Malaysia	5,636	6,412	6,034	6,222	6,650	54%
2. Indonesia	1,700	2,250	2,650	2,750	3,150	26%
3. Nigeria	600	500	600	630	600	5%
4. Ivory Coast	203	275	278	281	285	2%
5. Colombia	231	232	250	262	266	2%
6. Thailand	155	175	200	220	237	2%
WORLD TOTAL	9,561	10,966	11,090	11,451	12,293	100%
Percent Change		14.70%	1.13%	3.26%	7.35%	

Worldwide Consumption (in 1,000 tons)	1989	1990	1991	1992	1993e	% Total
Major consuming Countries						
1. Indonesia	1,280	1,245	1,330	1,475	1,720	14%
2. Malaysia	763	883	917	1,123	1,050	9%
3. China	800	955	1,194	775	900	7%
4. Pakistan	482	577	884	900	935	8%
5. Nigeria	650	530	620	730	670	5%
WORLD TOTAL	9,107	10,390	11,319	11,582	12,027	98%
Percent Change		14.09%	8.94%	2.32%	3.84%	

Worldwide Exports	1989	1990	1991	1992	1993e	% Total
(in 1,000 tons)						
Major Exporters						
1. Malaysia	4,710	5,520	5,433	5,440	5,500	46%
2. Indonesia	868	968	1,460	1,350	1,450	12%
3. Singapore	685	700	700	755	797	6%
4. Netherlands	103	170	173	160	160	1%
5. Papua New Guinea	140	140	140	140	140	1%
WORLD TOTAL	6,729	8,007	8,443	8,408	8,715	71%
Percent Change		18.99%	5.45%	-0.41%	3.65%	

Worldwide Imports	1989	1990	1991	1992	1993e	% Total
(in 1,000 tons)						
Major Importing Countries						
1. China	800	1,000	1,291	875	1,000	28%
2. Singapore	798	790	820	900	940	26%
3. Papua New Guinea	484	633	861	935	900	25%
4. Germany	281	368	368	420	430	12%
5. El Salvador	203	345	365	380	335	9%
WORLD TOTAL	2,566	3,136	3,705	3,510	3,605	100%
Percent Change		22.21%	18.14%	-5.26%	2.71%	

Sources: Ministry of Primary Industries, Malaysia; Malaysian Embassy Palm Oil Research Institute; The World Bank; FAO Annual Statistics, 1991; US Department of Agriculture, Foreign Agricultural Service, Circular Series, various months, 1992, 1993.

### Major Players in Oil Palm Production

	1969-1971	% Total		1979-81	% Total		1990	% Total
<b>World</b>	1,983,034			5,048,105			11676000	
<b>Africa</b>	1,108,647	55.91%		1,341,362	26.57%		1,762,000	15.09%
<b>N &amp; C. America</b>	31,037	1.57%		36,364	0.72%		151,000	1.29%
<b>S. America</b>	46,752	2.36%		137,285	2.72%		503,000	4.31%
<b>Asia</b>	796,583	40.17%		3,470,580	68.75%		9,095,000	77.89%
<b>Indonesia</b>	217,900	10.99%		720,487	14.27%		2,500,000	21.41%
<b>Malaysia</b>	457,298	23.06%		2,529,455	50.11%		6,100,000	52.24%
<b>Oceania</b>	16	0.00%		62,514	1.24%		164,000	1.40%

Source: FAO Quarterly Bulletin of Statistics (Vol 4, 1991, No.2) and FAO Production Yearbooks (Vol 34 and 39)

Production-Volume	1989	1990	1991	Avg Annual Increase
<b>World</b>	10,843	11,163	11,873	4.75%
<b>Africa</b>	1,662	1,683	1,779	3.52%
<b>N C America</b>	135	180	182	17.41%
<b>S America</b>	474	506	532	6.12%
<b>Asia</b>	8,421	8,687	9,270	5.04%
<b>Indonesia</b>	1,967	2,186	2,700	18.63%
<b>Malaysia</b>	6,057	6,095	6,145	0.73%
<b>Oceania</b>	150	137	137	-4.33%

Source: FAO Quarterly Bulletin of Stats, Vol 5, 1992 No.3

**Production, Consumption, and Net Exports of Palm Oil in Selected Latin American Countries 1992**

	<b>Production</b>	<b>Consumption</b>	<b>Net Exports/ (- Imports)</b>
<b>Colombia</b>	262	260	2
<b>Costa Rica</b>	58	44	14
<b>Dominican Republic</b>	12	12	0
<b>Ecuador</b>	130	109	21
<b>El Salvador</b>	0	5	-5
<b>Guatemala</b>	10	21	-11
<b>Haiti</b>	0	60	-60
<b>Honduras</b>	81	87	-6
<b>Jamaica</b>	0	6	-6
<b>Mexico</b>	2	0	2
<b>Paraguay</b>	5	25	-20
<b>Peru</b>	26	1	25
<b>Venezuela</b>	9	22	-13

**Source: USDA, Foreign Agricultural Service and Attache Reports**



**SECTION 2 ANALYSIS OF:  
PROCESSED TROPICAL FRUITS  
(FCOJ, mango and guava)**

**Documents Attached:**

- 1) Catalogue of Venezuelan Industry, 1989-91 (tropical processed fruits)
- 2) Explanatory Footnotes (tropical processed fruits)
- 3) International Industry Profile (text for mango and guava)
- 4) Datasheet for International Industry Profile (table for mango)
- 5) International Industry Profile (text for FCOJ)
- 6) Datasheet for International Industry Profile (tables for FCOJ)

## CATALOGUE

<b>Industry:</b> Food Industry
<b>Segment:</b> Tropical Processed Fruit
<b>Product:</b> Juices, Pulps, and Concentrates

<b>1. Competitive Advantages</b>				
<b>A. Variables</b>	<b>% Growth</b>			
	<b>1991</b>	<b>89-91</b>	<b>Source</b>	<b>Footnote</b>
<b><u>Investments (cumulative, 1989-91)</u></b>				
local (US \$)	-1.798.580	N/A	4	
foreign (US \$)	-	-	4	
Total (US \$)	-1.798.580	N/A	4	1
<b><u>Number of Participants</u></b>				
	9		2	
<b><u>New Companies (1989-91)</u></b>				
	0	-	1, 2, 3, 6	
<b><u>Local Sales</u></b>				
Volume (Its)	94.148.576	-8.43%	4	2
Value (\$US)	-45.983.837	18.05%	4	2
<b><u>Production</u></b>				
Volume (Its)	95.790.195	-22.62%	4	2
Value (\$US)	-49.969.585	16.57%	4	2
<b><u>Imports</u></b>				
Volume (kgs)	426.289	-48.40%	5	
Value (\$US)	517.483	-59.54%	5	
<b><u>Exports</u></b>				
Volume (kgs)	5.131.024	-19.73%	5	
Value (\$US)	5.058.587	-13.05%	5	
<b><u>Capacity</u></b>				
Installed	N/A	N/A		3
Utilized (%)	38.83% and 63%		1, 2	3
<b><u>Investment in R &amp; D</u></b>				
Percent of Total Investment	8.69%	58.00%	2	4
<b><u>Investment in Distrib. Channels</u></b>				
Percent of Total Investment	13.00%	93.36%	2	4

N/A: Not Available

**1. Competitive Advantages**

<b>B. Related Variables</b>						
<b>Principal Inputs</b>	<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>
			<b>% Local</b>	<b>% Imptd</b>		
A) Raw Material ( Pulp, sugar, etc.)	various	1(X).346.2(X)	92%	8%	4	
B) Bottles	3	N/A	1(X)%	0%	4	
C)						
D)						
<b>Related Industries</b>						
					<b>Source</b>	<b>Footnote</b>
A) Glass Industry						
B) Tetra pak Industry						
C)						
D)						
<b>Barriers of Entry</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
A) Economies of Scale				3	1, 2, 3	
B) Product Differentiation				2	1, 2, 3	
C) Capital Requirements				2	1, 2, 3	
D) Difficulty in Accessing Capital				1	1, 2, 3	
E) Difficulty in Accessing Channels of Distribution				2	1, 2, 3	
F) Difficulty in Accessing Labor				1	1, 2, 3	
G) Other (specify):						
<b>Levels of Integration</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
Horizontal				3	1, 2	
Vertical				1	1, 2	

\*Scale: None=0, Low=1, Medium=2, High=3

## 1. Competitive Advantages

### C. Qualitative Variables

#### Structure of Share Ownership (1991)

Family  
 Few Shareholders  
 Stock Market  
 Foreign Ownership  
 Others:

Yes	No	Source	Footnote
	X	1,2,3	
X		1,2,3	5
	X	1,2,3	
	X	1,2,3	

#### Ownership of Distribution Channels

Owned by Producer  
 Owned by Independent Entities

Yes	No	Source	Footnote
X		1,2,3	6
X		1,2,3	6

## 2. Comparative Advantages

Variables	National Data	Growth* 1989-91	Int'l. Data	Growth* 1989-91	Source	Footnote
Costs of Production	N/A	N/A	N/A	N/A	1,2	7
Prices US \$/L.	0.49 US\$/L.	29.98%	N/A	N/A	4	

\*Annual compounded growth rate, in percent.

### 3. Social Criteria

Variables	Tendency#		
	1989-91	Source	Footnote
Value Added:	3	1,2,3,4,5	
They have a high national value added			
Employment:	4	1,2,3,4,5	
Generates a good portion of direct and indirect employment; the use of uncultivated land on behalf of agriculture. Strong reduction in direct employment levels (-3.47%). It has a high rate of indirect employment probably originated by the extensive channels of distribution that is owned by third parties.			
Productivity:	3	1,2,3,4,5	
National firms have been able to export their products to foreign markets, which indicates it has acceptable levels of quality and costs.			
Per-Capita Consumption:	3	1,2,3,4,5	
Consumption per-capita is low, but currently it is rising.			
It is estimated that it can increase in the future as the consumers grow more health conscious.			

#Tendency: High Growth=1, Med. Growth=2, Stable=3, Med. Contraction=4, High Contraction=5

### 4. Available Information

(1) CONAPRI Survey 1993: Yukery Juices
(2) CONAPRI Survey 1993: Frica
(3) CONAPRI Survey 1993: Ilapeca
(4) Industry Surveys O.C.E.I. 1989-1991
(5) Exterior Commerce Yearbooks O.C.E.I. 1989-1991
(6) Planning and Budget Office "Agriculture Sector": Exterior Commerce Institute

Catalogue

Segment: Processed Tropical Fruits  
Product: Juices, Pulps, and Concentrates

Footnotes

No. Source

Observation

1 (4) Refers to the cumulative investment between 1989 and 1991.  
The TCI '89-'91 refers to the increase in investments made in 1989 and those in 1991.

2 (4) Refers solely to Juices and Nectars.

Regarding Concentrates and Pulps, we have:

<u>Sales (1991)</u>	<u>TCI '89-'91:</u>
Volume (kgs): 7,493,282	-5.28%
Value (US\$): 6,366,990	-13.40%

<u>Production (1991)</u>	<u>TCI '89-'91:</u>
Volume (kgs.): 10,077,705	-8.79%
Value (US\$): 8,756,718	-3.81%

3 (1,2) Yukery increased its installed capacity from 4,959,360 kgs, in 1989 to 12,865,396 kgs, in 1991 and diminished its utilized capacity from 51.4% to 38.83%.

Frica increased its installed capacity from 260 million liters in 1989 to 280 million liters in 1991. Arithematically averaging all of its production lines, Frica increased its utilized capacity from 61% to 63%.

4 (2) Information refers solely to Frica.

5 (1,2,3) Ilapeca is a private company, but one of many stockholders. Is highly probable that it will participate in the stock market of Caracas this year.

6 (1,2,3) Yukery contracts third parties to do their distribution for them. Frica and Ilapeca utilize their own distribution channels and those of third parties.

7 (1,2) Cost structure of the industry is approximately:

Yukery

Raw material: 37% (of which approximately 25% is imported)

Packing material: 55%

Freight: 8%

Frica

Fruit concentrates: 57%

Sugar: 8%

Bottles: 28%

Carton trays: 3%

## INTERNATIONAL INDUSTRY PROFILE

Industry: Processed fruits, pulps & juices

Segment: Tropical processed fruits

Product: Mango & guava

### DEFINITION

Mango and guava are tropical fruits that are grown and processed primarily for uses in the beverage industry, which accounts for about 80 percent of the total fruit juice raw material imports. Beverage industry end-products include juices, nectars, syrups and liqueurs. The dairy industry uses juice raw material (mostly from oranges), and accounts for about 10 percent of total imports. Makers of jams, jellies, marmalades and bakery products account for the remaining 10 percent of fruit juice raw material imports worldwide.

### WORLDWIDE DEMAND

- The worldwide market for mango and guava is expected to grow steadily but moderately over the next years as popularity and usages continue to increase.
- Mango and guava paste and pulp are becoming increasingly common ingredients in exotic tropical drinks, pastry fillings, yogurt and marmalades.
- Frozen mango is used as an ingredient in frozen snacks and desserts.

### PRODUCTION

- Production of tropical fruits is dispersed worldwide.
- India produces roughly 60% of the world mango crop, (9.7 m mt in 1991). Mexico, Sri Lanka, China and Brazil are also significant producers. Most mango production takes the form of pulp.
- Commercial mango production is growing. In south Florida, where commercial mango production began in the 1980s, the mango has become the third most widely cultivated crop in the state, ranking behind citrus and avocado.
- Guava (again also provided primarily in pulp form) is supplied primarily by Taiwan, South Africa, India, Philippines, Thailand, Mexico, Brazil, Peru, Colombia and Venezuela.



## **EXPORTS AND IMPORTS**

- Worldwide fruit juice imports totalled \$800 million in 1990.
- The US imported 80% of this amount, or \$640 million in fruit juices.
- Commercial, export-oriented plantations for fresh guava are much rarer than mango plantations; processed guava trade is more common than processed mango, however.
- Germany imported 587 mt of fruit and vegetable juices in 1990, making it the world's largest importer of these products.
- Japan is expected to be a strong growth market in the near future.

## **INDUSTRY STRUCTURE AND TRENDS**

- Although has recently shown signs of growth, the mango industry remains small and relatively undeveloped.
- High risks and costs discourage potential investors and have kept the fruit production industry concentrated.
- Because there are relatively few large-scale mango or guava orchards around the world, processors often rely on intermediaries to collect fruit from small producers or broker import shipments.
- Due to supply uncertainties and a limited tropical fruits market, most processors use a fairly wide range of tropical products in their operations.

## **KEYS TO COMPETITIVE SUCCESS**

- The industry is price sensitive, and cost control is key, including in disease control in production and shipping.

## **BARRIERS TO ENTRY**

- High start-up capital costs dissuade many entrepreneurs.
- Growth period to fruit bearing is roughly 4 years.

- Technical know-how in cultivation and disease control (the latter not well advanced for either growing or transport).

## **SUBSTITUTES**

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- Other exotic, tropical fruits
- Citrus, chiefly orange

## **GOVERNMENT POLICY**

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- Mango products have generally faced high tariffs. Exceptions include Sweden, Austria, Finland, Norway and Switzerland granted zero tariff under the GSP system. The EEC also applies lower tariffs for imports coming from developing countries.
- US importers also face trade barriers, though the Caribbean Basin Initiative reduced and even eliminated tariffs for countries qualifying. The GSP provides incentives and reductions in the tariffs for qualifying countries as well.

**Industry: Fruit**  
**Product: Mango**

<b>Worldwide Production</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>
<b>Major Producing Countries</b> ( thousands of metric tons)			
1. India	8472	9500	9700
2. Mexico	1005	890	845
3. Pakistan	735	766	780
4. Thailand	569	572	574
5. China	480	485	505
6. Brazil	387	390	395

Source: FAO Quarterly Bulletin of Statistics,  
Vol.5, No. 1, 1992.

## **INTERNATIONAL INDUSTRY PROFILE**

Industry: Processed fruits & juices

Segment: Citrus

Product: FCOJ

### **DEFINITION**

Frozen concentrated orange juice (FCOJ) is made from oranges, which are crushed to extract their pulp and juice. With water content significantly reduced, the frozen product has a prolonged shelf-life and is more cost-efficient to transport. The principal end-user for citrus juices is the beverage industry, which accounts for about 80 percent of the total fruit juice raw material imports. End-products include juices, nectars, syrups, and liqueurs. The dairy industry accounts for about 10 percent of total imports of orange juice raw material, primarily for yogurts and yogurt drinks. Makers of jams, jellies, marmalades and bakery products account approximately 10 percent of fruit juice raw material imports.

### **WORLDWIDE DEMAND**

- Worldwide demand for FCOJ has been strong, and is forecast to continue increasing.
- The United States is the world's largest consumer, consuming over twice the quantity of the world's next largest market, the EC.
- US demand has been boosted by increased health consciousness.
- New product development by bottlers and retailers, and more dynamic marketing also helped boost demand, particularly for exotic tropical juices.

### **PRODUCTION**

- Brazil is the world's largest orange juice producer. In 1992/93, the country's production is forecast to produce 1.04 million metric tons (mt).
- The US is the world's second largest orange juice producer. Production is expected to reach 855,000 mt in 1992/93.

### **EXPORTS AND IMPORTS**

- Brazil is the world largest exporter. In 1990, FCOJ exports reached 954.9 thousand mt tons. Total world exports were 1.64 m mt that same year.

- Brazil also accounted for 80 percent of world exports of FCOJ in the 1980s, more than 94 percent of US imports in the 1980s, and over 65 percent of FCOJ imports into Europe.
- EC imports of FCOJ rose an average of 10% annually between 1988-1990.
- The UK and Netherlands are the largest net importers of orange juice. In 1990 net imports totalled 169.2 and 167.2 thousand mt, respectively.
- Eastern Europe, a closed market until very recently, is expected to provide significant consumption growth opportunities for citrus products as incomes rise.
- Japan experienced significant per-capita increases in the consumption of fruit juices (imports rose from \$79 million in 1985 to \$262 million in 1990) as import quotas on oranges were lifted in April, 1992. Significant increases in imports are expected.

## INDUSTRY STRUCTURE AND TRENDS

- Orange cultivation is geographically concentrated in two principal regions of the world: the southern US and Brazil.
- The FCOJ processing industry in Brazil is highly concentrated; output is controlled by a small number of very large companies.
- In Brazil, 4 firms accounted for 90% of Brazil's installed processing capacity and over 92 percent of the country's FCOJ exports in the mid-1980s. One firm, Citrusuco, which has the largest concentrate processing plant in the world (with a processing capacity of 69 million boxes per year), controlled 65 percent of installed processing capacity in the country.
- US citrus processing capacity is less concentrated. Forty of the 85 processors in Florida (where 90 percent of US orange juice production takes place) account for 90% of production in the state.
- Technical improvements in packaging and transport (i.e., FCOJ) have made major changes in the industry.

## KEYS TO COMPETITIVE SUCCESS

- FCOJ is very price sensitive, and prices are variable, frequently dominated by the Brazilian crop.

- FCOJ quality and sanitary standards are also competitive factors.
- New product development, marketing, bottling and labeling are also important.

## **BARRIERS TO ENTRY**

- High capital investment, especially for processing and bulk transport, can reduce costs significantly.
- Access to distribution networks is key for new processors to compete effectively with established operators. In Brazil all major processors are linked through exclusive agreements to local and foreign buyers and distributors, and an estimated 80 percent of Brazilian shipments of FCOJ to the US go through preferred importer networks.
- Stable product outlets make it possible to exploit economies of scale in production. Government policies such as export quotas based on past export performance also support concentration in the Brazilian processing sector.

## **SUBSTITUTES**

- Other fruit juices (i.e., grapefruit)
- Competing soft drinks and other beverages

## **GOVERNMENT POLICY**

- Trade barriers tend to be low in non-producing countries, but high in producing countries, with ad valorem tariff rates above 20 percent.
- Higher duties are applied for juice related products that have sugar or alcohol in them.

Industry: Fruit

Product: Frozen Concentrate Orange Juice (FCOJ)

Worldwide Exports		1988	1989	1990
(thousand tons)				
1 Brazil		663.6	724.20	954.90
2 Israel		66.2	70.40	108.00
3 Netherlands		95.3	147.20	84.70
4 Mexico		47.9	62.90	83.20
5 Belgium-Luxembourg		57.3	62.90	59.00
6 United States		48.2	48.90	55.00

Source: FAO, Citrus Fruit, Fresh and Processed, Annual Statistics 1992

Worldwide Imports		1988	1989	1990
(thousand tons)				
1 United States		293.9	226.10	273.30
2 Netherlands		198	227.40	251.90
3 Germany		205.3	221.30	241.70
4 United Kingdom		143	157.50	159.70
5 Other EC		169.7	165.40	177.40

Source: FAO, Citrus Fruit, Fresh and Processed, Annual Statistics 1992

**SECTION 2 ANALYSIS OF:  
BABY FOODS**

Documents Attached:

- 1) Catalogue of Venezuelan Industry, 1989-91
- 2) Explanatory Footnotes



## CATALOGUE

<b>Industry:</b> Food Industry
<b>Segment:</b> Tropical Processed Fruits
<b>Product:</b> Baby Foods

<b>I. Competitive Advantages</b>				
A. Variables	% Growth			
	1991	89-91	Source	Footnote
<u>Investments (cumulative, 1989-91)</u>				
local (US \$)	77.776	-21.56%	1, 3	
foreign (US \$)	0	N/A	1, 3	
Total (US \$)	77.776	-21.56%	1, 3	1
<u>Number of Participants</u>	2		1, 3	2
<u>New Companies (1989-91)</u>	0	-	4, 5	3
<u>Local Sales</u>				
Volume (tons)	13.908	-13.62%	1, 3, 6	
Value (\$US)	22.534.356	12.22%	1, 3, 6	
<u>Production</u>				
Volume (tons)	13.990	-12.86%	1, 3, 6	
Value (\$US)	22.065.582	11.69%	1, 3, 6	
<u>Imports</u>				
Volume (tons)	0	N/A	1, 3, 6	
Value (\$US)	0	N/A	1, 3, 6	
<u>Exports</u>				
Volume (tons)	0	N/A	1, 3, 6	
Value (\$US)	0	N/A	1, 3, 6	
<u>Capacity</u>				
Installed (tons)	45.211	0.00%	1, 3, 6	
Utilized (%)	31.30%	-1.24%	1, 3, 6	
<u>Investment in R &amp; D</u>				
Percent of Total Investment	18.89%	HGR	1, 3	4
<u>Investment in Distrib. Channels</u>				
Percent of Total Investment	N/A	N/A		

HGR: High Growth Rate

N/A: Not Available

**1. Competitive Advantages**

<b>B. Related Variables</b>							
<b>Principal Inputs</b>		<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>
				<b>% Local</b>	<b>% Imp'd</b>		
A)	Glass	1	1,402,279	100%	0%	1, 2, 3	5
B)	Lids	1	1,612,620	100%	0%	1, 2, 3	5
C)	Sugar	5	911,481	100%	0%	1, 2, 3	
D)	Pulps	various	N/A	approx. 65%	approx. 35%	1, 2, 3	
E)	Yucca starch	1	245,399	100%	0%	1, 2, 3	
<b>Related Industries</b>						<b>Source</b>	<b>Footnote</b>
A) Glass Industry							
B) Label Industry							
C)							
D)							
<b>Barriers of Entry</b>				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>	
A) Economies of Scale				2	1, 2, 3		
B) Product Differentiation				2	1, 2, 3		
C) Capital Requirements				2	1, 2, 3		
D) Difficulty in Accessing Capital				1	1, 2, 3		
E) Difficulty in Accessing Channels of Distribution				2	1, 2, 3		
F) Difficulty in Accessing Labor				2	1, 2, 3		
G) Other (specify): Market Size				3	1, 2, 3		
<b>Levels of Integration</b>				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>	
Horizontal				3	1, 2, 3		
Vertical				1	1, 2, 3		

\*Scale: None=0, Low=1, Medium=2, High=3

## 1. Competitive Advantages

### C. Qualitative Variables

#### Structure of Share Ownership (1991)

	Yes	No	Source	Footnote
Family		X	1, 2, 3	
Few Shareholders	X		1, 2, 3	6
Stock Market		X	1, 2, 3	
Foreign Ownership	X		1, 2, 3	
Others:				

#### Ownership of Distribution Channels

	Yes	No	Source	Footnote
Owned by Producer	X		1, 2, 3	7
Owned by Independent Entities	X		1, 2, 3	7

## 2. Comparative Advantages

Variables	National Data	Growth* 1989-91	Int'l. Data	Growth* 1989-91	Source	Footnote
Costs of Production	N/A	N/A	N/A	-		8
Prices in \$US/Kg	1,62	29,92%	N/A	-	1, 2, 3	

\*Annual compounded growth rate, in percent.

### 3. Social Criteria

Variables	Tendency#		
	1989-91	Source	Footnote
Value Added:	3	1, 2, 3, 7, 8, 9	
Employment:	5	1, 2, 3, 7, 8, 9	
Strong reduction in direct employment levels.			
Productivity: high technology levels achieved by the association	2	1, 2, 3, 7, 8, 9	
or presence of multinational firms dedicated to the preparation of the product. The investments made have mainly been focused in new machineries and the development of higher productivity and quality in the production of raw materials.			
Per-Capita Consumption:	3	1, 2, 3, 7, 8, 9	
It is higher than those achieved in other countries of the region due to the fact that it has a wider consumer base, since it is also considered a dessert.			

#Tendency: High Growth=1, Med. Growth=2, Stable=3, Med. Contraction=4, High Contraction=5

### 4. Available Information

(1) CONAPRI Survey 1993: Yukery Babyfoods
(2) CONAPRI Survey 1993: Gerber Babyfoods (Corimon:Frica Group)
(3) CONAPRI Survey 1993: Heinz Babyfoods
(4) Article from the magazine "Producto": Sept. 1992
(5) Article which appeared in the newspaper "Reporte": 01/15/93
(6) Industry Surveys O.C.E.I. 1989-1991
(7) Interview with Luis Avila: Vicepresident of Yukery
(8) Interview with Fernando Pocaterra: Marketing Manager for Heinz
(9) Interview with Norman King: General Manager of Gerber

## Catalogue

Segment: Processed Tropical Fruits  
Product: Baby Food

## Footnotes

No.	Source	Observation
1	(1,3)	Refers to investments only during 1991, which were generally designated to improve production processes and not to expand installed capacity. In 1992, Gerber invested US \$5,000,000 in a new plant.
2	(1,3)	Heinz and Gerber (produced by Yukery) Baby Foods participated, with a market share of 55% and 45% respectively.
3	(4,5)	In 1992 three firms participated, due to the fact that in 1991 Gerber's production license expired for Yukery. Gerber Venezuela is created by the association of Gerber Products Corporation and the Corimon Group (whose subsidiary Frica is the leader in the Venezuelan juice market). The amount of the investment in Gerber de Venezuela was US\$5,000,000, distributed in equal parts between the two partners. Meanwhile, Yukery launched it's own line of baby foods.
4	(1,3,6)	This information refers solely to only one firm. Although the percentage invested in R&D is high, the absolute value of said investment is small.
5	(1)	The glass jars are produced by Owens-Illinois, a firm which has between 80% and 90% of the national market. The glass jar produced by them is completely competitive with the cost of the same jars outside of Venezuela, but at times there are delivery problems, which affect production. Lids are manufactured by the "Tapas Corona" firm, which was recently acquired by Owens-Illinois.
6	(1)	Yukery is a 100% Venezuelan company. Heinz is a company whose capital is 100% foreign (H.J. Heinz of the US). Gerber Venezuela is 50% national capital and 50% foreign capital.
7	(1)	Yukery contracts third parties to take care of its distribution. Heinz and Gerber use their own distribution channels and those of third parties.

- 8 (1,2,3) Cost structure of the industry is approximately:  
Raw material: 35% (of which approximately 35% is imported)  
Packing material: 55%  
Other: 10%

SECTION 2 ANALYSIS OF:  
**MILLED RICE**

Documents Attached:

- 1) Catalogue of Venezuelan Industry, 1989-91
- 2) Explanatory Footnotes
- 3) International Industry Profile (text)
- 4) Datasheet for International Industry Profile (tables and graphs)

CATALOGUE

Industry: Food Industry
Segment: Rice Mills
Product: White rice

<b>I. Competitive Advantages</b>				
<b>A. Variables</b>	<b>% Growth</b>			
	<b>1991</b>	<b>89-91</b>	<b>Source</b>	<b>Footnote</b>
<u>Investments (cumulative, 1989-91)</u>				
local (US \$)	N/A	N/A		
foreign (US \$)	N/A	N/A		
Total (US \$)	12,708,606	N/A	5, 10	1
<u>Number of Participants</u>	40		10	2
<u>New Companies (1989-91)</u>	3	N/A	1, 5	3
<u>Local Sales</u>				
Volume (MT)	292,000	18.35%	1, 8, 10	
Value (\$US)	95,728,453	28.41%	1, 8, 10	
<u>Production</u>				
Volume (MT)	323,170	19.42%	1, 8, 10	
Value (\$US)	107,111,788	29.99%	1, 8, 10	
<u>Imports</u>				
Volume (MT)	0	N/A	1, 2, 9	
Value (\$US)	0	N/A	1, 2, 9	
<u>Exports</u>				
Volume (MT)	4	HGR	1, 2, 9	4
Value (\$US)	5,000	HGR	1, 2, 9	
<u>Capacity</u>				
Installed Mt	670,000	N/A	3	6
Utilized (%)	approx 70%	N/A	3, 10	
<u>Investment in R &amp; D</u>				
Percent of Total Investment	N/A	N/A	5	7
<u>Investment in Distrib. Channels</u>				
Percent of Total Investment	N/A	N/A	10	8

HGR: High Growth Rate



**1. Competitive Advantages**

<b>B. Related Variables</b>						
<b>Principal Inputs</b>	<b>No. of Suppliers</b>	<b>Value 1991</b>	<b>Value</b>		<b>Source</b>	<b>Footnote</b>
			<b>% Local</b>	<b>% Imptd</b>		
A) Machinery and Equipment	N/A	N/A	N/A	N/A	1	
B) Packing Materials	N/A	N/A	100%	0%	1	
C)						
D)						
<b>Related Industries</b>						
					<b>Source</b>	<b>Footnote</b>
A) Animal Feed						
B) Transportation, elevators, silos (storage)					1	
C)						
D)						
<b>Barriers of Entry</b>						
				<b>Scale *</b>	<b>Source</b>	<b>Footnote</b>
A) Economies of Scale				2	1, 7, 10	
B) Product Differentiation				1	1, 7, 10	
C) Capital Requirements				2	1, 7, 10	
D) Difficulty in Accessing Capital				2	1, 7, 10	9
E) Difficulty in Accessing Channels of Distribution				3	1, 7, 10	
F) Difficulty in Accessing Labor				1	1, 7, 10	
G) Other (specify):						
<b>Levels of Integration</b>						
				<b>Scale*</b>	<b>Source</b>	<b>Footnote</b>
Horizontal				1	1, 7	
Vertical				3	1, 7	10

\*Scale: None=0, Low=1, Medium=2, High=3

## 1. Competitive Advantages

### C. Qualitative Variables

#### Structure of Share Ownership (1991)

	Yes	No	Source	Footnote
Family	X		1, 7, 10	
Few Shareholders	X		1, 7, 10	
Stock Market		X	1, 7, 10	
Foreign Ownership	X		1, 7, 10	
Others:				

#### Ownership of Distribution Channels

	Yes	No	Source	Footnote
Owned by Producer	X		1, 3, 7, 10	11
Owned by Independent Entities	X		1, 3, 7, 10	11

## 2. Comparative Advantages

Variables	National	Growth*	Int'l.	Growth*	Source	Footnote
	Data	1989-91	Data	1989-91		
Costs of Production in US\$/TM	389,50	N/A	N/A	N/A	3, 10	12
Prices in US\$/TM	520,00	16,98%	313,95	N/A	1, 4	13

\*Annual compounded growth rate, in percent.

### 3. Social Criteria

Variables	Tendency#		
	1989-91	Source	Footnote
Value Added:	3	3	
"The rice processing industry's cost structure presents quite an important proportion of raw material, by virtue of the low value added which this activity generates."			
Employment:	1		5
It shows a high growth rate (13,94%) in direct employment for the 1989-1991 period.			
Productivity:	2	1	14
Per-Capita Consumption:	2	1	
Per capita consumption passed from 12 kg/hab in 1989 to 16.19 kg/hab in 1991			

#Tendency: High Growth=1, Med. Growth=2, Stable=3, Med. Contraction=4, High Contraction=5

### 4. Available Information

(1) ASOVEMA: Venezuelan Association of Rice Mills
(2) "Workshop on Perspectives on Agriculture and Livestock Development" MAC
(3) "Bases for a Program of Reconversion of the Circuit of Human Cereals" Various Authors
(4) "Study to Determine the Comparative Advantages of the Agricultural Sector in Venezuela" FCA-IICA
(5) Press Article: Agroinvest Newspaper Library
(6) International Statistics Yearbook of the Central Bank of Venezuela
(7) CONAPRI Survey 1993: Agricola A & B
(8) Data OCEI
(9) Foreign Trade Yearbook 1989-1991 OCEI
(10) Interview with Arturo Araujo, Planning Manager Foods Division, Empresas Polar

## Catalogue

Segment: Rice Mills  
Product: White Rice

## Footnotes

No.	Source	Observation
1	(5,10)	Figure refers to investments realized during 1991. The TCIP was not calculated for 1989-91 because of the lack of figures for 1989.
2	(10)	40 plants participate actively, of which 16 are truly important, given that the rest represent approximately 2% of the market.
3	(1,5)	Three new firms are entering, of which only one is installing a new plant. The other two firms that are counted as new firms were acquisitions of already established plants. (Due to this, the TCIP could not be calculated.)
4	(1,2,9)	In 1992, exports to Colombia reached 50,000 metric tons.
5	(7,8)	It is estimated that in actuality, direct employment is more than 1,500 people. The industry has a low relationship with indirect jobs.
6	(3)	According to Polar's estimations, the industry is operating at approximately 70% of its capacity, although the two Polar plants should be operating at a higher level of utilized capacity.
7	(5)	FONAIAP is working on improvements and on crossing varieties to obtain a seed that might produce 7,000 kg/hectare. Investment in R&D continues to be very low, and we still have a high dependency on foreign countries; nevertheless, the market is entering a stage in which this type of investment can be made, given that previously it was not necessary due to the underdevelopment of the market.
8	(10)	Investment in distribution channels is high; leadership is based on who dominates the distribution channels and marketing. The different groups are strengthening their sales forces.
9	(1,7,10)	At the level of small plants, there are difficulties in accessing capital, and producers are experiencing problems in financment for their working capital. This problem is not present at the level of large producers.

10 (1,7) Small plants are vertically integrated going backwards, that is, from production of raw material up to processing, while the large groups are vertically integrated going forwards, that is, from processing up to distribution channels.

11 (3,7,10) The majority of the businesses contract their distribution channels, including those firms which rely on their own distribution channels.

12 (3,10) Agroindustrial Sector

**Cost structure**

- a) Cost of Raw Material - 70%
- b) Commercialization Margin - 12.5%
- c) Manufacturing and Administration Costs - 10%
- d) Industrial Utility - 5%
- e) Financial Costs - 2.5%

Production Costs for 1991: 23,000 Bolivares/ton

Primary Sector

**Cost structure - 1988:**

- a) Mechanization
- b) Harvest expenses
- c) Pesticides
- d) Seeds
- e) Other - not specified

**Cost structure - 1990:**

- a) Financial costs
- b) Harvest expenses
- c) Mechanization
- d) Pesticides

Production Costs for 1988: 12,000 bolivares/hectare; 354.66 US\$/hectare

Production Costs for 1989: 30,000 bolivares/hectare; 631.18 US\$/hectare

TCI 1988-90: 35.72% (bolivares)  
21.18% (US\$)

13 (1,4) It is important to indicate that until 1991, prices were controlled by the Ministry of Development.

1989 Price: 15 bolivares/kg (0.38 US\$/kg)

1991 Price: 30 bolivares/kg (0.52 US\$/kg)

TCI 89-91: 41.42% (bolivares)

14 (1,2,4) Refers to the national average. Yields of 6,000 kg/hectare have been reached.

## INTERNATIONAL INDUSTRY PROFILE

Industry: Cereals/grains

Segment: Rice

Products: Milled rice

### DEFINITION

Rice has long been a staple of Asian diets, and is quickly becoming so in Latin America and elsewhere as new technologies permit cultivation of the cereal in regions previously unsuitable. Paddy rice (threshed unmilled rice) is sent to the mills where it is hulled and polished. It may then be sold to consumers through a network of wholesale traders and retailers, or it may be further processed for use in other food products. Rice flour, for example, is used in baby food, noodles and rice cakes. In the U.S., dried rices are processed into prepared rices, which have been selling well as part of the convenient food boom.

### WORLD DEMAND

- Demand in 1993 is forecast to be 354 million metric tons (mt), an increase of 8% over 1989.
- Since 1991, growth in consumption has outpaced growth in production, leading to declines in the world's stocks of the grain
- Demand for rice as an ingredient in other processed food products is also expected to increase as baby food manufacturers increasingly penetrate the Latin American and Eastern European markets.
- Health concerns in developed countries are also likely to lead to continued demand for products such as rice cakes and other low calorie items in which rice is a primary ingredient.
- China, India and Indonesia together consume 66% of world rice production.

### PRODUCTION

- World production totalled 514.9 million metric tons in 1992. 1993 production is expected to reach 515.5 m mt.
- China is the largest producer in the world, followed by India and Indonesia (see table); these 3 accounted for 66 percent of total world production in 1992/93

- Brazil is the largest producer outside of Asia, contributing 10.1 m mt to world production in 1988/90.

## **EXPORTS AND IMPORTS**

- Most rice is grown for domestic markets; of the more than 500 million mt of rough rice produced in 1993, only 14.5 million mt (milled) were exported.
- Thailand is the world's largest exporter, with expected total exports of 4.4 million mt in 1993.
- US rice production is small relative to the world total, yet the US is an important player in world markets because it exports over a third of its crop.
- The Middle East is the chief importing region in the world, followed by Europe (particularly now Eastern Europe). A major supplier to many countries in the Middle East, the U.S. supplied about 50 percent of Saudi Arabia's imports in 1992.

## **PRICES**

- Because Thailand and the U.S. together account for roughly 50 percent of world exports, shortages or domestic price fluctuations in these two countries lead to significant price fluctuations in export prices.
- Adverse growing conditions in Thailand and stronger than expected domestic demand in the US led to tight exportable supplies in 1991, which in turn caused prices to surge significantly.
- Price levels in 1992 were expected to continue higher than usual. Generally, US rice trades at \$25-35 higher per metric ton than its Thai equivalent.



## Data Sheet for International Section of Investor's Profiles

Industry: Cereals/grains  
 Segment: Rice  
 Product: Milled Rice

	1989	1990	1991	1992	1993e	% Total
(in million MT - rough rice)						
<b>Major producing countries</b>						
1. China	169.1	180.1	189.3	185	185	35.61%
2. India	105.7	111.1	111	110.5	109.5	21.08%
3. Indonesia	42.3	44.7	45.2	47.7	47.4	9.12%
4. Bangladesh	23.3	26.8	26.9	27.7	28.2	5.43%
5. Thailand	21.3	20.2	17.3	20.4	20.2	3.89%
6. Burma	12.5	13.5	13.7	12.8	13	2.50%
<b>WORLD TOTAL</b>	<b>489</b>	<b>508.7</b>	<b>519.9</b>	<b>514.9</b>	<b>519.5</b>	<b>100.00%</b>
<b>Percent Change</b>		<b>4.03%</b>	<b>2.20%</b>	<b>-0.96%</b>	<b>0.89%</b>	

Source: FAS; USDA

Worldwide Consumption	1989	1990	1991	1992	1993e	% Total
(in million MT - milled)						
<b>Major consumers</b>						
1. China	121.6	123.1	126.8	126.8	129	36.44%
2. India	65.7	71.2	73.3	75	75.4	21.30%
3. Indonesia	28.2	28.2	29.9	29.7	30.3	8.56%
4. Bangladesh	15.9	17.7	18.2	18.3	19.1	5.40%
5. Vietnam						
6. Japan				10	10	2.82%
<b>WORLD TOTAL</b>	<b>327.6</b>	<b>335.8</b>	<b>345.6</b>	<b>354</b>	<b>354</b>	<b>100.00%</b>
<b>Percent Change</b>		<b>2.50%</b>	<b>2.92%</b>	<b>2.43%</b>	<b>0.00%</b>	

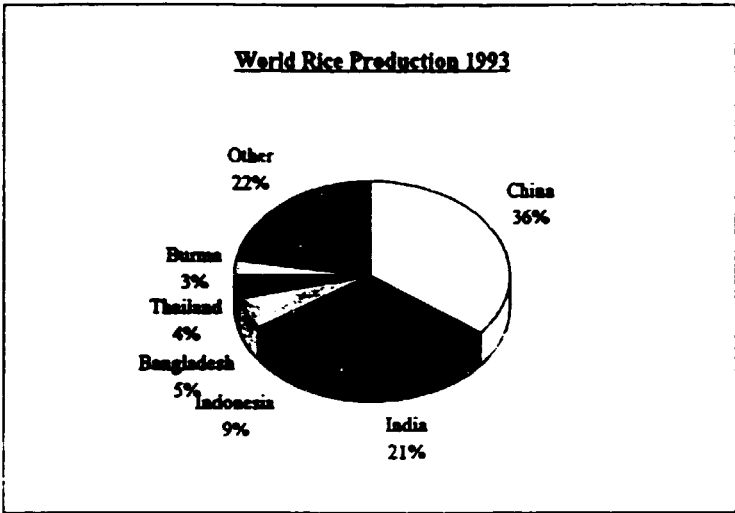
Source: FAS; USDA

(in million MT - milled)						
<b>Major Exporters</b>						
1. Thailand	6	3.9	4	4.8	4.4	30.34%
2. USA	3	2.4	2.2	2.1	2.4	16.55%
3. Vietnam	1.4	1.5	1	2	1.9	13.10%
4. Pakistan	0.8	0.9	1.3	1.4	0.9	6.21%
5. China	0.3	0.3	0.7	0.9	0.7	4.83%
<b>WORLD TOTAL</b>	<b>15</b>	<b>12.2</b>	<b>12.8</b>	<b>15.1</b>	<b>14.5</b>	<b>100.00%</b>
<b>Percent Change</b>		<b>-18.67%</b>	<b>4.92%</b>	<b>17.97%</b>	<b>-3.97%</b>	

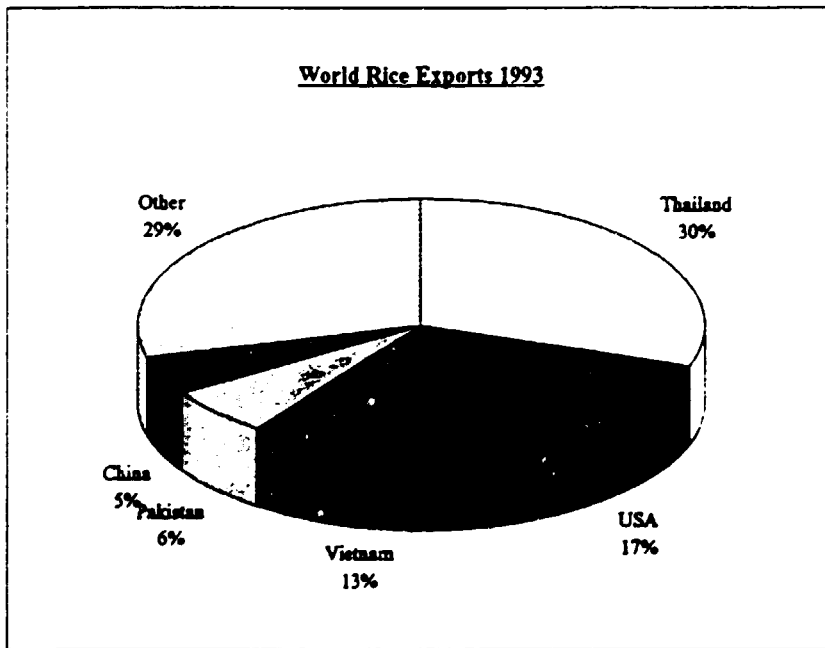
Source: FAS; USDA

<b>Worldwide Imports</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993e</b>
<b>Major Importing Countries</b>					
1. European Community 12	1.3	1.2	1.3	1.3	1.3
2. Iran	1	0.9	0.6	1	1
3. Saudi Arabia	0.5	0.5	0.5	0.6	0.5
4. Brazil	0.2	0.4	1	0.5	0.4
5. Nigeria	0.5	0.5	0.5	0.6	0.5
<b>WORLD TOTAL</b>	<b>15</b>	<b>12.2</b>	<b>12.8</b>	<b>15.1</b>	<b>14.5</b>
<b>Percent Change</b>		<b>-18.67%</b>	<b>4.92%</b>	<b>17.97%</b>	<b>-3.97%</b>

Source: FAS; USDA



Source: Previous tables.



Source: Previous tables.

**Production, Trade, and Apparent Consumption of White Rice in Selected Latin American Countries, 1988/1990**

	<b>Production</b>	<b>Consumption</b>	<b>Net Exports/ (- Imports)</b>	<b>Per Capita Consumption (Kg)</b>
<b>Brazil</b>	6557	6768	-211	46
<b>Mexico</b>	319	430	-111	5
<b>Bolivia</b>	129	128	1	18
<b>Colombia</b>	1299	1283	16	40
<b>Ecuador</b>	559	574	-15	56
<b>Paraguay</b>	55	55	0	13
<b>Peru</b>	690	869	-179	41
<b>Venezuela</b>	237	262	-25	14
<b>Costa Rica</b>	141	160	-19	54
<b>El Salvador</b>	39	49	-10	9
<b>Guatemala</b>	35	39	-4	4
<b>Honduras</b>	30	34	-4	7
<b>Nicaragua</b>	67	103	-36	27
<b>Panama</b>	123	123	0	52
<b>Barbados</b>	0	6	-6	24
<b>Cuba</b>	330	557	-227	53
<b>Dominican Republic</b>	281	303	-22	43
<b>Guyana</b>	126	76	50	96
<b>Suriname</b>	172	89	83	214
<b>Argentina</b>	293	221	72	7
<b>Chile</b>	105	126	-21	10
<b>Uruguay</b>	311	37	274	12

Source: Centro Internacional de Agricultura Tropical (CIAT, Colombia)