

Centrolac

Track: Management Education and Teaching Cases

Keywords: dairy products, business strategy, emerging economies, vertical and horizontal integration

Centrolac

Abstract

This case study discusses Centrolac, a Nicaraguan company engaged in processing UHT milk. In January 2014, CEO Alfredo Lacayo was reviewing total sales from previous year and was unhappy with the growth rate attained. He saw a shortage of fresh milk and company's limited product range, as the key reasons for failure. The news that a competitor was building a milk-processing plant and the fact that foreign companies were considering strategic alliances with local competitors led Alfredo to review his business strategy. The case provides enough information to decide on vertical and horizontal integration to deal with changing competitive environment.

One morning in early January 2014, Centrolac's CEO Alfredo Lacayo was checking the results for 2013. Centrolac sales had grown 6.6% over the previous year, accounting for a 12.9% growth in terms of dollars. However, Alfredo was not happy since he felt that a shortage of quality milk had prevented a volume increase of up to 20%.

Alfredo founded Centrolac, the first UHT milk facility¹ in Nicaragua, in 2007 supported by Nicaraguan investors and Dominican consultants. Since its inception, the company aimed to producing world-class dairy goods and helping develop Nicaragua's dairy sector. In 2014, Centrolac served about a third of the local market for fluid milk, which it shared with two more companies with decades in the market. Centrolac had established itself as the UHT leader, with an 80% market share. In addition, it exported its goods to Guatemala, El Salvador, Costa Rica, and Venezuela.

Two factors were of particular concern to Alfredo. First, high international prices for powdered milk encouraged artisanal cheese producers to collect more milk since producers in neighboring countries were importing milk from Nicaragua instead of importing powdered milk to reconvert it and mix it with fresh milk to produce cheese. Second, Grupo Lala from Mexico was building a facility that would first produce UHT milk and, in the near future, would also engage in producing other dairy goods. In this context, Alfredo wondered what he should do to deal with competitors and maintain sales growth.

Background

Nicaragua is the largest country in Central America with 121,428 square kilometers, tropical climate and central highlands, vast Pacific lowlands devoted to agriculture and animal husbandry and tropical forests in the Caribbean lowlands. Its estimated population as of 2013 was 7.1 million people and its nominal GDP was US\$ 11,163 million. Nicaragua's per capita GDP was the second lowest in Latin America, just above that for Haiti. However, annual GDP growth (4.4% over that for 2012) was only exceeded in the region by Panama, Peru, Venezuela, and Chile. Analysts expected this growth rate to remain stable between 4.5% and 4.6% for the next two years, driven by foreign direct

¹ Ultra High Temperature or ultra-pasteurization: a thermal process used to diminish microorganisms in food items such as milk or juice. Unlike traditional pasteurization, ultra-pasteurization applies more heat in less time.

investment, the growth of agricultural and livestock exports (meat, leather, and dairy goods), manufacture, mining, and a steady domestic demand².

Nicaragua's exports in 2013 amounted to US\$ 2,401 million, with gold (18.0% of total), coffee (16.0%), beef (14.6%), sugar (7.3%), peanuts (4.3%), cheese (3.9%), shrimp (2.8%), beans (1.9%), lobsters (1.9%), powdered milk (1.8%) and cattle (1.6%) as the main exports. Major export destinations included the United States (25.2% of total), Venezuela (16.0%), Canada (13.1%), El Salvador (8.9%) and Costa Rica (5.0%)³.

Over the last few years, Venezuela had become a significant trading partner with imports from Nicaragua growing from US\$ 2.1 million in 2005, amounting to 0.2% of total Nicaraguan exports, to \$ 444.0 million in 2012. This increase took place under Petrocaribe, an alliance entered in 2005 by Venezuela and other 14 Latin American countries through which Venezuela sold oil with concessional, long-term financing with a two-year grace period and an annual 1% interest rate. Countries could partially pay off for oil with goods and/or services. For example, Cuba paid with medical and educational services, Nicaragua with meat and milk, and the Dominican Republic had negotiated sending in glucose syrup and beans.

Nicaragua was ruled by President Daniel Ortega from the Sandinista National Liberation Front (FSLN), a socialist party to which most Congress members belonged. In January 2014, the FSLN won approval for a number of constitutional reforms allowing President Ortega to be reelected indefinitely and increasing the role of the military in public administration. President Ortega was the most popular political figure in the country with most recent polls showing a 60% approval rate. Political analysts concurred that this concentration of power provided political stability but it could undermine confidence in the country's institutions, chiefly the Supreme Court and the Supreme Electoral Council.

Despite FSLN's socialist link, the relation between the government, the private sector, and foreign capital was very good. Over the last few years the country had recorded an increase in foreign direct investment (FDI) from US\$ 382 million in 2007 to US\$ 1,284 million in 2012, making Nicaragua the Latin American country with the highest FDI / GDP ratio. In addition, Nicaragua diversified its investment sources from 22 countries in 2007 to 37 countries in 2012. The countries with

² *Nicaragua Country Report March 2014*, Economist Intelligence Unit. Online www.eiu.com

³ *Anuario estadístico macroeconómico 2013*, Banco Central de Nicaragua. Online: http://www.bcn.gob.ni/publicaciones/periodicidad/anual/anuario_estadistico/anuario_estadistico_2013.pdf

the largest FDI in Nicaragua in 2012 were Venezuela, Panama (mainly by the number of holding companies registered in Nicaragua), United States, Mexico, and Canada⁴.

Venezuela was going through a time of political instability with demonstrations from social movements against the government. Analysts agreed that Venezuela's generosity with Petrocaribe members could gradually decline as economic and social issues increased. On the other hand, non-tariff barriers from Central American countries were impacting regional trade. A World Bank study claimed that Central America and Southern Asia were the regions with the largest number of non-tariff barriers around the world and that these were most popular in three Central American countries, namely Guatemala, Honduras, and Nicaragua. The study estimated that non-tariff barriers, such as the requirement of different health registries in each country, accounted for a 30% increase in the price of goods. An extreme case was sanitary restrictions imposed by Guatemala to Nicaraguan meat, resulting in costs equal to a 66.4% ad valorem tax⁵.

In the social sphere, Nicaragua faced serious shortcomings overall, especially in relation to nutrition. In 2009, 42.5% of its population lived below the national poverty line. In addition, it ranked second worldwide in terms of nutritional deficiency and third in terms of percentage of malnourished children in Central America⁶ (see Annex 1). In addition, it had an 8% unemployment rate, the highest one in Central America, 43% of the population lived in rural areas and 32% of jobs were in the agricultural sector. Despite social shortcomings, income inequality as measured by the Gini index was the lowest in Central America, a factor partly explaining the low level of demand from the population towards its government and the relative political-social stability in the country.

Nicaragua's low educational and technological level was a drag on the development of its industry. Nicaragua ranked 109 and 119 in higher education and in technological availability, respectively, within the competitiveness ranking of the World Economic Forum, which ranked Costa Rica, the best rated country in Central America, 33 and 53 respectively in the same categories⁷. This gap was most evident in business productivity and product quality. For example, in the dairy industry there were large differences in productivity per cow and in the bacterial count of fresh milk from both countries. However, some Nicaraguan companies had access to technologies, such as centrifugal separation and ultra-pasteurization equipment, which were helping improve the quality of its dairy products.

⁴ PRONICARAGUA. Online: <http://www.pronicaragua.org/en/discover-nicaragua/economy>. Accessed April 2014

⁵ *Medidas no arancelarias en Centroamérica, incidencia económica e incremento de precios*, World Bank. Online <http://www.bancomundial.org/content/dam/Worldbank/document/LAC/ResumenJDR.pdf>

⁶ *UNICEF Annual Report 2013*. UNICEF. Online: www.unicef.org/publications/index.html. Accessed April 2014

⁷ *The Global Competitiveness Report 2013 – 2014*, World Economic Forum. Online <http://www.weforum.org/reports/global-competitiveness-report-2013-2014>

The Dairy Industry

Dairy companies produced goods from milk and whey: fluid, powdered, and condensed milk; cream; cheese; yogurt; ice cream, and butter. In 2014, major companies in the industry included Dean Foods, Dairy Farmers of America and Land O'Lakes from the U.S.; Danone and Lactalis from France; Fonterra from New Zealand; Koninklijke from The Netherlands, Meiji from Japan, and Nestle from Switzerland.

Companies in the dairy industry were very willing to adopt new technologies at various links in the value chain, enabling them to achieve more with less. Farmers produced more milk per cow and producers increased process efficiency and reduced operating costs. This focus on efficiency enabled the industry to grow, on average, 4.1% per year over the last five years, despite the slow recovery of the global economy after a sharp decline. Industry size was estimated to reach US\$ 494 billion by 2015⁸.

Worldwide production of whole milk in 2011 was 612 million tons, with United States (14.5%), India (8.7%), China (6.0%), Brazil (5.2%), Russia (5.1%), Germany (4.9%), France (4.0%) and New Zealand (2.9%) as the major producers⁹. The largest exporters were New Zealand, Australia and the U.S., while Russia, China, and Mexico were the biggest importers.

A major change in the industry was the introduction of ultra-pasteurized (UHT) milk from 1970 on, resulting in increased consumption in countries lacking access to pasteurization technology. Ultra-pasteurization was a sterilization process where food items underwent high temperatures for short periods of time, resulting in a shelf life of up to six months without refrigeration. UHT milk was increasingly popular in India, China, and Latin America. These areas were experiencing deficiencies in the cold chain and very high costs for refrigerated transportation. In the U.S., however, traditional pasteurized milk was still preferred by consumers because of its fresh milk flavor.

Market data and expert opinion reinforced some industry trends such as producer mergers, mega farms, increased general consumption of dairy products and lower consumption of fluid milk. Industry consolidation aimed to attaining economies of scale and a broader product portfolio to raise barriers to entry and enhance bargaining power vis-a-vis supermarket chains, some of which were already producing private label milk. Previously, dairy companies operated on a

⁸2013 Dairy Industry Executive Summary. The Association for Packaging and Processing Technologies.

⁹FAOSTAT, online: <http://faostat3.fao.org/faostat-gateway/go/to/home/E>, accessed April 2014.

single facility and produced a single product category; however, over the last few years a significant trend toward producing specialty products such as flavored milk or low-calorie products had been noticed.

Also carbonated beverage companies were partnering with and acquiring dairy companies as a way to bring healthy products into their portfolios. In early 2012, PepsiCo partnered with one of the largest dairy companies in Germany to bring Muller yogurt to the U.S. market¹⁰. Following in the footsteps of PepsiCo, in June 2012 Coca-Cola acquired a stake in Fair Oaks Farm Brands which it had reached an agreement months earlier to distribute the milk-based protein drink Core Power¹¹.

Another trend in the industry was the development of mega-farms. Over 57% of the milk produced in the U.S. came from dairy farms with over 500 cows. Herds between 1,000 and 10,000 cows were common. Due to their scale, these mega-farms had access to higher-quality animal feed concentrates at competitive prices and process automation technologies, leading to higher efficiency levels. These economies of scale made it increasingly difficult for small family farms with little technological sophistication to survive; in fact, the number of dairy farms in the U.S. had declined by 61% between 1992 and 2012.

The third trend in the industry was a raise in consumption of dairy products. Among the reasons for the growth in global demand for dairies was the increased purchasing power of consumers in countries such as China and India, demanding more and more protein in their diets, and a boost in the popularity of products such as yogurt and protein drinks in developed countries, where consumers were progressively demanding healthier foodstuffs in ready-to-eat packages.

Despite the growth in consumption of dairy goods, consumption of fluid milk was decreasing. Per capita consumption of fluid milk in the U.S. in 2000 was 210 liters¹² (55 gallons) a year, while in 2011 it was 198 liters (52 gallons.) Among the factors behind this decline was the high content of fat and lactose in milk and the emergence of substitute products made from soy, rice and almonds. These drinks were lactose-free, had less fat than skim milk and a shelf life of three months. All of these attributes were very well regarded by consumers with lactose intolerance and / or healthy lifestyles.

¹⁰Martine Geller, *Yogurt: The new Pepsi challenge*, Reuters, online: <http://www.reuters.com/article/2013/06/23/us-pepsico-yogurt-idUSBRE95M08I20130623>, accessed April 2014

¹¹Jeffrey Klinemann, *Coca-Cola Enters Dairy Industry by Investing in Core Power*, BEVNET, online: <http://www.bevnet.com/news/2012/coca-cola-enters-dairy-industry-by-purchasing-core-power>, accessed April 2014

¹² *Dairy products: Per capita consumption, United States (Annual.)* USDA. Online: <http://www.ers.usda.gov/data-products/dairy-data.aspx>. Accessed September 2014.

The Dairy Industry in Central America

Dairy production in Central America was one of the most dynamic, significant activities in the region due to biotic factors such as climate, access to water and flat topography, favoring milk production on an industrial scale. However, per capita consumption of milk in countries in the region, except for Costa Rica, was below FAO recommendation of 188 liters (50 gallons) per year. Costa Rica, Honduras and El Salvador showed the highest consumption levels, while Guatemala, Panama and Nicaragua had the lowest, despite the fact that Nicaragua ranked among the largest milk producers in the region (see Annex 2).

Except for El Salvador, all countries in the region increased their milk production between 2008 and 2012. Outstanding among them was Costa Rica, which in 2012 produced 1,097,427 tons of milk, followed by Honduras with 997,900, and Nicaragua with 773,281 (See Annex 3).

The proximity of these countries and the similarity in the buying habits of consumers across the region favored intra-regional trade in dairy products. In 2012, 78% of Central American exports of dairy products went to countries in the region¹³, with Nicaragua as the largest exporter in the region standing out in cheese exports (30,211 tons) and fluid milk (19,038 tons), followed by Costa Rica that stood out in exporting liquid milk (36,152 tons) and powdered milk (16,244 tons). Major importers were Guatemala, which imported 25,225 tons of liquid milk and 16,588 of powdered milk, and El Salvador, which imported 28,316 tons of cheese (see Annex 4). Imports from countries outside the region consisted primarily of U.S. processed cheese and powdered milk from New Zealand.

Intra-regional trade in dairy products took place despite the lack of import tariff harmonization among countries in the region. Costa Rica and Guatemala were opposites in terms of openness to dairy imports; the former as the most closed country with an average import tariff of 63% and the latter, being a net importer, was the country with the lowest import tariff: 15% for all items (see Appendix 5).

Besides the three main Nicaraguan industrial pasteurizers, major dairy companies in the region included Cooperativa Dos Pinos (Costa Rica), Lácteos de Honduras, S.A. (LACTHOSA), Industrias Lácteas, S.A. (Panama), and Cooperativa Ganadera de Sonsonate (El Salvador). In addition, Grupo Lala from Mexico operated a plant in Guatemala and was building another in Nicaragua to serve the Central American market. At regional level there was no leading competitor in Central

¹³*El mercado de leche y sus derivados en Honduras*, Comisión para la Defensa y Promoción de la Competencia de Honduras, May 2013.

America; companies operated at country level despite exports to other Central American countries by leading firms in their home countries, e.g., Dos Pinos and LACTHOSA.

Cooperativa Dos Pinos

Founded in 1948 by 25 milk producers, Cooperativa Dos Pinos was the largest milk producer in Central America with 1.2 million liters per day. It marketed its products in 14 countries and in 2012 it had sales of \$ 762 million¹⁴. It had 2,000 members and 4,300 employees spread all over Central America. Dos Pinos had five processing plants: three in Costa Rica, one in Guatemala and Planta Nevada, newly purchased from SAB Miller in Panama for \$ 86 million. Also it had 18 collection centers, 11 distribution centers nationwide and its own distribution network in Guatemala, Nicaragua, and Panama. In Honduras it distributed its ice-cream line through LACTHOSA.

With the motto "*Siempre con algo mejor*", ("*Always Something Better*"), Dos Pinos was constantly innovating its products in the market. It had a 600 product portfolio, with those in the fluid milk category accounting for 42% of sales. This category included milk with short shelf life – semi-skimmed and sour-milk -, milk with long shelf life – whole milk, skimmed milk, semi-skimmed and lactose-free milk-, functional milk –with omega-3, with fiber, and extra calcium-, flavored milk –Chocoleche, Frescoleche and milk with oats -, specialties such as eggnog, iced Britt coffee and light iced Britt coffee-, powdered milk – whole milk, skimmed milk, semi-skimmed, lactose-free milk and whole, chocolate-flavored milk and- and the " Growth Family ", a number of processed, milk-based food products reinforced with vitamins, both in powder and reconstituted¹⁵.

In addition to the milk category, Dos Pinos had different products in other categories such as ice cream, yogurt, cheese, dairy cream, and non-milk drinks such as juice, nectar, drinks, and tea. It also had a line of industrial products such as fluid and powdered milk, butter, cheese, and dairy cream packaged in bulk.

Among its short-term plans Dos Pinos intended to increase its penetration in Central American countries through acquisitions or by building a new plant in Guatemala to serve the market in Honduras and El Salvador. In the case of Nicaragua and Dominican Republic, where it had 8% and 10% respectively of the market segments where it competed, the logical choice was to acquire an established brand. In fact, in Nicaragua it was involved in negotiations to acquire one of the

¹⁴ César Brenes, *Dos Pinos planea expandir producción hacia Centroamérica*, El Financiero. Online: http://www.elfinancierocr.com/negocios/Dos_Pinos-Jorge_Pattoni-leche-exportaciones-expansion_0_247175289.html. Accessed April 2014

¹⁵ Drinks produced from a powder mixture.

three major pasteurizing companies from that country¹⁶. In addition to its plan to grow through acquisitions, Dos Pinos sought to reach unexplored markets such as China with powdered milk, and USA with natural fruit smoothies.

LACTHOSA

Founded in 1992, LACTHOSA was the largest dairy processing company in Honduras and the second largest in Central America. In 1998, LACTHOSA, in a partnership with the Honduras Ministry of Agriculture and with assistance from the U.S. cooperative Land O'Lakes it established the first Milk Collection and Cooling Centers (CRELES) all over the country. By 2014, there were 95 CRELES in Honduras. These were managed by corporations or cattle rancher cooperatives and were strategically located to facilitate milk collection, thus providing small farmers with an opportunity to sell their milk at competitive prices.

In 1999, LACTHOSA opened a citrus processing facility able to process eighty thousand tons of oranges per year. In addition, in 2001 it opened a milk dehydration plant to absorb excess fluid milk during the high production season, thus ensuring stable, competitive prices to cattle ranchers. In late 2013, LACTHOSA attempted to acquire Leyde – its largest local competitor – but the Commission for the Defense and Promotion of Competition in Honduras warned both companies that such transaction would result in a monopoly for pasteurized milk and cream, and an oligopoly for cheese, flavored milk and juice¹⁷.

LACTHOSA distributed its products in Honduras, El Salvador –where it opened its own distribution company in 1997– and Guatemala, where it acquired Industrias Lácteas, S.A. (INLACSA) in 2006. LACTHOSA marketed its products under various brands. In Honduras and El Salvador it marketed pasteurized and UHT milk, cream, flavored milk, orange and fruit juice under the brand name Sula. In Guatemala it marketed pasteurized and UHT milk, cream, cream cheese and orange juice under the brand name La Pradera. In addition, in Honduras it marketed Fristy drinks, Ceteco powdered milk and Gaymont's yogurt, (with the latter also marketed in El Salvador).

¹⁶*Rodolfo Barrantes: Dos Pinos “muy cerca” de comprar planta en Nicaragua*, Marvin Barquera, La Nación, November 2013. Online: http://www.nacion.com/economia/empresarial/Presidente-Pinos-Panama-Nicaragua-Dominicana_0_1376262381.html

¹⁷*Comisión de Competencia freno el monopolio lechero*, El Tiempo. Online: <http://www.tiempo.hn/portada/noticias/comision-de-competencia-freno-el-monopolio-lechero>

Industrias Lácteas, S.A.

Industrias Lácteas, founded in 1956, was the largest dairy producer in Panama. It emerged after three of the seven local competitors of that time resolved to partner in order to face the four remaining competitors. Over the years, Industrias Lácteas absorbed its competitors except for Central de Lecherías, which ceased operations in 1980. In March 2011 Industrias Lácteas was acquired by Coca-Cola FEMSA.

Although initially it only bought milk from its shareholders, due to increased demand Industrias Lácteas established collection centers in several locations in the country. One of them was located in the Chiriquí province that had become the largest milk production region in the country. Industrias Lácteas had 1,800 direct workers, three production plants and its own distribution network in four locations: Panama City, Chiriquí, Colón, and Changuinola.

The company marketed its products in five categories under the Estrella Azul brand name. The first category included Grade A milk D'Oro¹⁸, lactose-free milk, skimmed milk and Vita-Slim semi-skimmed milk. Also Vaquita Grade B milk, pasteurized flavored milk and UHT milk in aseptic packaging. The second product category comprised fruit juice and fruit flavored beverages packaged in aseptic UHT and carton packaging. In the category of dairy by-products it marketed cream, skimmed and low-fat yogurt, cream cheese, cottage cheese and ricotta. The fourth category was made up of ice cream, popsicles and frozen desserts. Finally, in the food service category it marketed fudge, milkshake mix, whipping cream, and products from other categories in industrial packaging such as ice cream, cream, cream cheese, whole milk, yogurt, and ice tea.

Cooperativa Ganadera de Sonsonate

Founded in June 1955, Sociedad Cooperativa Ganadera de Sonsonate was the largest dairy producer in El Salvador, with 125,000 liters of milk per day, and it marketed its products locally under the Salud brand name. The company employed 2,980 workers and it had its own distribution network focused on three distribution centers catering to 9,000 points of sale.

Company products included pasteurized whole milk, semi-skimmed milk (2% fat) and skimmed milk (0.5% fat) in plastic containers (one gallon and half a gallon) and carton (1,000 ml, 500 ml and 250 ml); whole UHT milk, semi-skimmed, skimmed, and lactose-free milk, reinforced with calcium and reinforced with omega-3 in one-liter Tetra Brik

¹⁸ Raw cow milk was classified according to the count of microorganisms per milliliter: Grade A (less than 100,000) Grade B (between 100,000 and 200,000), and Grade C (between 200,000 and 300,000).

packaging; pasteurized flavored milk: chocolate, strawberry, coffee, and oatmeal, in 1,000 ml and 250 ml cartons; processed cheese; yogurt in a variety of flavors; cream; cream cheese; dips in a variety of flavors; fruit flavored drinks and juices with and without pulp.

Grupo Industrial Lala

Grupo Industrial Lala began in 1949 when a group of cattle ranchers founded the Unión de Productores de Leche de Torreón. In 2013, Lala was the market leader for fluid milk in Mexico with a 45.8% market share¹⁹. It operated 17 production plants, one in Guatemala, and 161 distribution centers in Mexico and Central America to serve over 500,000 points of sale. Lala provided direct employment to over 31,000 employees. Since 2000, Lala began a number of acquisitions that included brand names such as Nutrileche, Mileche, Boreal, Los Volcanes and Parmalat in Mexico and Foremost in Guatemala. Lala faced strong competition in Mexico, with competitors such as Leche Pura, with a 24.9% market share; Lechera Guadalajara, Nestle, Sigma, Danone and Santa Clara, the latter recently acquired by Coca-Cola FEMSA.

Lala marketed pasteurized and UHT fluid milk under the brand name Lala using different packages –bottle and TetraBrik UHT 250 ml; 1 liter TetraBrik bottle; half-gallon and gallon bottle– as well as different types: whole milk, lactose-free, light (skimmed) milk, semi-skimmed, Extra -calcium Desarrollo (for children between 1-4), Salud (reinforced with iron, zinc and folic acid), Fibra (a regulator of intestinal transit), evaporated, Lala-Frutas (strawberries and natural mango) and Siluette (skimmed with added fiber). In addition to fluid milk, Lala produced and marketed different types of yogurt: classical, drinkable, probiotic, fermented, and lacto-bacilli. Also, cheese such as Panela, Oaxaca, Cottage, Manchego, Chihuahua and sliced American cheese. Other products included cream, butter, and margarine, as well as desserts such as jelly, flan, custard, and rice pudding; orange juice, fruit-flavored drinks, and an infant product line including drinkable yogurt under the PetiZoo brand name and flavored milk and jelly under the Yomi brand name.

In late 2013, Grupo Lala conducted an Initial Public Offering (IPO) on the Mexican Stock Exchange amounting to 14,055 million pesos²⁰, which was seen by some analysts as an opportunity to consolidate organic growth, explore potential acquisitions and become one of the leading distributors of dairy products all over Latin America. According to analysts; the challenge Grupo Lala faced would be consolidating its distribution system to reach new markets. In the next two years, the company planned to invest about \$ 400 million in infrastructure and logistics. In December 2013, Grupo Lala began

¹⁹ Roberto Arteaga, “*Se aproxima la batalla de la leche*”, Forbes. Online: <http://www.forbes.com.mx/sites/se-aproxima-la-batalla-de-la-leche/>. Accessed April 2014

²⁰ Exchange rate as of December 2013: 1 USD = 13.06 Mexican Pesos

building a milk processing plant in Nicaragua whose first stage would cost \$ 50 million. In this first stage the facility would only process fluid milk with capacity for 200,000 liters per day. In the second stage the plant was expected to produce other goods such as butter, yogurt, desserts, beverages and cheese²¹.

The Dairy Industry in Nicaragua

Nicaragua had great advantages to produce dual-purpose cattle -beef and dairy-compared to other countries in the region. These included its extension, human resources in rural areas, and areas with flat topography and soils suitable for pasture, with immediate access to water sources. However, over the last two years producers had faced a strong dry season and, as in the previous two years, they were not ready to cope with this scenario. Cattle ranching was very important to Nicaraguan economy, accounting for 7.5% of GDP and 26% of total exports of goods²². Nicaragua had the largest dairy herd in Central America; however, its production was surpassed by those of Costa Rica and Honduras as it had the lowest productivity rate in the region: 7,285 hectograms per cow a year, equal to 1.9 liters / cow per day (see Annex 6).

According to data from the Ministry of Agriculture (MAGFOR), milk production in 2012 amounted to 216.3 million gallons, the largest ever. Of these, 133.6 million gallons had been collected and out of these 86% was used to produce artisanal cheese. The remaining 14% was collected by five industrial producers who only bought milk passing their quality tests. The milk they rejected was either consumed locally or used to produce artisanal cheese. Although most of the milk was still consumed raw or processed by hand, there was a trend toward an increase in the volume of milk collected by industrial plants (see Annex 7).

Historically, Nicaraguan producers of milk had received the lowest price in Central America, with US\$ 0.38 per liter of milk in 2010 compared to US\$ 0.67, US\$ 0.56 and US\$ 0.45, for producers in Panama, El Salvador and Costa Rica (see Annex 8). However, exports to Venezuela resulted in increased demand and in 2014 industrial producers paid US\$ 0.48 per liter of milk. Industrial producers in Nicaragua disliked Grupo Lala's arrival in the country as it would lead to increased demand and higher price to be paid to producers. The general manager of one of these producers said in an interview with the press,

²¹*Inicia construcción de planta láctea de Lala*, La Prensa. Online: <http://www.laprensa.com.ni/2013/12/26/ambito/175808-inicio-construccion-planta-lactea>

²²*Sanidad e Inocuidad Pecuaria en Centroamérica y República Dominicana*, BID y OIRSA, May 2012

“The government should seek investments to complement the development of Nicaragua and not necessarily to try and replace Nicaraguan businesspeople. They must look for businesses in sectors where they are lacking... for example Costa Rica did not look for a dairy company to compete with Dos Pinos. Rather, they looked for Intel that, in addition to investing in facilities, also created a demand for skilled-labor.”²³

The three major dairy processors were Parmalat, Eskimo, and Centrolac. Other competitors included Prolacsa, a subsidiary of Nestlé engaged in producing powdered milk, and Nilac, a Salvadoran-funded company engaged in producing cheese to export.

Parmalat

Founded in Italy in 1961, Parmalat became the world leader in production of UHT milk, with 140 plants in 26 countries and 36,000 direct employees. In 1998 Parmalat acquired La Perfecta in Nicaragua, a locally-owned dairy company with over 30 years in the market.

In 2003 Parmalat went bankrupt globally after one of the largest corporate scandals throughout history, when a € 15 billion shortfall was revealed in the company. The impact of this scandal reached Nicaragua, where Parmalat’s subsidiary had borrowed money from two financial institutions and sent it to the parent. Lafise financial group came to the rescue of the then largest gatherer and producer of dairy products in the country by acquiring 49% of the Parmalat’s Nicaraguan subsidiary for \$ 5.4 million. This allowed the company to honor its debts and continue normal operation. Lafise Group created Productos Lácteos de Centroamérica to manage the assets acquired and in November 2009 it purchased the remaining 51%, thus exerting full control of Parmalat’s Nicaraguan subsidiary and obtaining the license to continue using the brand²⁴.

Parmalat served over 12,000 points of sale per day in Nicaragua through its own sales force. Its products included pasteurized and UHT milk in 450ml y 900 ml plastic bags, cheese, butter, yogurt in a variety of flavors, ethnic Nicaraguan drinks (cocoa and gourd seed), and Santal orange juice, the leader in its category, in 900 ml and 400 ml cartons and 1,000 ml aseptic packaging.

²³ Lucía Navas, *¿Lala amenaza o Lala oportunidad?*, La Prensa. Online: <http://www.laprensa.com.ni/2013/07/02/activos/153013-lala-amenaza-o-lala>

²⁴ Gustavo Álvarez, *Parmalat continuará operando con normalidad*, El Nuevo Diario, November 2009. Online: <http://www.elnuevodiario.com.ni/economia/62765>

Eskimo

Founded in 1942 as a small family-run ice cream business, Eskimo was the largest producer of ice cream and popsicles in Nicaragua. In 1952 it introduced a distribution system through street carts which was very popular; in fact, Nicaraguans used the word "eskimo" as a generic name for ice cream. In 1975 the company signed a contract with Sodima from France to produce and distribute Yoplait yogurt. This agreement ended in 2007 when Sigma Alimentos from Mexico began marketing the brand in Central America. Eskimo continued to market yogurt under its own brand name and entered the liquid milk market in 2008.

Eskimo products included ice cream in one gallon, half gallon, half a liter, one liter, 8 ounce and 3 ounce packages; popsicles in a variety of flavors; fruit-flavored jellies; traditional and drinkable yogurt; whole milk, semi-skimmed, skimmed and lactose-free milk in 1 liter Tetra Brik packages; whole and semi-skimmed UHT milk in 900 ml plastic bag; flavored milk in UHT 450 ml bag; pasteurized, flavored milk in 115ml plastic bag; chocolate milk in 473 ml and 250 ml bottles; locally-made and sour cream; butter; cheese; orange juice in several different packages and fruit-flavored drinks.

Eskimo had an ice cream parlor network selling mainly sorbets at shopping centers in Managua and in the major cities in the country, and its own distribution system to serve local supermarkets, convenience stores and grocery stores. Also it exported ice cream and yogurt to Costa Rica, Honduras and El Salvador. Eskimo's network also included dealers who owned Eskimo agencies. These had a cart network selling products all over the city.

Centrolac

Centrolac (Lácteos Centroamericanos, S.A.) was founded in 2007 and since its inception it positioned itself as an innovative company by building the first UHT plant in Nicaragua. The company was founded by Nicaraguan investors under the vision of Alfredo Lacayo, who started the company from scratch supported by Dominican consultants with experience in managing ultra-pasteurization plants. Alfredo saw an opportunity to process UHT milk in a country with large herds, raw milk at competitive prices relative to those in neighboring countries, low per capita consumption of milk and opportunities to enhance productivity of the milk sector.

The company aimed to produce and market world-class dairy products, both locally and internationally, manufactured with cutting-edge technology to ensure safety, in addition to fostering local development, promoting efficiency,

profitability, sustainability and competitiveness of meat and milk producers in Nicaragua and serve as a key means to enhance the nutritional status of the Nicaraguan population.

Since its inception, Centrolac implemented an awareness, training, and support program aimed to the dairy farming sector to help it produce higher quality milk, suitable for the export market. In line with this Centrolac participated in "Inclusive Business Development", an Inter-American Development Bank (IADB) program incorporating small BOP producers into the value chain of leading companies. Under this program, Centrolac paid to small producers based on the quality of milk, not the season of the year as was the practice in Nicaragua, thus promoting poverty reduction in a sustainable, cost-effective fashion and creating a win-win scenario mutually favorable to both the company and the communities.

Equipment and Infrastructure

Centrolac had the largest UHT milk processing plant in Nicaragua with capacity for 400,000 liters per day in the ultra-pasteurization process and 180.000 liters per day in the packing process, even though it only processed 130.000 liters per day. All plant equipment and packaging were Tetra Pak, the world leader in equipment and packaging for the food industry.

In addition to ultra-pasteurization and packaging equipment, Centrolac had Tetra Pak centrifugal separation equipment to help reduce the amount of bacteria in the milk prior to ultra-pasteurization. This technology brought fresh milk used by Centrolac as raw material close to the quality levels of milk produced in Costa Rica, reducing the temperature levels required in the ultra-pasteurization process and contributing to maintain the original fresh milk flavor, an attributes highly valued by consumers of pasteurized milk.

The efficiency levels of Centrolac's equipment were similar to those from developed countries. The company had energy-efficient milk storage tanks to preserve milk. Besides helping cut costs, process efficiency allowed Centrolac diminish environmental impact. For example, a dairy plant consumed on average 12 liters of water per liter of processed milk, while Centrolac consumed 0.9 liters. In addition, Centrolac had a sewage plant allowing it process and return over 90% of water used to the aquifer.

Centrolac had a fleet of tank trucks to collect milk at eight different collection centers in rural areas of the country. These centers were owned by cooperatives working with Centrolac under the Inclusive Business Development model of social development. Under this program, Centrolac provided technical assistance and financial support to 160 small

producers to enhance productivity and improve milk quality. In some cases Centrolac had partially funded collection centers at a cost of US\$ 140,000 under an agreement from producers to make partial payments through bill discounts.

Centrolac also had a quality control laboratory with cutting-edge equipment and a highly qualified team constantly monitoring the entire process, from milk reception to distribution.

Products

Centrolac processed UHT milk in aseptic packaging with a variety of types including whole, semi-skimmed, skimmed and lactose-free milk. Packaging included 1000 ml Tetra Brik, 900 ml Tetra Wedge and 473 ml Tetra Fino, the latter an aseptic bag-shaped package used exclusively for whole milk. Centrolac was the first producer worldwide to adopt the 900 ml Tetra Wedge package, which as a result of its shape required less material and had greater point of sale visibility (see Annex 9). Centrolac also produced flavored milk (chocolate, vanilla, strawberry, and banana-strawberry) in 250 ml Tetra Brik and 150 ml Tetra Clasic packages, the latter an innovative triangular package.

The milk product line was marketed under the Centrolac brand, a name chosen as a result of the need for a trademark not registered in any Central American country. However, market research revealed that this brand intimidated consumers who described it with formal attributes that did not say much.

In addition to its UHT milk line, Centrolac produced a whey-and-vegetable-oil-based drink under the brand name Matilde, developed in conjunction with a U.S. laboratory after testing for two years. This drink was 30% cheaper than milk and was less susceptible to raw milk price fluctuations, which made it an alternative for lower-income consumers. Since it was not formally designated as milk it could be produced from reconstituted milk and fat extracted from the skim and semi-skimmed milk. Alfredo's view of this product follows,

"Matilde was produced because milk will become inaccessible to a large segment of the population as a result of price increase... This is a top-quality, low-cholesterol, highly nutritious, tasty, and very accessible drink... Matilde is a non-intimidating brand name and consumers associate with a good granny preparing a milk-and-cinnamon drink for you."

In 2013, Centrolac launched a line of fruit-flavored drinks (apple, grape, pear, and fruit punch) sold in in two different types of aseptic packaging (150 ml Tetra Clasic and 250 ml Tetra Brik) with the brand name "Fruttifrizz."

Market

Centrolac marketed its goods locally (50%) and exported them to Guatemala, El Salvador, Costa Rica and Venezuela. Exports to Venezuela accounted for 25% of sales and the remaining 25% was the result from exports to Central American countries.

In Alfredo's view, Centrolac's market share in Nicaragua was similar to that of its competitors (Eskimo and Parmalat) in the fluid milk category, but it was a leader in UHT milk (80% market share.) Centrolac's penetration in the modern channel (supermarkets) was higher than in the traditional channel (wholesale and grocery stores). Alfredo thought there were three reasons for this,

"... First of all, the traditional channel tends to sell first Eskimo and Parmalat goods due to short shelf life and a need for refrigeration, and then offer Centrolac goods as a result of their long shelf life. Second, competitors have larger product portfolios. Third, if pasteurized milk sours you can still turn it into sour milk, something you cannot do with UHT milk. If pasteurized milk spoils people will say 'It just spoiled', but if that happens to one of our products they will say 'Centrolac is not good'...."

Centrolac marketed its products at Wal-Mart, with direct deliveries made into Wal-Mart's centralized distribution center, as well as at other supermarket chains, convenience stores, and grocery stores reached through Compañía Cervecera de Nicaragua (CCN), which distributed all Centrolac products except drinks. Since CCN had a product line similar to "Fruttifrizz", the latter was marketed by another mass consumption distributor. Centrolac's shelf prices were lower than those for most of its competitors in different categories (see Annex 10.)

Since its inception Centrolac targeted Central America, not just Nicaragua, to sell its goods. In July 2007, the company entered its first international partnership with CENDIS, a Guatemalan distributor with 40 years of experience, serving 30,000 points of sale. This was a milestone for the Nicaraguan dairy industry as it marked the first time fluid milk was sent to the Guatemalan market. Besides, Centrolac products were sold in Costa Rica by *Distribuidora Detallista Total* and by DIZAC in El Salvador.

In addition to exports to Central American countries, Centrolac exported whole UHT milk to Venezuela since 2008 through an agreement between *Alba Alimentos de Nicaragua* (ALBALINISA) and *Corporación de Abastecimiento y*

Servicios Agrícolas (CASA) from Venezuela, both of them state-owned companies. Centrolac and Parmalat Nicaragua shared equally 24,000 tons per year export quota²⁵.

Company Culture and Organization

Centrolac had 214 employees, most of them in the field helping farmers to enhance milk quality and to improve productivity. The entire ultra-pasteurization process was automated requiring only two workers to monitor equipment indicators. The packing process was also automated, so the only process requiring labor was packing.

Corporate culture was geared towards efficiency and quality, which trickled down to milk producers working with Centrolac. Several small producers had begun to look at their tasks with business insight and they felt committed to enhance productivity as a means to improve their income. Centrolac's stringent quality controls were changing producer culture, and producers felt inspired to maintain quality in order to get higher prices. In addition to price incentives another policy was implemented to promote quality: individual producers' milk was sampled at the collection center and analyzed by Centrolac's quality technicians. In case it did not meet the standard the entire tank truck was refused and the producer was held accountable not only for his/her own milk but for that of all other producers negatively affected.

Growth Options

In 2013, Centrolac faced a dearth of quality milk suitable for processing which prevented it from meeting the growing external market demand. Although its sales were around \$ 40 million, implying a nearly 4% growth over the previous year, Alfredo thought that milk shortage prevented sales from increasing up to 20%. He thought this shortage could worsen as a result of increased milk collection by artisanal cheese producers: higher prices for powdered milk increased the demand for cheese as neighboring countries, instead of importing powdered milk to reconvert it and mix it with fresh milk to produce cheese, were importing more cheese from Nicaragua.

In addition to the shortage of quality milk, two factors in the environment concerned Alfredo: the new facility being built by the Mexican firm Lala in Nicaragua, and a potential partnership between Dos Pinos and a local competitor. Both factors could potentially increase the demand for quality milk, leading to a significant rise in the price paid to producers. In this context, Alfredo was pondering at least two options for growth and wondered about other potential means to attain it.

²⁵Moisés Martínez, *Albalinisa calló reclamos*, La Prensa. Online: <http://m.laprensa.com.ni/reportajes-especiales/111019>

The first was vertical integration to produce fresh milk. In January 2014, Centrolac was paying milk producers US\$ 0.48 per liter. The cost to reconstitute powdered milk was about US\$ 0.56 per liter. Although some producers kept complaining that prices paid by the pasteurizers did not meet production costs, Alfredo thought that with productivity levels matching those of Costa Rican producers, he could attain an effective cost of \$ 0.18 per liter, excluding the opportunity cost for the land.

Although the industry standard was forward vertical integration (with producer cooperatives entering processing), there was a recent example of backward vertical integration. In 2012 the German firm Müller bought Robert Wiseman Dairies for £ 279.5 million. Robert Wiseman Dairies collected and processed 33% of fluid milk in the UK. Müller was the yogurt leader in the UK but was threatened by the growth of Danone Activia. Wiseman was a leading supplier of Müller, although most of its production was sold as a finished product (packaged milk) at the supermarket chain Tesco. Following the acquisition and in order to buttress its growth plan, Müller-Wiseman announced a raise in the price paid to all producers except those aligned with supermarket chains programs. Less than two years into the purchase, Müller consolidated its leadership position in the yogurt category and tripled turnover in the UK²⁶.

To produce 10% of the milk it required, Centrolac had to invest US \$ 4.4 million to acquire land, milking equipment, and Holstein cattle producing 16 liters per cow per day. Although fully aware of the advantages resulting from vertical integration, Alfredo wondered how this would impact Centrolac's relationship with small farmers supplying milk to the company, what new strategic skills should be developed and what could happen to milk price in case exports to Venezuela declined.

The second option was to expand the firm's portfolio with new dairy products, particularly processed cheese and yogurt, which could be processed by using Tetra Pak technology. In 2008, Tetra Pak created its CPS (Cheese and Powder Systems) division with a complete line of equipment to process different cheese types such as cheddar, Swiss, cottage, pasta filata, and feta cheese. All of these were quite different from the cheese types usually consumed in Central America and therefore would be mostly aimed to foreign markets. Furthermore, Tetra Pak, in addition to equipment to process yogurt, also had packages like Tetra Top and Tetra Prisma, already being used by producers of drinkable yogurt (see Annex 11). Either line would require investments close to US\$ 3 million.

²⁶ *Leadership through disruption*. The Institute of Grocery Distribution. Online: <http://retailanalysis.igd.com/Hub.aspx?id=23&tid=3&nid=12927>. Accessed September 2014.

Even with access to cutting-edge technology and packaging, Alfredo wondered if Centrolac might achieve competitive advantage in producing these goods, if there was enough market to justify the investment, and he wondered about the advantages and disadvantages of a broader portfolio.

One more option he had considered was to emphasize the Costa Rican market due to high shelf prices there (see Annex 12). However, he wondered about the impact on local market share and about brand strength in a market dominated by Dos Pinos.

Annex 1

Centrolac

Central American Countries - Social Indicators

	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua	Panama
% of population below national poverty line (2009)*	21.3%	37.8%	53.7%	58.8%	42.5%	29.8%
% of population living on less than \$1.25 per day (2009)*	3.1%	9.0%	n.a.	17.9%	n.a.	6.6%
% of rural population (2009)*	35.8%	36.2%	50.2%	49.0%	43.0%	25.4%
GDP per capita (2012)*	9,386.30	3,789.60	3,330.50	2,322.90	1,753.60	9,534.40
Food deficit (kilocalories) per individual per day (2008)*	28	69	198	77	144	66
% of malnourished children under 5 (2011)**	5.6%	19.2%	48.0%	29.0%	21.8%	19.1%
Unemployment (% of labor force) (2010)*	7.3%	7.0%	3.7%	4.8%	8.0%	6.5%
Employment in agriculture (% of total # of employees) (2010)*	15.0%	20.8%	33.5%	36.0%	32.2%	17.4%
GINI Index*	50.7 (2009)	48.3 (2009)	55.9 (2006)	57.0 (2009)	40.5 (2005)	51.9 (2010)

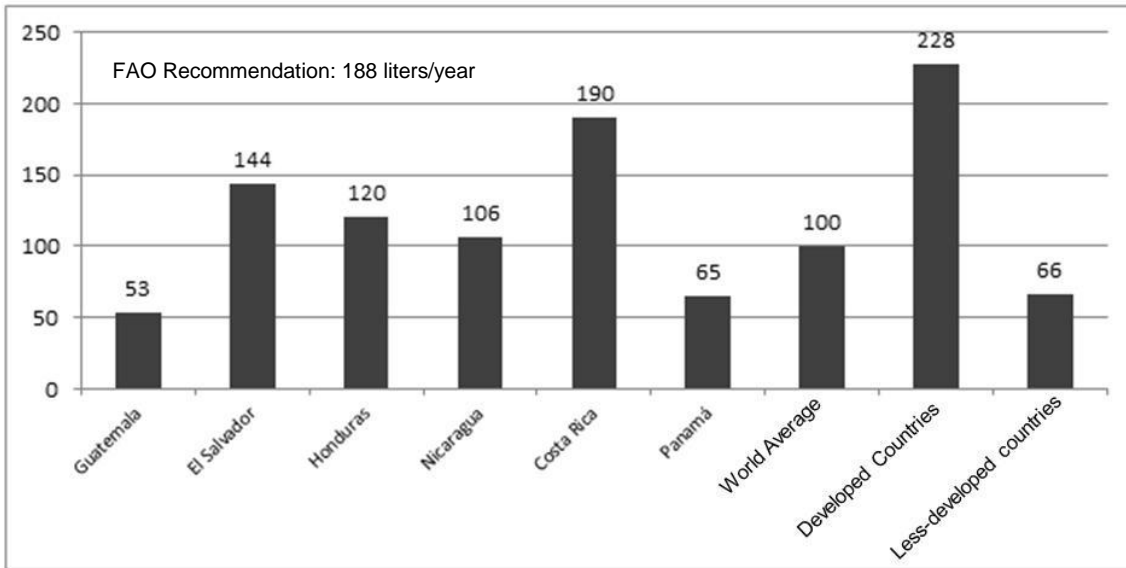
Sources: * The World Bank, *World Development Indicators*.

***Improving Child Nutrition*, UNICEF, April 2013

Annex 2

Centrolac

Per Capita Milk Consumption in Central American Countries 2012 (liters)

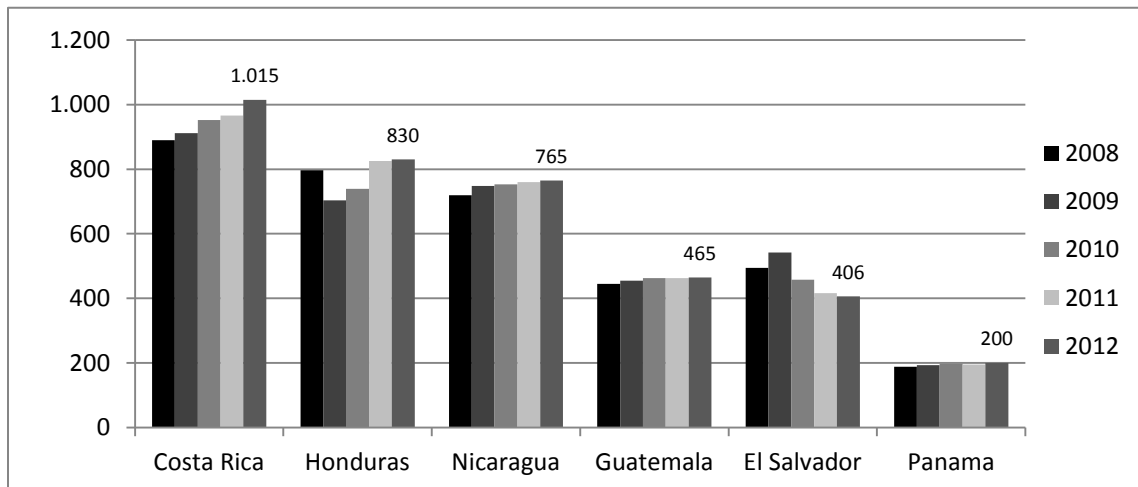


Source: FAO

Annex 3

Centrolac

Milk Production in Central American Countries - 2008-2012 (000s tons)



Source: FAO

Annex 4

Centrolac

Production, Exports, and Imports of Dairy Goods in Central American Countries 2012 (tons)²⁷

	Costa Rica			El Salvador			Guatemala			Honduras			Nicaragua			Panama		
	Product.	Export.	Import.	Product.	Export.	Import.	Product.	Export.	Import.	Product.	Export.	Import.	Product.	Export.	Import.	Product.	Export.	Import.
Fluid milk	1,097,427	31,512	951	419,508	0	7,884	473,501	0	25,225	997,900	2,557	3,042	773,281	19,038	1,204	195,980	15	1,254
Powdered milk	21,825	16,244	232	0	177	8,329	1,845	210	16,588	413	355	4,684	7,875	8,242	2,298	12,219	0	3,950
Condensed milk	0	165	4,379	0	0	415	0	0	1,611	0	15	1,081	0	83	435	9,024	327	640
Evaporated milk	0	698	1,861	0	108	1,651	0	16	2,458	0	0	1,142	1,029	1,057	202	19,494	2,077	65
Cheese	12,389	2,279	2,410	2,532	2,056	28,516	6,750	327	12,238	18,651	3,506	7,313	35,276	30,211	724	14,571	1,395	6,678
Butter	6,900	867	128	175	18	404	581	20	2,140	9,100	684	383	615	64	345	53	0	680
Ice cream	n.a.	2,365	3,050	n.a.	3,708	3,935	n.a.	6,873	1,445	n.a.	0	7,034	n.a.	3,075	411	n.a.	0	1,443
Yogurt	n.a.	698	1,861	n.a.	108	1,651	n.a.	16	2,458	n.a.	0	1,142	n.a.	1,057	202	n.a.	2,077	65

²⁷ Source: FAO

Annex 5

Centrolac

Consolidated Data on Central American Tariffs on Dairy Imports*

Description	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica
Milk and cream, not concentrated, no sugar or sweeteners added	15%	40%	35%	15%	65%
Concentrated milk and cream, with added sugar or sweeteners	15%	18%	19%	48%	65%
Buttermilk, milk and cream, curd, yogurt and other fermented or acidified products	15%	40%	35%	23%	65%
Butter and other milk fats ; dairy spreads	15%	27%	20%	23%	65%
Cheese and ricotta	15%	40%	27%	33%	53%
Average	15%	33%	27%	28%	63%

*No data available for Panama

Source: Comisión para la Defensa y Promoción de la Competencia de Honduras

Annex 6

Centrolac

Dairy Cattle Herd Size and Productivity per Cow in Central American Countries 2012

	Dairy Cattle *	Annual Productivity (Hectograms/cow)*	Daily Productivity (liters/cow)**
Costa Rica	705,000	14,392.1	3.8
El Salvador	300,000	13,536.8	3.6
Guatemala	635,000	7,322.8	1.9
Honduras	605,000	13,719.0	3.6
Nicaragua	1,050,000	7,285.7	1.9
Panama	164,000	12,195.1	3.2

Sources: *FAO

** Estimation based on FAO data, assuming 1.032g/ml milk density and milking 365 per year

Annex 7

Centrolac

Milk Collected by Pasteurizing and Artisanal Plants in 2009-2013 (gallon 000s)

	2009	2010	2011	2012
Collection from pasteurizing plants	19,794	22,840	20,409	18,747
Collection from artisanal plants	78,359	90,308	98,169	114,662
Total milk collected	98,153	113,148	118,578	133,409

Source: MAGFOR

Annex 8

Centrolac

Price to Producer per Liter of Milk (USD)

	2005	2006	2007	2008	2009	2010	2011	Average
Guatemala	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Panama	0.68	0.96	0.40	0.47	0.92	0.67	0.65	0.68
El Salvador	0.33	0.40	0.44	0.48	0.53	0.56	0.50	0.46
Costa Rica	n.a.	n.a.	0.33	0.43	0.41	0.45	0.46	0.42
Honduras	0.36	0.38	0.40	0.41	n.a.	n.a.	n.a.	0.39
Nicaragua	0.25	0.25	0.26	0.34	0.39	0.38	n.a.	0.31

Source: Estimation based on FAO data (USD/ton), assuming 1.032g/ml milk density

Annex 9

Centrolac

Centrolac Product Line



Whole, skimmed, semi-skimmed and lactose-free milk in 1000 ml Tetra Brik package



Whole, skimmed, semi-skimmed and lactose-free milk in 900ml Tetra Wedge package



Matilde Formula:
1000 ml Tetra Brik
900 ml Tetra Wedge
474 ml Tetra Fino



Fruit-flavored drinks: 150 ml and 250 ml package

Annex 10

Centrolac

Consumer Prices in Modern Channel (córdobas)²⁸

	Centrolac	Eskimo	Parmalat	Dos Pinos
Flavored milk- UHT 250 ml	10.25	10.50	9.95*	11.75
Whole milk - UHT 1000ml	25.50	26.00	21.25	31.50
Skimmed milk - UHT 1000ml	24.50	25.00	-	30.50
Semi-skimmed milk - UHT 1000ml	24.50	25.00	-	30.50
Lactose-free milk - UHT 1000ml	27.00	27.50	-	33.00
Matilde - UHT 1000ml	19.50	-	-	-

* 200 ml carton

Source: Developed by authors based on visits to supermarkets.

²⁸ Córdoba / USD exchange rate: 25.3487. Taken from Banco Central de Nicaragua (http://www.bcn.gob.ni/estadisticas/mercados_cambiarior/tipo_cambio/index.php).

Annex 11

Centrolac

Yogurt TetraPak Packaging

Tetra Top



Tetra Prisma



Source: Centrolac, 2014.

Annex 12

Centrolac

Shelf Price for Dos Pinos Products - Costa Rica (colones)²⁹

	Dos Pinos
Flavored milk - UHT 250ml	385
Whole milk - UHT 1000ml	845
Skimmed milk - UHT 1000ml	805
Semi-skimmed milk - UHT 1000ml	785
Lactose-free milk - UHT 1000ml	895
Milk formula - UHT 1000ml	825

Source: Developed by authors based on visits to supermarkets.

²⁹ CRC / US\$ exchange rates. Buy rate: CRC 534, 04. Sell rate: 545, 51. Source: Banco Central de Costa Rica (<http://www.bccr.fi.cr/index.html>).

Centrolac

Teaching Note

Summary

Alfredo Lacayo was checking company results for 2013. As CEO of Centrolac, a Nicaraguan company engaged in producing UHT milk, he was unhappy about annual sales of US\$ 40 million (showing a 4% growth over the previous year) since he felt a shortage of fresh milk had prevented growth from reaching up to 20%. Alfredo anticipated an increase in the demand for fresh milk in the near future, among other reasons as a result of the arrival of Grupo Lala which was already building in Nicaragua a plant with capacity to process 200,000 liters of milk per day. In this context, Alfredo was considering the best course of action to deal with competitors and accelerate growth.

Use of Case Study

This case study was written for use in an MBA-level Business Strategy course with a focus on strategic positioning and growth paths. Thus this teaching note focuses on that approach.

However, it can also be used for MBA Corporate Strategy courses in relation to corporate expansion on issues linked to organic growth within the same business (expansion into new dairy products) or vertical integration (integrating into dairy farming).

Teaching Objectives

This case study can be used in a Business Strategy course to teach topics of competitive positioning and how current company strategy can have a significant impact on future growth decisions (Brenes & Mena, 2006; Anand, 2014).

Discussion of this case study is expected to assist in,

- Understanding strategic positioning at strategic business unit level.
- Grasping the meaning of competitive field (where to compete), generic cost-leadership and high-perceived-value strategies (how to compete), and action required to attain positioning (how to implement it?)

- Consolidating knowledge acquired in previous courses dealing with functional areas and political / economic analysis.

Assignment Questions

1. What is Centrolac's strategy?
2. What industry / environment changes may pose threats / opportunities for Centrolac?
3. What growth alternatives are available to Centrolac? State each alternative's advantages and disadvantages. Do these alternatives match Centrolac's strategic positioning? What changes must Centrolac make in case it chooses to pursue one of these alternatives?

Analysis

1. What is Centrolac's strategy?

Define where Centrolac competes. What is Centrolac's competitive field? Industry sector, market segments, product and service lines, geographic scope and diversification levels, vertical and horizontal integration

Industry Sector: Processing of dairy products. The dairy products value chain includes producing, processing, and distributing milk. Centrolac focuses on processing UHT milk; it does not produce milk nor has its own distribution network.

Market Segments. The case study states that other companies in the industry in Central America already had products in industrial packaging aimed at hotels and restaurants. This segment was not yet being explored by Centrolac, as it only had mass consumption products. Although not as clear, arguably Centrolac products are targeted mostly to middle class families. The case mentions that Centrolac has less presence in the traditional channel (where the lower income segment usually buys). Instead, in the modern channel its prices are lower than those of most of its competitors, so we might assume that Centrolac's products are aimed at the middle income class segment, with the exception of Matilde, which is aimed at the lower income class segment.

Product and Service Line

- UHT whole milk: most generic product in the category, competing with Eskimo, Parmalat and Dos Pinos in the local market.
- UHT semi-skimmed, skimmed, and lactose-free milk: products aimed at consumers with healthy life styles or intolerance to lactose. At local level, Centrolac only competes with Dos Pinos products (imported from Costa Rica).
- Flavored milk: At local level Centrolac competes with Dos Pinos flavored milks and Hershey's chocolate milk.
- Matilde: milk formula aimed to the lower income class segment, a product making much sense in a region with food deficit and large segments of population under the poverty line, as well as child malnutrition and lower per capita consumption of milk (see Annexes 1 and 2 of case study.)
- Fruit flavored drinks in aseptic packaging.

Looking at Centrolac's product portfolio, one cannot help but wonder about the role of fruit flavored drinks. Probably Centrolac did not have to make a large investment besides packaging to launch the product. As a mass consumption product it shares the same distribution channels as flavored milks, so Centrolac could gain more presence especially in the traditional channel. However, the case study states that this product competes with one developed by Centrolac's dealer CCN, so it makes little sense that it is being used as a complementary product at the traditional channel. Probably Centrolac sees it as a short-term fill product to use its idle production capacity and to be discarded when it has enough demand and raw material to process products giving it a competitive advantage.

Level of vertical integration. Actually, Centrolac does not currently engage directly in any of this type of activities. It just assists local producers to enhance their productivity through various programs.

Geographic scope. Centrolac's geographic scope includes Central America and Venezuela, with a market share in the latter resulting from Petrocaribe.

Define the way Centrolac competes. *What generic strategy best accounts for Centrolac's actions? State Centrolac's strategic skills and actions taken to support its generic strategy.*

Centrolac's generic strategy is cost leadership. Strategic skills developed include:

- Immediate access to low-cost milk
- Effective, low-cost operating process
- Suppliers who identify themselves with quality and productivity required
- Outsourced distribution
- Effective cost control
- An issue is idle capacity apparently resulting from a shortage of raw material

Define how Centrolac implemented its strategic positioning. Describe specific actions taken in organization and structure; policies, systems, and processes; strategic investments, and people, culture, and leadership.

Organization and structure.

- Most Centrolac employees are not in the plant but rather in the field, helping enhance producer's productivity.
- Centrolac outsourced distribution to CCN, a company with skills in that stage of the chain. Thus it can focus on developing efficiency and productivity skills both in-company and with suppliers.

Policies, systems, and processes

- Effective operation process: capital intensive, low operating costs
- Pay based on milk quality, regardless of season of the year: quality promoted.
- As a result of the "Inclusive Business" development program producers are starting to see their task from an entrepreneurial standpoint, enhancing productivity to earn higher revenues
- Quality policy throughout the entire chain, including suppliers: if a producer brings milk not meeting the standard and thus spoils the milk brought by others in the tank truck, he/she is held accountable for the total cost of milk rejected.

Strategic investments.

- Ultra-pasteurization plant with cutting-edge (Tetrapak) equipment in a country with significant herds, lowest price for milk in the region, and significant opportunities to improve productivity per cow
- Energy-efficient cooling tanks
- Collection centers for milk producers funded by the Centrolac
- Tank truck fleet to bring milk from collection points

People, culture, and leadership.

- Efficiency-focused culture, workers' and suppliers' quality and productivity reinforced by incentives, quality policies, and participation in the "Inclusive Business" development program.

2. What industry / environment changes may pose threats / opportunities for Centrolac?

- *Change of government in Venezuela.* Venezuela had become a major trading partner of Nicaragua, and one of its leading FDI injectors. So, a change of government could seriously affect the local economy, reducing the purchasing power of Nicaraguans and therefore Centrolac's local sales. At the same time it would threaten company exports (Centrolac has an export quota which accounts for 25% of its sales). The case study also mentions that the price of milk paid by industrial producer increased from US\$ 0.38 to US\$ 0.48 as a result of increased exports to Venezuela. If the prices paid to producers declined, Centrolac could exploit this difference to capture more market share in the region based on price.

- *Changing trend in consumption of dairy products.* The case study mentions an international decrease in the consumption of fluid milk and an increase in the consumption of other dairy products driven, among other things, by a change in consumer lifestyle, with consumers now demanding more healthy products in ready-to-eat packaging. Although income levels in Central America make it difficult to think of a similar, large-scale change in the near future, Centrolac should take notice of these trends when it comes to designing product portfolios in the long run.

- *International and regional industry consolidation.* The case study mentions that both Pepsi and Coca-Cola were entering into partnerships with dairy companies to include in their portfolios healthier products in convenient packaging, such as yogurt and protein beverages. In the region, Coca-Cola Femsa had acquired dairy plants in Panama and Mexico,

LACTHOSA (Honduras) had acquired a plant in Guatemala, had its own distribution network in El Salvador and once considered acquiring its major local competitor, and Dos Pinos (Costa Rica) had acquired plants in Guatemala and Panama in addition to looking for companies in Dominican Republic and Nicaragua. Centrolac's shareholders could see this acquisition environment as a threat due to the presence of increasingly strong, region wide competitors, or as an opportunity to sell their company at a good price given the presence of several potential buyers.

- *Mega-herds.* The case mentions the international trend towards large herds as a result of the economic benefits derived from this practice. Larger scale allowed dairy farmers to negotiate good prices for quality concentrates, facilitated to purchase milking technology and allowed for the use of modern management techniques for dairy farms. Nicaragua suffered a shortage of quality milk and from case study information (fleet of tank trucks and support to farmers in order to establish collection centers) it can be inferred that the milk production industry was highly fragmented, inefficient, and produced low-quality milk. Nicaragua's biotic conditions favored the establishment of mega-herds and Centrolac investors might see this as an opportunity for vertical integration to strengthen the firm's competitive advantage, or even to make the company more appealing to a potential buyer who sees the scarcity of quality raw material as a disadvantage.

- *Increased international demand for milk.* Strong global demand for dairy products had increased prices for powdered milk, and this was both a threat and an opportunity. The case study mentions that higher prices for powdered milk increased the demand for fresh milk by artisanal cheese makers, who competed directly with industrial processors for milk collection. In addition, the rising shelf price of powdered milk may increase the demand for UHT milk, which competes more directly with powdered milk than pasteurized milk does as a result of sharing non-refrigerated distribution channels. Furthermore, this price increase represents a great opportunity for Matilde, especially in more price-sensitive market segments.

- *Lala entry in the region.* This is probably the biggest threat faced by Centrolac and the other competitors in the local industry. The case study indicates that Centrolac sales were not experiencing additional growth due to a lack of quality raw material, a problem that would only worsen with the entry of Lala, which was not just any competitor but one with financial strength, experience in all the stages of the dairy products value chain and an extensive product portfolio. To face this competitor Centrolac would have to strengthen its relationships with suppliers, help them improve their productivity, and look for new sources of quality milk, either from new suppliers or through vertical integrating as a milk producer.

Most likely, Lala chose to enter Nicaragua as a result of its cattle-raising potential. Rather than a threat, Lala's entry can help consolidate a dairy cluster in the country by forcing all other processors to become more competitive (see Porter, 1990). Nicaragua was the Central American country with the lowest productivity per cow (see Annex 6 of case study) and only 8.6% ($133.6 / 216.3 * 14\%$) of milk production was collected by industrial processors, so that raw material should not be a constraint.

To illustrate, if Nicaragua's productivity matched that of Costa Rica and if Nicaragua collected 100% of its milk for industrial purposes, then processors would have 432.600 gallons ($3.8 / 1.9 * 216.3$) available to them, that is, 23 times the amount they collected in 2012 ($432.6 / 18.7$) (see Annex 7 of case study.) The challenge for industrial processors would be to enhance the productivity of milk producers and finance or co- invest with producers in infrastructure to collect milk for industrial purposes.

3. State advantages and disadvantages of each growth alternative. Do these alternatives match Centrolac's strategic positioning? State critical success factors to implement each alternative. State other growth alternatives, if any.

Vertical integration: producing milk

The major advantage of this option is that it would ensure a greater supply of milk to Centrolac, especially with the arrival of a new competitor that will probably result in higher prices for fresh milk. Another advantage of vertical integration is that Centrolac would have more control over the quality of milk.

This option matches the strategic positioning of Centrolac because it would reduce the cost of raw material: the price paid to producers under current demand conditions is US \$ 0.48, the cost of reconstituting powdered milk is \$ 0.56 per liter while Centrolac could produce milk at a cost of US\$ 0.16, well below the cost paid even before the boom of exports to Venezuela (US\$ 0.38), which increased demand for milk locally. In addition, the UHT milk plant has a spare capacity of 270,000 and 50,000 liters per day in its ultra-pasteurization and packaging processes, respectively. So by increasing supply it can spread fixed costs over a larger base, thus strengthening its cost-leadership strategy.

Students might point as one disadvantage of this option to Centrolac's loss of focus from entering a non-core business, thus requiring new skills. This apparent disadvantage can be overcome by establishing a Strategic Business Unit (SBU) within the company, or better yet by founding a new company exclusively devoted to dairy farming activities. The fact that

both companies would operate independently would facilitate the eventual sale of the processing company to a buyer interested in the consumer products portfolio but not in the dairy farming side of the business.

The critical factor to implement this alternative is to achieve economies of scale through a large herd (the benefits of a large herd were mentioned in question 4), which will require significant investment. Besides, the new SBU or company must acquire milking technology and human resource with cattle management skills.

Expand product portfolio - processed cheese and yogurt

The case study suggests that one reason for Centrolac's little penetration in the traditional channel is because it lacks a broad product portfolio, unlike its local competitors. In addition, by relying on a single product category and having a weak brand, Centrolac risks being displaced by a private label, especially in export markets where it loses its competitive advantage as a result of transportation costs, taxes (see Annex 5 of case study) and non-tariff barriers in Central American countries.

By diversifying its portfolio Centrolac can improve its penetration of the local, traditional channel and enhance its export supply with higher value added products, potentially opening new destinations especially in the case of processed cheese. But if it aims at increasing its bargaining power in the modern channel, then Centrolac must first strengthen its own brand. Hendrickson et al (2001) argue that dairy processors can gain bargaining power vis-a-vis retailers to the extent they have a strong brand turning them into "category leaders" and allowing them to negotiate in other categories.

However, it seems unlikely that Centrolac can achieve competitive advantage based on cost leadership in these product lines. Unlike UHT milk which was a disruptive product locally, in the yogurt market Centrolac will have to compete with well-positioned brands like Yoplait, Eskimo, and Dos Pinos. In addition, in Central America only Guatemala has significant yogurt imports but these hardly approach 10% of imports of fluid milk (see Annex 4 of case study.) In the case of processed cheese, the case study mentions that it is one of the dairy products most imported from outside Central America. Based on the income level of Central American countries, it can be inferred that market size for processed cheese, seen as a premium product, must be very small. It is hard to imagine that these products will reach sufficient demand to achieve the economies of scale justifying investing in Tetrapak equipment.

Another argument against this option is the shortage of raw materials and the spare capacity the company has at its UHT milk plant. Centrolac must increase collection of fresh milk, especially in view of the arrival of Lala and pressure from

artisanal cheese makers, before venturing into other product lines, especially since growth restriction stems from the lack of raw materials, not for lack of a market.

It is always important for students to raise other interesting growth alternatives. However, in this case all relies on having enough raw material available, which is currently hard and all the more so now that a new competitor has entered the market.

Suggested discussion sequence

Min. 0-5 Definition of decision problem

Min. 5-15 Environmental scan

Min. 15-20 Industry analysis – international level

Min. 20-25 Industry analysis – regional level

Min. 25-40 Competitor analysis

Min. 40-60 Definition of the three sides of competitive strategy

Min. 60-70 Analysis of vertical integration

Min. 70-80 Analysis of expansion of product portfolio

See Annex 1 for whiteboard diagram suggestions.

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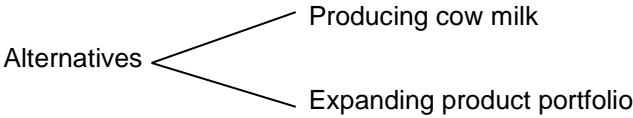
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Annex 1

Centrolac Teaching Note

Whiteboard Plan

<p>Problem Statement</p> <ul style="list-style-type: none"> -Growth in 2013 was just 4% while it could have been 20%, due to shortage of raw materials. Future demand for raw milk in Nicaragua will increase as a result of: <ul style="list-style-type: none"> -Higher price for powdered milk > increased demand of fluid milk from cheese makers -Grupo Lala is building a facility with capacity for 200,000 liters / day <p>What can Centrolac do to face competitors and keep growing?</p> <p>Alternatives </p>			
<p>Economic Environment</p> <ul style="list-style-type: none"> -Second lowest GDP in Latin America. -Top GDP/FDI in Latin America - 4.4% GDP growth in 2013, with similar growth expected -Agricultural sector accounting for 7.5% of GDP and 26% of exports -Venezuela a major business partner 	<p>Technological Environment</p> <ul style="list-style-type: none"> -Serious higher-education and technological shortfalls, ranking 109 and 119 respectively according to WEF -Access to technological equipment can help bridge the gap vis-à-vis other countries in the region. 	<p>Social Environment</p> <ul style="list-style-type: none"> -Lowest per capita GDP in the region -42% of population below poverty line -8% unemployment -Food deficit and child malnutrition -43% of population in rural areas; 32% employed in agriculture -Best GINI Index in the region -People satisfied: political and social stability 	<p>Political Environment</p> <ul style="list-style-type: none"> -Ruled by socialist-leaning FSLN -Popular president (60%). Amended constitution to allow for indefinite presidential re-election - Political stability but little confidence in the country's institutions -Instability in Venezuela -Non-tariff barriers hinder trade in Central America
<p>Industry Analysis: International</p> <ul style="list-style-type: none"> -Industry size: US\$ 494 billion, annual growth rate 4.1% -Major producers: USA, India, and China. -Major exporters: New Zealand, Australia, and USA -Major importers: Russia, China, and Mexico. -Industry consolidation: processors looking for large portfolios and economies of scale to enhance bargaining power vis-à-vis retailers. -Partnerships between dairy and beverage companies -Increased consumption of dairy products: <ul style="list-style-type: none"> -China, India demand more protein -Consumers demand healthy, ready-to-eat products (yogurt and protein drinks) -Lower consumption of fluid milk: lactose-conscious consumers -Mega-herds: economies of scale 		<p>Industry Analysis: Regional</p> <ul style="list-style-type: none"> -Lower per capita consumption of milk -Significant intra-regional trade: 78% of imports coming from inside the region -General increase of production in all countries, save for El Salvador. Costa Rica is the largest producer, Nicaragua the largest exporter, and Guatemala the major importer -Trade taking place despite lack of import tariff harmonization and other import barriers -No leading regional competitor. Dos Pinos and LACTHOSA present in several countries Local level -Largest cattle herd in Central America but lowest productivity region wide -Lowest price paid for fresh milk in the region, now raising thanks to Venezuela from \$0.38 to \$0.48 per liter -Only 62% of milk collected. Of this, only 14% went to industrial processing 	

Annex 1 (Cont)
Centrolac Teaching Note
Whiteboard Plan

Three sides of competitive strategy (See Annex TN 2)



Analysis of competitors (see Annex TN 3)

	Eskimo	Parmalat	Dos Pinos	LACTHOSA	Salud	Estrella Azul	Lala
Market Segment	Mass consumpt.	Mass consumpt.	Mass consumption and industry line	Mass consumpt.	Mass consumpt.	Mass consumption and industry line	Mass consumpt.
Geographic Segment	Plant in Nicaragua. Exporting to Costa Rica, Honduras, and El Salvador	Nicaragua	Plants in Costa Rica*, Guatemala and Panama. Exports to 14 countries.	Plants in Honduras* and Guatemala. Distributor in El Salvador	El Salvador*	Panama*	Plants in Mexico*, Guatemala, and Nicaragua.
Number of plants	1	1	5	2	1	1	17 + 1
Products							
UHT Milk	x	x	x	x	x	x	x
Pasteurized milk		x	x	x	x	x	x
Flavored milk	x	x	x	x	x	x	x
Powdered milk			x	x			
Milk formula							x
Fruit flavored drinks	x		x	x	x	x	x
Orange juice	x	x	x	x	x	x	x
Yogurt	x	x	x	x	x	x	x
Processed cheese		x	x	x	x	x	x
Ice cream	x		x	x		x	x
Cream	x		x	x	x	x	x
Cream cheese			x	x	x	x	x

Vertical integration: producing milk

-Advantages: increased milk supply for Centrolac, better quality control. Alternative required in view of increased milk demand from artisanal cheese makers and entry of Lala

-It would enhance Centrolac's cost-leadership strategy; can result in lower cost than that paid to producers and that for reconstituted milk

-Strategic skills / actions: large herd (to attain economies of scale), milking technology, and staff with skills required to manage large herds

Expand product portfolio: yogurt & processed cheese

- Advantages: Can improve bargaining power vis-a-vis retailers, but Centrolac must first reinforce brand. Access to technology and packaging resulting from relation with Tetrapak

-Hard to attain enough demand to compete based on cost; strong local competition and little regional demand

-Centrolac faces a shortage of raw materials in addition to idle capacity in its UHT plant; it does not make much sense to engage in other products prior to solving its supply issue

Centrolac Teaching Note

Three sides of competitive strategy

Competition: Where to compete?

- **Industry sector:** Dairy goods
- **Market segment:** Massive consumption, middle- and lower-middle class families
- **Geographic scope:** Central America and Venezuela
- **Products:** UHT (whole, skimmed, semi-skimmed, lactose-free) milk, flavored milk, Matilde milk formula, fruit-flavored drinks
- **Vertical-horizontal scope** (this is the question for the case study): Currently processing just UHT milk. The case study asks whether or not Centrolac should integrate vertically backwards to produce milk, or grow horizontally by expanding its product portfolio.



Strategy: How to compete?

- Generic strategy:** Cost leadership
- Strategic action and skills to develop:**
 - Immediate access to low-cost raw material (milk).
 - Effective, low-cost operating process.
 - Suppliers who identify themselves with quality and productivity.

Implementation: How to implement these decisions?

Organization and structure

- Most employees are in the field, helping boost producers' productivity.
- Distribution outsourced to CCN, a company with skills in that stage of the chain.

Policies, systems, and processes

- Effective operation process: capital intensive; low operating costs.
- Pay based on milk quality, regardless of season of the year: quality promoted.
- Quality policy in every stage in the chain, including suppliers.
- Inclusive Business Development, including producers in Centrolac's chain, to promote enhanced quality and productivity.

Strategic investments

- Plant with TetraPak equipment in a country with large herds, low-cost fresh milk, and opportunities to enhance productivity.
- Funding for cooperatives to buy collection equipment

People, culture, and leadership

- Culture focused on effectiveness, quality, and productivity: suppliers and employees.

Annex 3

Centrolac Teaching Note

Analysis of competitors

	Eskimo	Parmalat	Dos Pinos	LACTHOSA	Salud	Estrella Azul	Lala
Market Segment	Mass consumption	Mass consumption	Mass consumption and industry line	Mass consumption	Mass consumption	Mass consumption and industry line	Mass consumption
Geographic segment	Plant in Nicaragua. Exporting to Costa Rica, Honduras, and El Salvador	Nicaragua	Plants in Costa Rica*, Guatemala and Panama. Exports to 14 countries.	Plants in Honduras* and Guatemala. Distributor in El Salvador	El Salvador*	Panama*	Plants in Mexico*, Guatemala, and Nicaragua.
Number of plants	1	1	5	2	1	1	17 + 1
Products							
UHT Milk	X	X	X	X	X	X	X
Pasteurized milk		X	X	X	X	X	X
Flavored milk	X	X	X	X	X	X	X
Powdered milk			X	X			
Milk formula							X
Fruit flavored drinks	X		X	X	X	X	X
Orange juice	X	X	X	X	X	X	X
Yogurt	X	X	X	X	X	X	X
Processed cheese		X	X	X	X	X	X
Ice cream	X		X	X		X	X
Cream	X		X	X	X	X	X
Cream cheese			X	X	X	X	X