FOOD PROCESSING AND PACKAGING EQUIPMENT - PERU 2005

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SUMMARY

The Peruvian market for food and beverage processing and packaging (FPP) equipment totaled US$ 79.7 million in 2003, US$ 83.9 million in 2004, and US$ 91.8 million in 2005. Imports totaled US$ 73.7 million in 2003, US$ 73.5 million in 2004, and US$ 80.5 million in 2005. Imports are expected to grow at an average annual rate of 6.1% for the next two years. In 2005, the U.S. was the principal supplier of food and beverage processing and packaging equipment with a market share of 13.5%, followed by Brazil (8.4%), Italy (5.8%), and Germany (4.4%).

From 2001 until present, Peru experienced strong, export led GDP growth. High mineral prices, fiscal austerity and agricultural exports that benefited from the Andean Trade Promotion and Drug Eradication Act (ATPDEA) contributed to Peru's excellent economic performance. The ATPDEA will expire on December 31, 2006. On December 7, 2005, Peru and the United States completed Trade Promotion Agreement (TPA) negotiations. Once ratified, the TPA will provide U.S. exporters better and reciprocal access to Peru's markets and an improved commercial and investment climate. The prospect of a ratified TPA is generating increased expectations within the Peruvian food and beverage processing and packaging industry because the agreement continues and expands existing ATPDEA benefits. Local food producers interviewed for this study, expressed optimism about the benefits that the TPA will offer to the local economy. The advent of a TPA is prompting local food and beverage producers to consider replacing and upgrading existing equipment with more advanced and automated equipment, both in the processing and packaging production methods. The 9.4% growth of the FPP sector as well as the 25% growth of the agribusiness sector are the driving forces behind foreign and local entrepreneurial initiatives.

The local industrial food sector is very diverse and includes many important segments such as beverage, fish/seafood, fruit, vegetables, edible oils, grain, dairy products, meat and sausages, poultry, biscuits, chocolate and confectionery, and sugar. Therefore, the type of equipment in demand for the next few years (2006-2007) will also be diverse. To be successful, U.S. companies will need to be well versed regarding the new equipment needs of local processed food producers. According to industry specialists, Peruvian prepared packaged meals, targeted to ethnic groups worldwide, will constitute a growing market niche for U.S. equipment and packing material suppliers. It is necessary to provide value-added and customized solutions, both in equipment and services, to succeed as supplier to this industry. The Commercial Service recommends that U.S. exporters hire a local representative to track trends and advise them about new equipment requirements.

U.S. manufacturers and distributors of food equipment should be open to adapt their equipment and marketing and sales policies to local market conditions. Peruvian food and beverage producers respond to a more personal approach. Equipment manufacturers that maintain direct contact with their clients through periodic visits, provide quick and satisfactory responses to requests, provide good prices and flexible payment terms, reliable after-sale technical assistance and training, and ensure availability of spare parts for maintenance and repair services, will achieve a higher rate of success.

Best prospects include fully integrated high technology equipment and machinery for processing and packaging purposes (machinery for filling, closing, sealing, and labeling bottles; cans, bags or other containers; machinery for encapsulating bottles, jars, tubes and similar containers; machinery for aerating beverages; dairy machinery; heat exchange units; other packing or wrapping machinery. Closing, sealing, and labeling equipment are mainly purchased from U.S. suppliers. It is also important to mention that European (French-based DMT and German-based Bruckner) flexible container manufacturing

technology is preferred by Peruvian firms. On the other hand, Peruvians prefer U.S. technology for rigid containers manufacturing.

MARKET OVERVIEW

Peru is considered one of the most stable economies in Latin America after Chile and Mexico. Peru's GDP reached US$ 72 billion in 2005 and is expected to reach US$ 76 billion for 2006. Peru is three times the size of California and has more than 26 million inhabitants. Its trade balance with the U.S. is positive and key industries such as mining, agribusiness, tourism and fisheries have boosted Peru's economy. On December 7, 2005, Peru completed negotiations of a Trade Promotion Agreement (TPA) with the U.S., which is generating great expectations for the industry. The agreement will improve Peru's business climate by increasing foreign and local investment in domestic industries and improving customs, IPR, and other procedures that affect business operations.

The food and beverage processing industry in Peru is one of the most dynamic industrial sectors of the country. The total market for food and beverage processing and packaging equipment in Peru totaled US$ 79.7 million in 2003, US$ 83.9 million in 2004, and US$ 91.8 million in 2005. Imports totaled US$ 73.7 million in 2003 and US$ 73.5 million in 2004, and US$ 80.5 million in 2005. Imports are projected to grow at an average annual rate of 6.1% from 2006-2007.

In 2005, the U.S. was the principal supplier of food and beverage processing and packaging equipment with a market share of 13.5%, followed by Brazil (8.4%), Italy (5.8%), Germany (4.4%), Spain (4.0%), Argentina (2.4%), and Denmark (1.6%). However, U.S. companies are losing their market share due to increased competition from European companies. The Europeans have improved their market share by using more dynamic and personalized marketing strategies. In addition, several European countries posses the latest technology in several segments of the industrial food sector, such as production of dairy products, confectionery, brewery, alcohol distillery, ice cream, chocolate and sausages, among others. European vendors have also benefited from several major European food-processing companies acquiring local operations (e.g., Nestle acquired ice cream manufacturer D'Onofrio). The new ownership has naturally gravitated to European products and technology. These gains have been despite the advantage in the exchange rate enjoyed by the US dollar vs. the Euro.

MARKET SIZE TABLE
(F.O.B., US$ million)

	2003	2004	2005E	Avg. Annual Growth Rate for the next two years
Imports	73.7	73.5	80.5	6.1%
Local Production	8.6	13.5	15.2	8.0%
Exports	2.6	3.1	3.9	8.0%
Total Market	79.7	83.9	91.8	6.1%
Imports from U.S.	32.6	14.8	10.9	6.1%

(Statistics are unofficial estimates)
Source: Customs

Notes: Rounded figures and not adjusted for inflation.
Exchange Rate (Soles per 1 US$) = 3.38
Inflation Rate (%) 2003: 2.5; 2004: 3.5; 2005E: 1.5
GDP (%) 2003: 4.0; 2004: 4.8; 2005: 6.3; 2006E: 5.0

PACKING AND PACKAGING MATERIALS
The packing and packaging materials traditionally used in Peru by the food and beverage industry are: cardboard, flexible and rigid plastics, glass, tin-plate and aluminum.

- CARDBOARD: Corrugated cardboard is used in the production of boxes for agribusiness activity. Ninety percent of these boxes are produced from brown recycled paper. There was a 25% increase for Peruvian agricultural exports in 2005. It is estimated that agricultural exports will grow 40 to 50% in the coming years (2006-2007) as a result of the TPA. This will create a four percent increase in demand for printed packaging materials for the agribusiness industry (corrugated cardboard boxes with a white top-fluting-liner structure). Local box manufacturers are aware that they need to expand and modernize their production capacity, meet international standards and improve sanitary quality procedures. Additionally, Peruvian companies will have to specialize in key product lines and will require equipment upgrades to increase box production in the coming years. Four companies, Manufacturera de Papeles y Cartones, Centro Papelero, Papelera Nacional and Cartones Villa Marina comprise 90% of the production of cardboard in Peru. Small companies (less than US$ 750,000 in annual sales) produce the remaining ten percent. Beyond production for local use, the sector also exports cardboard boxes to Bolivia, Ecuador and Colombia in small amounts. The industry produces boxes for the agribusiness, confectionery, pharmaceutical, cosmetics, dairy and general consumer goods industries.

- FLEXIBLE AND RIGID PLASTICS: The primary materials used to manufacture plastic containers in the local market are: low-density polyethylene (LDPE) for multi-purpose low duty bags; heavy density polyethylene (HDPE), used as bottles and tubs for ketchup, mayonnaise and other products with extended shelf life; polypropylene (PP) which is mainly used for small vessels such as packaging for pre cut and pre washed salad greens, margarine and dairy products and buckets such as 10 kg mayonnaise, ketchup and other products of fast food; bi-axially orientated polypropylene (BOPP film), which is used for soft drink labels, packages for snacks and pasta; polyamides (nylon); and polyester (primarily PET). Korean heat-shrink PVC technology is becoming more popular, especially for labeling dairy products. Semark Peru distributes Korean Dase Sing labeling equipment.

Polyethylene terephthalate (PET) is the main input used to produce the bottles for soft drinks, bottled water, and fruit juices in Peru since 1992. It is also used for oven-film and oven-prepared food trays. PET bottles presentations in Peru vary between 250 milliliters and 3 liters capacity. In 2003, Alcoa's PET manufacturing subsidiary in Peru, Alusud, was purchased by Australian-based Amcor PET Packaging (Amcor) for US$ 75 million. The company's name was changed to PET Products International del Peru (PET Products). Currently, PET Products is the main supplier of PET packing products for the Peruvian, Ecuadorian, and Bolivian food processing and bottling markets accounting for 40% of Peru's market share. PET Products are manufactured with U.S. FDA-certified resin.

The most important plastic packaging manufacturers in Peru are: Techpak/Peruplast, Envases Multiples S.A. (EMUSA), Resinplast, Unionplast, and Envases y Envolturas. Established in Peru in 1997, Swedish-based Tetra Pak packaging products is the main supplier of carton-based packages with a wide variety of customized solutions for many types of beverages, both carbonated and non-carbonated drinks. The packaging material for Tetrapak's carton-based packages is composed of a laminate of paper, polyethylene and, for aseptic packages, aluminum foil. This combination of material varies to suit each separate product category, but in each case the only material to touch the contents of the package is food-grade polyethylene. The firm currently supplies lines for fruit processing, where fresh fruit is converted into concentrate, purée or all the way to packaged ready-to-drink products (fruit juices). Additionally, Tetrapak supplies packaging lines for nutritional beverages and soy drinks.

Local manufacturers note that plastic packing materials need to be adaptable to Peru's unique weather conditions. Peru's climate varies widely, ranging from tropical in the Jungle to arctic in the highest mountains of the Andes and desert conditions can be found along most of the Coastal areas.

- GLASS: Glass has been traditionally used as the most important rigid packaging material in Peru and it is primarily used in Peru's beverage sector. Modern packaging protects beverage, increasing shelf live and safety, an important consideration for the Peruvian market. The main lines of Peru's glass industry are: food packing, soft drink, gourmet products, bottles, beer bottles, wine and liquor bottles, and drugstore jars. Most of the glass produced in Peru comes from recycled products. Glass products require a higher initial investment (four to five times the required investment for flexible containers) but are more profitable for manufacturers in the medium term. Glass bottles are mainly used in the beverage industry and are manufactured by US-based Owens-Illinois Peru (O-I) who has operated in Peru since 1993. The firm purchased the Peru's two largest glass containers and bottles manufacturers Vinsa and Manufacturera de Vidrio del Peru, becoming the major country's glass manufacturer. O-I sales reached US$ 147.0 million in 2004. There was a 10 to 12% increase in the demand for glass containers during 2005 due to a 25% increase in the exports of packed agribusiness products (asparagus, bell peppers, artichokes, mangoes, avocados, and other gourmet products.)

- TIN-PLATE AND ALUMINUM: Peru ranks among the top three tin producers in the world. Tin-plate and steel-covered-with-tin packages are mainly used for fish/seafood products, milk, and vegetables. The fishmeal industry and the canned fish sub sector Peru has driven the trends in tin-plate packages production. These products are primarily exported in tin-plate packages to Asian and EU countries, and to the U.S. In Peru, milk is mainly sold evaporated in steel-plate cans. Milk processors have their own steel-plate can manufacturing equipment. Tin-plate local manufacturers only provide them with cutting and varnishing services. Vegetables, condensed milk, tomato paste and some pasta sauces are also packed in tin-plate and steel-covered-with-tin cans. The main tin-plate package manufacturers in Peru are Metalpren, Metal Pack and Enorsa. It is also important to mention the aluminum foil and film as metallic packing materials. They are used as a component of multilayer packing structures.

Peruvian-based Iberoplast and Brazilian-based Alcoa CSI Peru are the main suppliers of 28-millimeter plastic caps for all the local beverage industry. Iberoplast is using Italian-based Sacmi Imola technology to manufacture polypropylene caps and bags. Iberoplast is also using a Taiwanese patent design from Hon Chuan Ent Co. to manufacture 28-millimeter plastic caps, which has been already approved by Coca-Cola and Pepsi Co. Alcoa Closure Systems International, Inc. (Alcoa CSI) is one of the business units within the Packaging Group of Alcoa Inc. Alcoa CSI is currently operating in three integrated business segments: plastic and aluminum closures, packaging equipment and provides technical service. Alcoa CSI is a major supplier to global soft drink, juice, bottled water, dairy, beer, food, and liquor. Alcoa CSI manufactures plastic closures utilizing the patented Alcoa (H-C) compression molding process.

The advent of a U.S.-Peru TPA is encouraging many local food producers to consider replacing and upgrading their processing and packaging equipment. Replacing equipment will permit Peruvian companies to achieve the high volume requirements and high quality standards that are essential for competing successfully in a sophisticated market like the U.S. The replacement or equipment upgrade plan will offer U.S. equipment manufacturers increased market potential for the next five to ten years, not only in Peru but also in neighboring countries. Peruvian companies are likely to seek automated, efficient production systems that improve the industry's competitiveness (i.e. reduce labor costs and increase output and quality in the manufacturing process) vis-à-vis other global producers.

This study is comprised of the following industry sectors:

1. Beverage industry
2. Fish/seafood industry
3. Fruit, vegetable, edible oil and grain industry
4. Dairy and confectionery industry
5. Sugar processing industry
6. Meat and sausages processing industry

1. BEVERAGE INDUSTRY

Peru's beverage industry is divided into five segments: (a) Soft drinks, (b) beers, (c) bottled water, (d) fruit juices, energizing and re-hydrating drinks, and (e) other alcoholic drinks (wines, rums, and the Peruvian-flagship liquor "Pisco"). The beverage industry grew 6% during 2005 and it is estimated that this trend will remain constant for the next few years (2006-2007). Lima, Peru's capital accounts for around 60% of the country's beverage consumption with approximately 8 million inhabitants (almost one-third of Peru's total population).

The three major beverage-bottling firms, J.R. Lindley - ELSA, AjeGroup and AmBev, purchase most of the PET and glass bottles. More than 1.1 billion PET bottles were consumed in Peru in 2004. It is estimated that PET bottle consumption will grow 10% in 2005 with an estimated average annual growth rate of 7.6% for the 2006-2007 years. In 2004, demand for glass bottles also increased by 10% and the estimated growth rate for 2005 is 12%.

(a) Soft Drinks

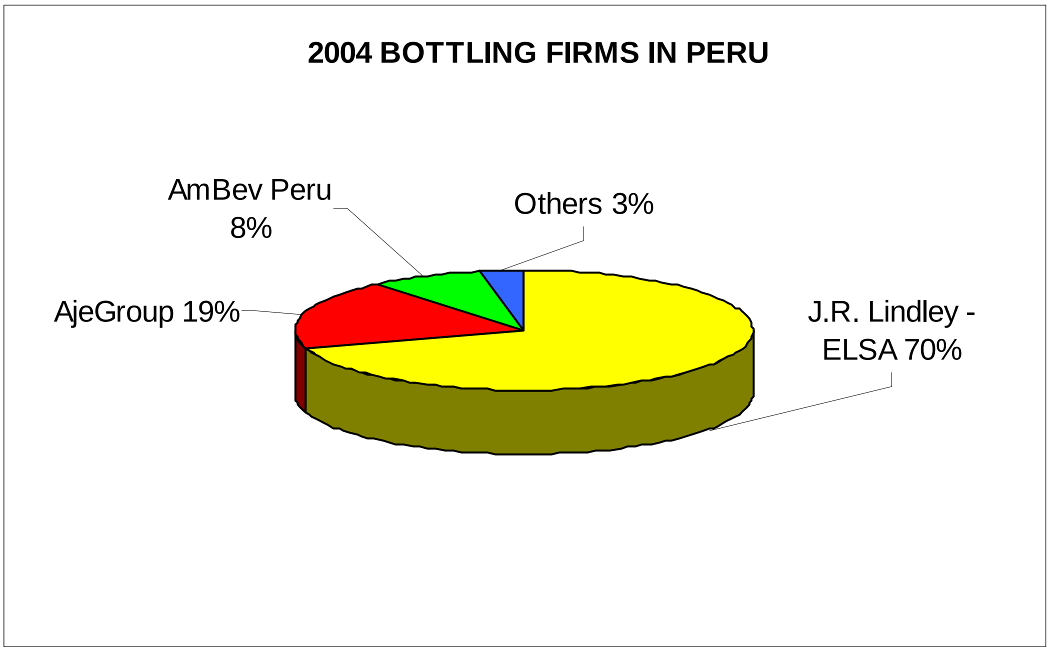
Peru's soft drink market totaled US$ 423.5 million in 2004 and US$ 460.0 million in 2005 with more than 1.2 billion of liters consumed, and an average annual growth rate of 10.0%. Nevertheless, Peru ranks among the lowest in terms of per capita consumption of soft drinks in Latin America. Peru's per capita soda consumption only reaches 40 liters per year compared with 69.2 liters, which is Latin American average. Beverage consumption is seasonable and the consumption level increases significantly during the summer months (January to March). The most important brands within this sector are Coca Cola, Inca Kola, Kola Real, and Pepsi. Required inputs for this sector are: Sugar, industrial chemicals (conservatives, flavors, and colorants) and packaging containers (plastic and glass).

Coca-Cola (CC) brands are the market leaders among Peruvian soft drinks. The brands distributed by CC in Peru are: Coca-Cola (Regular and "Light"), Inca Kola (Regular, "Light" and Caffeine-Free"), Sprite, Fanta, Simba, Kola Inglesa, Nusta, Bimbo, and Break. All of these brands are CC trademarks registered in Peru. According to the company's public financial records, annual purchases of inputs by CC in Peru totaled more than US$160.0 million in 2004.

Peru's J.R. Lindley S.A. (JRL) purchased a 60-percent share of the CC bottler (i.e., Embotelladora Latinoamericana S.A. – ELSA) from Chile's Embonor for US$ 150 million in mid-January 2004. With ELSA under its umbrella, JRL is the only CC bottling partner in Peru. At present, JRL-ELSA is operating 12 bottling plants, 29 distribution centers and a fleet of nearly 735 trucks, serving more than 440,000 retail customers nationwide, employing more than 3,250 people. JRL-ELSA bottles approximately 70% of Peru's soft drinks.

A recent market entrant, Kola Real, is produced by AjeGroup owned by the Ananos family. Kola Real has captured19% of Peru's soft drink market. By adopting a "fair-cost policy" (its prices are 50% less than competitors' prices), and by using effective distribution and marketing channels, Kola Real has become a solid entrepreneurial example for all Latin American beverage firms. Kola Real has consolidated its expansion in Venezuela and Ecuador (holding slightly more than 10% in each market) and has moved north to Mexico to take on Coca-Cola and Pepsi. Kola Real has managed to grab four percent of the Mexican market with its low-cost Big Cola brand during the 2002-2004 period.

Pepsi used to be produced, bottled and distributed in Peru by Embotelladora Rivera (ER). ER sold its two processing and bottling plants and distribution network to the world's fifth largest brewer AmBev for US$ 35 million. AmBev accounts for approximately 8% of Peru's soft drink market. Under the Pepsi Co. license, AmBev is currently producing, bottling and distributing Pepsi and Seven Up, and Cadbury's Crush and Canada Dry as well as Rivera's brands (Concordia, Triple Kola and Chiki soft drinks).



Source: 2004 Banco Wiese Sector Report

(b) Beers
In 2005, Peru's beer market totaled approximately US$ 600 million with more than 100 billion of boxes sold (each box has 12 bottles of 625 milliliters each). In 2004, Peru was ranked sixth among the Latin American beer producer countries with 2.7% of the regional share. Peru was behind Brazil (38.0%), Mexico (30.4%), Venezuela (8.0%), Colombia (7.1%) and Argentina (5.7%). The estimated average annual growth rate is three percent for 2006-2007. Peru's low per capita consumption rate (23.5 liters of beer per year) makes it a promising market to develop. Beer does not have a seasonable demand but its consumption level increases slightly during the Peruvian summer (January to March). Beer is the most preferred alcoholic drink by Peruvians due to ancestral consumption habits of corn liquor, named "chicha de jora" and its relatively more affordable prices compared to wine or other drinks. Currently, there are two brewers in Peru: UCP Backus & Johnston (which is owned by South African-based SABMiller) and AmBev Peru (subsidiary of AmBev Brazil). Glass bottles used in Peru's brewery industry vary between 500 milliliters and 1.1 liters. Backus and AmBev have their own bottling lines. Brewery equipment is mainly German.

Colombian-based Bavaria spent US$ 1.1 billion during most of 2002 and 2003 taking control of Backus and then, SAB Miller purchased Bavaria. Currently, Backus holds more than 90% of the market share with its main brands Cusquena, Pilsen, Arequipena, Cristal and Dorada. Backus has more than 140 years in the market and accounts for 80% of local beer market. Backus produced 7.5 million of hectoliters of beer, totaling US$ 515.4 million in 2005. Backus brewery group currently employs 1,425 people. Backus' malt production company, Malteria Lima, imports premium quality barley and it has a processing capacity of 60,000 metric tons per year.

Brazilian-based AmBev has invested US$ 45 million to build a brewery in Lima to engage in direct competition with the long-standing Backus' monopoly. As a result of aggressive marketing campaigns, AmBev's beer Brahma and the recently launched Quilmes brand have achieved about a six percent market share in 2004. AmBev is banking on increasing Peru's low per capita consumption as a way of solidifying its presence during 2005-2006. AmBev is taking advantage of the know-how acquired with the purchase of Embotelladora Rivera.

(c) Bottled Water

Teenage and young adult Peruvians are gradually changing their eating habits, most notably in the area of increasing their consumption of bottled water. Bottled water became a promising business opportunity in the late 90s. Bottled water represents seven of Peru's beverage market. Peru's bottled water per capita consumption is 32 times less than in Mexico and it is considered one of the lowest in Latin America. This low consumption rate, combined with the change in habits makes this segment a more promising opportunity than other segments.

Currently, there are more than ten brands of gasified and non-gasified bottled water in Peru. All of them are trademarks registered in Peru and are produced by the local soft drinks companies. The most widely consumed brand is Cielo (by AjeGroup) because it is the most affordable bottled water in the local market. JRL's bottled water brands San Luis, San Antonio and Bonacqua hold the 40% of the local market. Recently, on behalf of Coca-Cola, JRL launched its new brand Dasani that will replace Bonacqua and it is being marketed as value-added bottled water. Other brands with presence in the market are: San Carlos (by AmBev), San Mateo (by Backus), Demesa (by Peruvian-based Demesa S.A.), Seltz (by JRL), Socosani (by Peruvian-based Socosani S.A.), and recently launched Cristalina (by Backus), and Free Light (by AjeGroup).

Aquaoasis, another important player is the franchisee of U.S.-based AquaWorks, a purifying water system through a reverse osmosis process. This firm also provides maintenance services (filtering materials) to its customers.

(d) Fruit Juices, Energizing and Re-hydrating Drinks

Natural and manufactured fruit juices are widely consumed in Peru. This market segment grew five percent in 2004 due to the change in consumption habits mentioned above. Fruit juices are produced, bottled and distributed by the soft drinks producers or are squeezed and bottled on the spot in large grocery stores. JRL's Frugos is the most consumed fruit juice in Peru holding a 50% market share. Other important brands are Watt's (by Chilean-based Watt's), Pulp (by AjeGroup), Selva (by Backus), Coca-Cola's Nectarin, and AmBev's Calipso. Fruit juices are mainly packed in PET/LDPE, BOPP/LDPE, or PET/aluminum foil/LDPE films. Some of the juices are also packed in glass bottles (primarily supplied by Owens-Illinois Peru).

Flavored energizing and re-hydrating drinks are mostly imported and consumed by high-income Peruvians. The total market for this sub sector was estimated at US$ 10 million in 2004. These drinks are presented in metallic cans or glass bottles. In 2004, 6.5 million liters of energizing drinks were consumed and it is estimated a 246% increase totaling 16 million liters during 2005. The most important brands are Pepsi's Gatorade (imported by Clements Peruana from Colombian-based Colbesa), Red Bull (imported by Perufarma), Coca-Cola's Powerade, and Sporade (locally produced by AjeGroup), among few others.

(e) Other Alcoholic Drinks

- Wine: Peru produces red and white wine made from Albilla (French denomination is Sauterns), Carmenere, Cavernet, Chenin, Malbec, Sauvignon, and Semillon grape vine-

stocks. There are three important wine producers in Peru: Tabernero, Tacama, and Ocucaje. Chilean, Argentinean, Spanish, and recently, Australian wines are increasing their presence in the local market. High- and medium-income Peruvians is the consumer segment for wine. Tabernero accounts for 85% of Peruvian wine exports. Tabernero is currently exporting to U.S., Sweden, Belgium and Japan. Tacama produces export premium quality wines with French technology. Ocucaje produces export quality wines, which are currently trying to enter foreign markets.
- Rum: Along with beer, rum is the most affordable alcoholic drink in Peru. Sugar cane plantations are located on Peru's northern coast. Some of the sugar cane local production is used as input for rum production. The only export quality rum brand is Pomalca.
- Pisco: A Peruvian grape-based clear distilled brandy, Pisco received a great deal of attention during the second half of 2004. This was because Chile submitted an application to the World Trade Organization to claim that Pisco is Chilean in origin. The Peruvian Government, fought back to ensure that Pisco was recognized as originating in Peru. As a result, the Peruvian Government backed a massive campaign for Pisco to show that the product is actually from Peru. The only valleys which are allowed to use Pisco as a "origin designation" are Lima, Ica, Arequipa, Moquegua and Tacna. In 2004, Peru produced 4.8 million liters of Pisco. Currently, there are 32 Peruvian exporting firms of Pisco. According to the National Commission of Pisco (ConaPisco), the most important pisco brands are: Biondi, Gran Cruz, Sol de Ica, Montesierpe, Don Cesar, Demonio de los Andes, and La Botija.

2. FISH/SEAFOOD INDUSTRY

Peru is the world's largest producer of fishmeal and fish oil, followed by Chile and China. Fishmeal, which is used to make animal feed, fertilizers and preservatives, is produced in large, industrial factories along the coast. Peru's fisheries sector is a key component of the country's economy, accounting for US$ 482.4 million in 2004. Fisheries employ more than 70,000 Peruvians on the harvesting side, and 25,000 more are involved in fish/seafood processing. Aquaculture provides an estimated 10,000 jobs, and another 20,000 people are involved in fishery-related activities. In 2004, the estimated per capita fish consumption in Peru was approximately 21.4 kg (including products from inland fishing), higher than that of red meat (beef, sheep meat, pork and goat meat), estimated at 10.5 kg, but lower than that of poultry, which was 24.1 kg. All fishermen, but especially the small-scale ones, are organized into guilds, trade unions, maritime associations and other organizations.

Inland fishing activities are carried out mainly in the rivers of the Amazon region and in Lake Titicaca. In 2004, inland and marine aquaculture main species were trout, Peruvian scallop, crayfish, tilapia, algae, "boquichico", giant Malaysian prawn, "gamitana", Pacific oysters, red pacu, silverside, carp and turbot. It is estimated that fishing in the Amazon region totaled approximately US$ 200 million in 2004. The species with a greater commercial value are "paiche", "gamitana", and "tunucare". Most of the fishing in the Peruvian Andes takes place in Lake Titicaca, where native species are targeted (ispi, carachi, and bogue) for their quality and size. Recently, trout and Argentine silverside were successfully introduced into Lake Titicaca. Silverside is also cultivated in the Apurimac, Cusco, and Puno lagoons.

FISHING ACTIVITY IN PERU
(in thousand of metric tons)

	2004	2005E
FISH/SEAFOOD CATCHING	**8,936.0**	**8,332.3**
Direct Human Consumption	**813.7**	**745.7**
Canned	99.6	90.0
Frozen	314.4	286.5

Cured	50.7	52.0
Fresh	349.1	317.2
Indirect Human Consumption	**8,122.3**	**7,826.5**
Anchovy	8,104.9	7,826.4
Other species	17.3	0.1
FISH/SEAFOOD PROCESSING	**2,210.4**	**2,211.9**
Canned	53.3	50.5
Frozen	28.5	132.4
Cured	14.8	23.5
Fishmeal	1,821.6	1,732.5
Fish oil	292.1	272.9
LOCAL SALES	**571.6**	**532.0**
EXPORTS	**2,350.4**	**2,874.7**
TOTAL	**14,068.4**	**13,950.8**

Source: Vice-Ministry of Fisheries, Ministry of Production

Atlas-Stord Peru, a subsidiary of Norway-based Atlas-Stord, is the main supplier of fishmeal and fish oil processing equipment in Peru. Recently, Danish-based Danica has started operations in Peru. The firm supplies thermo insulating systems for improving fish/seafood storage conditions. U.K.-based Weir Vulco supplies hoses and industrial coatings.

Aquaculture is being developed in Peru, with attention focusing on farmed crayfish, trout, tilapia and Peruvian scallop, some of which is exported. Although this activity has progressed in recent years, it has not yet achieved its full potential. In 2004 production was over 10,000 tons. According to the National Society of Fisheries, fish fillet demand in the Amazon river basin will reach 150,000 metric tons annually in the next few years, representing a value of more than US$ 288 million and providing employment for more than 25,000 people. Reefer containers and related fish processing equipment offer an interesting market niche for U.S. companies.

MOST IMPORTANT CANNED FISH/SEAFOOD IN PERU

Presentation	Specie	Canning Liquid	Packing
Whole	Pacific Jack Mackerel Mackerel Sardine Pacific Menhaden Anchovy Squid	Vegetable Oil Olive Oil Tomato Sauce Hot Tomato Sauce Brine Ink Smoked	1 Lb Tall x 24 1 Lb Oval x 24 ½ Lb Oval x 48 ½ Lb Tuna x 48 ¼ Club x 50 Buffet (8 oz) x 48 Jitney (5.5 oz) x 50
Fillets / Loins	Pacific Jack Mackerel Mackerel Sardine Pacific Menhaden	Vegetable Oil Olive Oil Hot Pepper Oil Tomato Sauce Hot Tomato Sauce Brine Mustard Sauce Marinara Sauce	½ Lb Tuna x 48 ¼ Club x 50 A - 15 x 6 RO 1000 X 12
Chunks	Pacific Jack Mackerel Mackerel	Vegetable Oil Olive Oil	1 Lb Tall x 24 ½ Lb Tuna x 48

	Sardine Pacific Menhaden Giant Squid (tube) Squid (tube and tentacles) Octopus	Hot Pepper Oil Tomato Sauce Garlic Oil Brine Ink With Vegetables	¼ Club x 50 ½ Lb Oval x 48 Buffet (8 oz) x 48 Jitney (5.5 oz) x 50 RO 1000 X 12 RR 150 X 48
Grated	Pacific Jack Mackerel Mackerel Peruvian Pacific Sardine Pacific Menhaden Anchovy	Brine Vegetable Oil	1 Lb Tall x 24 ½ Lb Tuna x 48 RO 1000 X 12 A - 15 x 6

Source: Vice-Ministry of Fisheries, Ministry of Production

MOST IMPORTANT FROZEN FISH/SEAFOOD IN PERU

Specie	Presentation	Packing
Anchovy	Whole, HG, HGT, fillets	Master cardboard (2, 5, 7 or 10 kg.)
Sardine	Whole, HG, fillets, IQF fillets and butterfly cut fillets	Master cardboard (2, 5, 7, 7.5 or 10 kg.)
Tuna	Whole, whole G&G, HG, loins, fresh and precooked fillets	Master cardboard and polyethylene bags
Hake	Whole, HG, blocks, shatter pack, IQF fillets, portions, loins, minced and tablets	Master cardboard and polyethylene bags
Dolphin fish	Fillets (skin on/off), IWP and IQF fillets, different weights, whole, HG, individual portions, loins, steaks	Master cardboard and polyethylene bags
Pacific Jack Mackerel / Mackerel	Whole, HG, HGT, fillets	Master cardboard and polyethylene bags
Peruvian Silverside	Whole, HG, fillets, butterfly cut fillets	Master cardboard and polyethylene bags
Giant Squid / Squid	Whole, tubes in different sizes, wings, tentacles, loins and squares, fillets in different sizes, tender portions, breaded hamburgers, fingers, minced and surimi	Master cardboard and polyethylene bags
Mussel	IQF and half shell	Master cardboard
Top Shell	Out shell, IQF fresh frozen, IQF pre-cooked frozen	Master cardboard and polyethylene bags
False Abalone	IQF and half shell	Master cardboard and polyethylene bags
Shrimp	Shell on, peeled, peeled and cleaned, tail on	Master cardboard and polyethylene bags

Source: Vice-Ministry of Fisheries, Ministry of Production

The most important Peruvian fishing firms are: Pesquera Hayduk, Grupo Sindicato Pesquero del Peru, Austral Group, Corporacion Pesquera Inca, Pesquera Industrial El Angel, Pesquera Diamante, Conservera Garrido, Tecnologica de Alimentos, and Seo Hon de Corea. Pesquera Hayduk is one of the top 50 companies in Peru, with annual sales of over US$ 100 million. The firm produces and exports fishmeal, fish oil, and canned and frozen fish. Hayduk accounts for the 19.1% of annual total anchovy catch nationwide. In 2004, Hayduk's fishmeal exports totaled 68,949 metric tons and fish oil exports totaled 6,774 metric tons.

In 2004, exports of hydro-biological products (fish and seafood) increased in 34.7%, totaling US$ 1.39 billion. Fishmeal exports constituted 5.9% of total country's exports, totaling US$ 954.0 million. Fishmeal is exported to China (44.6%), Japan (12.0%), Germany (8.0%), and Taiwan (5.1%). Fish oil exports totaled US$ 149.2 million in 2004. Fish oil is exported to Chile (29.0%), Belgium (18.0%), and Norway (13.2%).

Canned fish is exported to Brazil, Uruguay, Argentina, Chile, Colombia, the U.S., and Canada. Frozen fish is exported to Germany, Poland, Spain, China, and Italy.

In 2004, non-traditional fish/seafood products exports grew an average of 44% compared to their 2003 values. These products were:

- Giant squid (frozen),
- Other frozen fish fillets except hake, and
- Scallops

3. FRUIT, VEGETABLE, EDIBLE OIL AND GRAIN INDUSTRY

Peru has nearly 7.6 million hectares with agricultural farming capacity of which 17.9 million hectares are earmarked for pastures. Modernization and increased use of technology by entrepreneurs and having the advantage of more than 25,000 hectares of non-cultivated lands being owned by private businessmen constitute a very interesting opportunity for investors and U.S. companies that support the food processing industry.

Fruits and Vegetables

Peru's fruit and vegetable industry comprise the bulk of the country's agribusiness export sector. The sector grew 25% in 2005 and according to industry specialists it is expected to continue this excellent growth rate from 2006 to 2007. It is estimated a 40% growth rate for 2006. Using geographic area of origin, agribusiness products may be classified in three types: Coastal, Sierra, and Jungle products.

Peru's coast is an area with great potential for being a "natural greenhouse" thanks to constant good weather and a high number of harvests per year. Peru ranks as the second largest asparagus producer behind China. Current coastal exports includes the following products: cotton, sugar, mangoes, asparagus, bananas, grapes, strawberries, avocados, tangerines, olives, beans, sweet yellow onion, garlic, marigold, fresh tomatoes, tomato paste, and essential lemon oil. Products with export potential are: citric fruits, annonas (cherimoyas and guanabanas), broccoli, rice, and olive oil.

Peru's sierra has a wide diversity of climates and temperatures, and low and intermediate elevation inter-Andean valleys. Current sierra exports are: cochineal dye, flowers, quinoa, lima beans, oregano, powdered tara, purple corn, and artichokes. Potentially exportable products are: cherimoya, elderberries, maca, nuna bean, granadilla, aromatic herbs, lima beans, kiwicha, maca, and eggfruit.

Peru's jungle forms part of the Amazon basin. The eight jungle export products are: coffee, cacao, bananas, annatto, hearts of palm, cat's claw, Brazil nuts, and turmeric.

Potential exports are: camu-camu, mullein, “sangre de grado”, macadamia nuts, sesame seeds, spices, palm oil, peccary, and lowland tapir leathers.

Other good potential growth segments are in the processing of: yellow potatoes (papa amarilla), artichokes, a giant kernel white sweet corn known as "choclo", several Andean roots and tuber crops, and fruits like avocados (Hass type), cherimoya, figs, grapes, guanabana, mango and lucuma. An Andean root, yacon, is being processed to produce diabetic dietetic sweetener. Peru is the world’s largest producer of yacon and it is currently exported to New Zealand and Japan.

Two segments encompass agribusiness activity in Peru: traditional and non-traditional exports. In 2004, traditional agricultural exports totaled US$ 325.2 million, which represented a 45.1% increase compared with US$ 224.1 million in 2003. Non-traditional exports increased in 28.0% totaling US$ 798.2 million in 2004. The U.S. remained as the main destination for Peru’s agricultural exports with 38.4%, followed by Spain (16.4%), and the Netherlands (7.9%).

The top six agribusiness-exported products during 2004-2005 were:

- Asparagus (fresh and refrigerated, preserved or canned, and frozen),
- Mangoes (fresh or dried),
- Grapes (fresh),
- Paprika (dried, crushed or ground),
- Other vegetables (unfrozen, preserved and canned), and
- Jalapenos (preserved).

The sector’s high growth rate has made Owen-Illinois’ local production unable to satisfy the demand for glass containers. The agribusiness firms are currently complementing the local production deficit with glass containers mainly from Spain. Caps are purchased from Spanish-based Metalcaps and Vensa. U.S. caps used in the agribusiness industry are not the preferred choice for Peruvian companies who usually look for just-in-time stock availability and price. According to U.S. brand management policy, U.S. firms sell both the caps and the sealing equipment as a package. This policy discourages Peruvian firms from purchasing U.S. caps. The most widely consumed caps by agribusiness processors are 5.8, 6.3, 7.7, and 8.2 millimeters in diameter. CH & V Graficos and Graficas Canepa, two local printing firms specialized in agribusiness, are the main suppliers of labels to the industry. It is also important to mention that CH & V is producing a new line of special structure cardboard boxes using Chilean pulp.

Edible Oil

In 2005, the total edible oil market was estimated at US$ 260 million. Peru has traditionally been an importer of edible oil. Soybean oil is imported from Argentina, Brazil and Bolivia. The Peruvian government working in cooperation with the U.S. DEA drug eradication program has been promoting an alternative to the coca leaf, which is the palm oil tree. Recently, palm trees are being successfully cultivated in the jungle, slowly replacing coca leaf plantations. Palm oil is consumed by Peruvians, albeit in small quantities. Alicorp is the major edible oil producer in Peru. The firm accounts for the 40% of local edible oils in the market. There are no Alicorp’s specific projects for equipment upgrading within this sub-sector at the time. Argentine-based Dos Molinos a producer of soybean oil and sunflower oil has launched its brand “Ideal” in order to compete with the seven Alicorp’s oil brands (most important are: “Capri”, “Friol” and “Primor”). More than 200,000 metric tons of edible oil were consumed by Peruvians in 2004; of which, 19,196 metric tons were imported. In 2005, there was an estimated 17.2% increase in imports of edible oils totaling 22,500 metric tons. Demand for olive oil increased 4-5 %. Olive oil is mainly imported because local production is exported at a better price. Hotel, restaurants, and high-income Peruvians are the main consumers.

Lard is mainly consumed by the local industrial baking, cookie and biscuit manufacturers. Over 60,000 metric tons of lard were consumed during 2005, of which, 9,400 metric tons were imported. Margarines also experienced an increase in demand from roughly 10,000 metric tons in 2004 to 15,000 metric tons in 2005.

LOCAL PRODUCTION OF EDIBLE OILS

Product	2004		2005E	
	Metric Tons	US$	Metric Tons	US$
Vegetable Oil	145,626	139,470	157,892	157,878
Compound Oil	44,258	44,736	27,094	27,094
Lard	50,666	48,312	47,222	47,288
Margarine	9,288	10,858	14,918	13,406

Source: Ministry of Agriculture

Grain

The grain processing industry in Peru is small and will not be upgrading its processing lines in the short term. Peru produces about 180,000 metric tons of soft wheat, which is used locally for traditional foods, and is not sold into processing channels. Most wheat is processed into flour for bread and pasta. According to the U.S. Foreign Agricultural Service in Peru, U.S. wheat holds about 50% of the market. Consumption of yellow corn is mainly for poultry production. Peru imports corn and wheat from Argentina and the U.S. Corn imports will probably decrease in the short term as a result of government efforts to encourage local production. It is also important to mention that Peru imports soybean meal for poultry feed. Peru's main soybean meal suppliers are Argentina, Bolivia, Paraguay and the U.S.

Two traditional crops native to the Andes, represent new business opportunities in the area of food processing. One is quinoa (pronounced keen-wah), which, according to the University of California at Berkeley, can replace almost any other grain, since it has a delicate taste and light flavor. It offers more iron than other grains, high levels of potassium and riboflavin, and excellent reserves of protein. Another grain-like crop that grows in the Andes is Amaranth, which is not deficient in the amino acid lysine, and therefore, when it is eaten with wheat, barley, or rice, it provides a complete protein. Amaranth supplies high amounts of calcium, folacin, magnesium and iron.

DAIRY AND CONFECTIONERY INDUSTRY

Dairy Products

The Peruvian dairy market totaled US$ 300 million in 2004 and approximately US$ 320 million in 2005. There are four major dairy processing firms in Peru. The largest, Gloria S.A., holds an 80% market share and is owned by the Rodriguez Banda family. Gloria's sales totaled US$ 240 million in 2004. Besides Gloria, other players include: Laive S.A., Nestle Peru and Danlac. Local demand of milk reached more than 700,000 tons in 2005. Gloria produces evaporated and UHT milk, yogurts, and cheese with its own brand "Bonle" (Edam, Dambo, Parmesan, melted, fresh, ready-to-spread cheeses). Laive S.A. produces butter, cheeses, milk and yogurts. Nestle Peru dairy products division produces evaporated, condensed and powder milk with its own brands: "Ideal", "Amanecer", and "Crecimiento". Danlac dairy products are "Yoleit" yogurt and "Vigor" UHT milk.

The fresh milk supply increased by 13% during 2005. Evaporated milk is the most consumed type of milk in Peru and its consumption increased in 17.5% in 2005. This type of milk is packed in steel cans and it is marketed in single and six-pack presentations. Milk processing firms have their own processing (including filling, closing and sealing equipment), and labeling equipment. Upgrading and expansion in production lines may occur in the medium term due to increase in exports to neighbor countries. Exports of evaporated milk totaled US$ 31.5 million in 2003 and US$ 40 million in 2004. The trend in this sector is to focus on value added production such as skimmed, and semi-skimmed milk, age-segmented milk (for tots, infants, young, adult and old people), light yogurts, among others.

Powdered milk imports totaled more than US$ 10 million from Gloria's Bolivian subsidiary. Imports of skimmed milk increased in 131% in 2004. It is also important to mention that whey and butter whey imports increased in 50% during the same period. Whey is spreading as a food ingredient in Peru. In 2004, imports came from France (35%), especially with de-mineralized whey, Australia (17%), and Chile (14%). Consumption of yogurt grew 11.9% and UHT milk in 24.5% during 2004.

There was a seven percent increase in demand of yogurts and cheese during 2005. Annual per-capita cheese consumption is only 0.36 Kg. The target market for imported cheese is the middle and high-income segments. In 2004, Peru's imports of cheese were from Argentina (32%), the U.S. (24%), New Zealand (12%), and Uruguay (9%). Imports from Argentina grew two percent compared with 2003, while from the U.S. remained stable.

Confectionery

The confectionery industry in Peru is comprised by the following segments: Candies, cookies, chocolates and snacks. Four foreign firms dominate this industry sector: Argentine-based Arcor, Chilean-based Carozzi (Ambrosoli and Costa brands), US-based Kraft, Swiss-based Nestle. There are about fifteen local producers of confectionery goods. The most important are: Karinto, Negusa, Confiperu, Winters, Procacao, Uruma, F Y D Inversiones, Dulfinos, Fabrica de Chocolates Andina, Fabrica de Golosinas Dulcito, Conservas y Alimentos, and Bocaditos Nacionales, among few others. Peruvian-based Alicorp holds 24% of Peru's cookie market. Confectionery products have a seasonable demand in the autumn and winter months (April to October). This sector is growing at an average annual rate of 5.3%.

Peru's per capita confectionery consumption is one of the lowest in the Andean region and it represents a very interesting opportunity for U.S. firms that may be interested in entering in this market. It is important to mention that cookies and snacks are the fastest growing segment within this industry. The target market is constituted primarily by infants and young people, which represent approximately 32% of Peru's population, totaling 8.3 million inhabitants. There is an increasing trend in looking for value-added cookies and snacks (e.g., whole-wheat cookies, garlic-flavored cookies, spicy snacks, artisan-made snacks, among others).

Peru's chocolate market totaled approximately US$ 60 million in 2005. The gourmet chocolate segment only represents five percent of this value, totaling US$ 3 million. There are two premium export-quality gourmet chocolate producers in Peru: Chocolates Helena and La Iberica. Gourmet chocolate coating machinery is from the U.S. while truffle-creaming equipment is from France. Customized automatic gourmet chocolate packing machinery is locally supplied due to lower costs and timely delivery.

New demands are constantly being made on the confectionery industry. Since products change frequently, confectionery machinery manufacturers must exhibit a high degree of flexibility and willingness to provide customer-specific solutions. Long-term improvements in user friendliness and functional design in conjunction with active quality management - in this case with special reference to hygiene regulations; are prerequisites set by local buyers of these machines.

European confectionery processing equipment is highly regarding by Peruvians. Confiperu acquired Netherlands-based Aquarius confectionery processing equipment. CFS Weert distributes Aquarius equipment worldwide. This equipment includes lollipop processing and wrapping machines, sugar cube processing and packaging machines and vertical confectionery packaging machines. Confiperu also purchased Italian-based ACMA GD's automatic packaging machinery.

SUGAR PROCESSING INDUSTRY

Sugar production in Peru totaled 600,000 metric tons in 2004 and 750,000 metric tons in 2005. Peru is today a small sugar producer with less than 80,000 hectares planted but it has the potential to reach 1.0 million hectares in ten years and 2.0 million hectares in 20 years. According to the Food and Agriculture Organization of the United Nations, Peru led the cane yield by hectare worldwide followed by Zimbabwe, Senegal and Swaziland during 2003-2004.

Peru's local demand of sugar totaled 900,000 metric tons in 2005 or which approximately 150,000 metric tons were imported. According to the National Sugar Institute, 85% of the sugar produced is packed in paperboard bags, and the remaining 15% is packed in polyethylene bags. The most important firms supplying the local sugar packing market are: Trupal, Rodapesa, Casdevi, Iberoamericana de Plasticos and Norsac. Derivatives from sugar processing are: (a) Molasses is used to produce rum, yeast, and monosodium glutamate ("Aji-No-Moto"), and (b) bagasse, which is used to produce fuel for boilers, and as a raw material for paper and wood processing.

Following are the eleven local sugarcane and sugar mill firms, which currently supply most of country's local demand of sugar.

2003 LOCAL SUGAR PRODUCTION

Company	Harvested Area (hectares)	Cutting Age (months)	Sugar Cane Yield (ton/hectare)	Sugar Yield (ton/hectare)
Pucala	8,102	13.7	82.6	8.6
Tuman /1	9,118	14.6	118.6	13.5
Pomalca /1	7,638	14.0	79.0	7.6
Cayalti /1	N/A	N/A	N/A	N/A
Casa Grande /1	16,966	16.9	90.2	9.8
Cartavio	10,303	15.6	135.6	14.1
Laredo	6,899	16.6	134.6	16.8
San Jacinto	5,434	15.5	122.2	13.5
Paramonga	8,106	16.7	121.1	13.5
Andahuasi	3,639	15.0	154.6	18.0
Chucarapi	971	20.0	128.2	10.5
Country's Average	77,176	15.8	114.5	12.5

Source: National Sugar Institute
/1 Firms that are not yet privatized.

Grupo Manuelita owns Laredo and San Jacinto is owned by the Peruvian-based Picasso-Candamo group. Cartavio and Chucarapi are currently owned and well managed by local entrepreneurs. The Peruvian-based Wong group (owners of the most important and reputable retail chain stores in Greater Lima) became the main shareholder of Paramonga and Banco Wiese acquired the Pucala sugar mill.

Cartavio, Laredo and Andahuasi have achieved substantial improvements in production in the two last years. These companies are working new fields using drip irrigation technology and obtaining the following productivity with the first cut between 16 to 18 months: Cartavio (La Libertad) with 220 metric tons/hectare; Laredo (La Libertad) with 210 metric tons/hectare, and Andahuasi (Lima) with 280 metric tons/hectare.

Nevertheless, it is expected that new capital and technology from the strategic partners in the recently privatized mills as well as excellent weather conditions will gradually convert Peru into a significant exporter of this sugar and its derivatives. Currently, household consumption represents 85% of the total sugar demand. The remaining 15% is used by the food and beverage industries.

In 2004, Peru benefited from a U.S. sugar quota of 3.9%. This means that Peru exports to the U.S. approximately 45,000 tons of brown sugar at the U.S. internal price levied with no tariff duties. According to industry specialists interviewed for this report, Peru was in an ambiguous position regarding market access for sugar during the Trade Promotion Agreement negotiations with the U.S. due to internal political and financial sector difficulties.

Peruvian companies like Famia Industrial S.A. and Fima S.A. are currently the top local manufacturers of sugar production equipment (both companies manufacture over 80% of the domestic machinery). However, these two manufacturers do not have the infrastructure, technology nor the capital to be competitive with foreign manufacturers of the machinery that the leading local representatives can supply.

Local firms prefer to work with European companies. According to several Peruvian firms, companies in Europe seek a long-term relationship with local companies, offer better payment terms than U.S. firms, and provide more credit. Major suppliers include: 3M Walkers (Mexico), BMA (Germany), and Fives Cail (France). U.S. suppliers must try to understand the importance of providing not only an advanced and high quality product, but also provide better financing conditions. After sales service is considered adequate and is complemented with local manufacture of some parts. Major U.S. Suppliers: Western State, Ferguson, Fulton Iron Works, and General Electric. The U.S Export Import Bank and Overseas Private Investment Corporation can support U.S. exporters and investors efforts to supply the industry.

Andahuasi is the only sugar-processing firm that has upgraded its equipment by purchasing refurbished Brazilian milling equipment. While price is an important competitive factor in the Peruvian market, after-sale support is also an important point to consider when selling into Peru.

Peru has the potential to be the world’s leading sugar cane producer. Plans for ethanol production will be a driving force behind the industry’s growth. Currently, Corporacion Miraflores S.A. (COMISA) is pursuing a 1.2 million liter ethanol production mega project in Peru whose initial level of production will be 300,000 liters. Peru has no local ethanol production at this time. According to COMISA, Peru is expected to begin a gasoline-for-ethanol replacement program of five percent by 2005 (The law was still pending as this report went to press.) Development of ethanol prospecting activities from sugar cane will be located along the northern coast due to excellent weather conditions and low production costs. Peru has an estimated one million hectares available for development along the northern coast. The growth potential in terms of hectares of sugar cane within the context of an ethanol mega-project could reach approximately to 2.0 million hectares; nevertheless a conservative projection of 50% over 20 years would be as follows:

POTENTIAL IN HECTARES OF SUGAR CANE

Year	Lima/Ancash	La Libertad	Lambayeque	Piura	Total
2005-2006		4,000	10,000	6,000	20,000
2007-2008	10,000	28,000	30,000	12,000	80,000
2009-2010	40,000	68,000	70,000	22,000	200,000
2011-2015	80,000	140,000	100,000	80,000	400,000
2016-2020	110,000	240,000	150,000	200,000	700,000
2021-2025	150,000	320,000	230,000	300,000	1’000,000

Source: Corporacion Miraflores S.A. – COMISA

The increased use of ethanol is an obligation for countries (including Peru), to need to lower vehicle emissions to comply with the Kyoto Protocol. The above-mentioned mega-project considers the worldwide ethanol demand projected to year 2010. Peru would presumably focus on Asian markets (especially China and Japan). Peru would also need to develop harbors and the required infrastructure for ethanol storage at ports. Theoretically, Peru could be the most cost effective producer of ethanol in the world.

MEAT AND SAUSAGES PROCESSING INDUSTRY

Meat

Peru produced more than 700,000 metric tons of meat produced in 2005. For decades, poultry meat has been the most consumed product by Peruvians due to its affordability. Andean bred animals (alpaca, cuy and llama) are being purchased by large restaurants and hotels, for use in Peruvian gourmet cuisine.

Low technology meat processing machinery is supplied by local metal working manufacturers. European firms primarily supply intermediate and high technology equipment. U.S. firms supply some cutting and slicing machinery.

Following are the most consumed meats among Peruvians during 2004-2005 years:

LOCAL CONSUMED MEATS

Type of Meat	Market Share
Poultry	47.8%
Beef	18.7%
Pork	6.9%
Ovine	6.0%
Alpaca	1.1%
Goat	1.0%
Llama	0.3%
Others	18.2%
TOTAL	100.0%

Source: Ministry of Agriculture

In 2004, the estimated per capita red meat consumption (beef, sheep meat, pork and goat meat) was 10.5 kg. This is lower than that of poultry, at 24.1 kg. In 2004, there were approximately 84.7 million of domestic fowls. Currently, the Ikeda group through its meat and sausages firm, San Fernando, is exporting poultry meat to Japan and it is expected to increase its market share steadily due to the highly competitive costs of Peruvian poultry meat. San Fernando is boosting the turkey meat consumption among Peruvians through aggressive marketing campaigns. Besides, San Fernando, major poultry meat producers are Avinka and Redondos.

The poultry sector provides 70% of the total animal protein (poultry meat and eggs) consumed by Peruvians. Almost the 80% of Peru's poultry meat production is along the coast where the chickens are bred intensively, meeting international sanitary and hygiene standards, and accomplishing the HACCP standards. Local poultry meat production was around 850,000 tons in 2005. The 2005 Avian Flu scare somewhat local poultry consumption.

Peru has a wide variety of meat, which is currently being improved in order to meet international standards and to enter into more competitive markets. Following is a table with the most important species:

LIVESTOCK SPECIES IN PERU

Specie	Population	Race	Location
Alpaca	3.04 million	Suri	High-altitude Andean areas
		Huacaya	
Llama	1.10 million	------	High-altitude Andean areas

Ovine	14.26 million	Criollo	High-altitude Andean areas
		Corriedale	
		Junin	High-altitude Andean areas
		Hampshire	
		Black Belly	Inter-Andean valleys
Bovine	4.98 million	Criollo	Inter-Andean valleys
		Holstein	High-altitude Andean areas, Coastal and inter-Andean valleys
		Cebu	Jungle
		Brown Swiss	High-altitude Andean areas and inter-Andean valleys
		Yersey	
Pork	2.78 million	Criollo	Coastal and inter-Andean valleys
		Yorkshire	
		Duroc	
		Hampshire	
		Landrace	
Goat	2.0 million	Criollo	Coastal valleys
Turkey	1.1 million	Criollo	Coastal valleys
Hen and Roaster	22.2 million	Criollo	Coastal and inter-Andean valleys
			Coastal valleys
Duck	1.1 million	Criollo	Coastal valley and low-altitude Jungle
		Pekin	Coastal valleys
Chicken	47.6 million	Hybrid types	Coastal valleys
Cuy	6.9 million	-----	Coastal and inter-Andean valleys
Rabbit	1.4 million	California	Coastal and inter-Andean valleys
		New Zealand	
		Rex	
		Leonado de Borgona	

Source: Ministry of Agriculture

In 2005, more than 1,600 heads of alpaca were exported to the U.S., Ecuador and Australia. Peru mainly imports beef and ovine meat but in small volumes.

Sausages

Peru's sausage market totaled US$ 60.0 million in 2004 and US$ 64.2 million in 2005. Its projected average annual growth rate is seven percent for 2006-2007. Seventy percent of sausage processing equipment is European (mainly German), and the remaining 30% is from the U.S. Local sausage producers also import soy protein, fecula, preservatives, colorants, and some meat.

The main sausage producers in Peru are: San Fernando, Laive, Razzeto, Braedt, Otto Kunz and La Segoviana. Meat is locally supplied and also imported from Chile (due to lower tariffs). Poultry derivatives (chicken paste) are imported from Brazil (due to lower prices).

A local gourmet sausage producer, Braedt, has signed agreements to supply U.S. franchisees in Peru (Papa John's, Pizza Hut, TGI Friday's, and J.W. Marriott Hotel). Braedt's business model is 75% sausage production and 25% dairy products. Braedt is a brand already registered in Peru. The firm also distributes exclusively Argentine Sancor products, Chilean wine Vina Segu, and Argentine wine Alta Vista. They are also supplying the market with beef and pork meat special cuts (ham, loin, belly and shoulder).

MARKET TRENDS

Fisheries are expanding through the diversification of traditional catch and processing techniques, which may require specialized vessels to handle giant squid ("pota"), tuna and deep-sea cod. Other potential resources, such as deep-water red crayfish and king or giant crab, have been identified and could sustain new fisheries in the future.

Value- added food and beverage products (e.g., garlic-flavored margarine; light, caffeine-free soft drinks; lemon-flavored bottled water; among others) are the most interesting emerging product lines within the industry. Intermediate technology processing equipment will be required for short and medium term upgrading phases of major local players.

Consolidation and expanding per capita consumption will be key strategies in the coming period (2006-2007) for the major players in Peru's food and beverage industry. Package and container recycling have driven the technology trends not only to provide a more eye-catching appearance and a secondary use, but also to ensure that discarded containers and packages will not pollute the environment.

Peruvian prepared packed meals, targeted to ethnic groups worldwide, will constitute an interesting market niche that U.S. equipment and packing material suppliers can capitalize upon. In order to accomplish local exporters' goals, cold storage equipment, i.e., IQF tunnels (working temperature between -18 and -20 ºC), and accessories, will be required.

It is expected, however, that the U.S.-Peru TPA may affect the sector both positively and negatively. While some medium and small food producers may disappear due to the tough competition that may arise, others may strengthen their position in order to take advantage of the opportunity to start or increase their exports.

Another change that has occurred in Peru for the past decade or so is the sale of traditional family-owned food companies to international companies. There are some significant examples of changes in company ownership and all of them have in common the following factors: All companies belonged to old and well-known Peruvian families; the companies had established, reputable, well-known brands which were kept intact in most cases; the companies had well developed distribution channels for their products; and lastly, the factories were acquired by very well-known international food related corporations. An important reason for these ownership changes is that the former owners did not have the necessary resources to invest in new equipment to upgrade their factory production and because of this, decided to sell. This change in the local food industry structure has contributed to the replacement of processing and packaging equipment and will continue to offer increased opportunities for the export of equipment for the food industry.

In the food industry, all types of equipment, both for processing and packaging, are in demand. Every segment of the sector needs to replace their processing and packaging lines of production. The equipment renovation and upgrading is required not only because of exhausted lifespan of existing equipment but also because of the need to automate the process in order to increase production, quality and lower production costs.

In a diversified market such as the food industry, with significant segmentation by types of food, and beverages; there are no dominant suppliers of processing and packaging equipment, excepting for the flexible container segment where only few Brazilian and European firms fulfill Peru's industry expectations.

According to companies interviewed for this study, there are several key factors for successful marketing and distribution of food processing and packaging equipment. Companies indicated the importance of periodic visits from equipment suppliers offering the latest technology available in the market. Price and flexibility in payment terms is a very important purchasing decision factor. Another important factor is reliable support in after-sale service, such as technical assistance when needed and availability of spare parts. Equipment suppliers must be well known worldwide with many years in the market and reputable high quality equipment. Commitment to train local employees either at the equipment supplier's manufacturing plant or at the importer's manufacturing plant, both for production and maintenance, is very important as well.

There is a clear trend in the packaging machinery industry towards more complex packaging systems based on the modular principle, i.e. a number of individual or purpose-designed machines are compiled to form one complete system from labeling through packaging and repackaging to palletizing and welding.

IMPORT MARKET

Imports totaled US$ 73.7 million in 2003, US$ 73.5 million in 2004, and US$ 80.5 million in 2005. Imports are expected to grow at an average annual rate of 6.1% for the next two years. In 2005, the U.S. was the principal supplier of food and beverage processing and packaging equipment with a market share of 13.5%, followed by Brazil (8.4%), Italy (5.8%), and Germany (4.4%).

Best prospects for 2006-2007 years include:

HTS Code	Description
8422.30	Machinery for filling, closing, sealing, and labeling bottles; cans, bags or other containers; machinery for encapsulating bottles, jars, tubes and similar containers; machinery for aerating beverages
8422.40	Other packing or wrapping machinery (including heat-shrink wrapping machinery)
8421990000	Other parts or machinery or apparatus for filtering or purifying water
842290.11-91	Parts of machinery of Sub Heading 8422.30
8437800010	Flour mill and grain mill machines
8419.39-50	Heat exchange units for food and beverage processing
8438900000	Parts of machinery of Sub Heading 8438
8438600000	Machinery for the preparation of fruits, nuts or vegetables

Local production of food processing equipment is not significant and does not constitute an important source of competition for imported equipment. Local production totaled US$ 8.6 million in 2003, US$ 13.5 million in 2004, and US$ 15.2 million in 2005. Local production is estimated to grow at an average rate of eight percent for the next two years. Low technology food processing equipment and accessories totaled US$ 2.6 million in

2003, US$ 3.1 million in 2004, and US$ 3.9 million in 2005. The main destinations were neighboring countries (Bolivia, Ecuador and Chile).

Domestic equipment manufacturing is limited to small cooking pots (kettles), steel metal tables for production lines, molds for bakery production, metal frames for conveyor lines, small ovens and furnaces for bakery production, small storage steel tanks, and other small equipment that requires very low technology. The lack of technology and adequate infrastructure in the local metalworking industry will continue to limit local production of food equipment in the short and medium term.

The preference showed by Peruvian food producers in European equipment for processing and packaging is based on several factors. First, there is the cultural factor. For example, in the meat and sausage segment, German equipment dominates the market in Peru. Entrepreneurs in this sector state that the sausage industry is a "product of German culture", and that the Germans have developed the best technology in sausage processing equipment. Also, German manufacturers produce smaller sausage equipment suitable for countries of small production, such as Peru. The Netherlands is another European country with very good technology in meat and poultry sausage processing and packaging equipment.

In the pasta and macaroni industrial segment, by tradition, Italy possesses the best technology in processing and packaging equipment. Almost all equipment for pasta production in Peru, such as extrusion machines, originates in Italy. This country also enjoys one of the best technologies in processing and packaging equipment for chocolate and confectionery. Therefore, local companies in this segment have installed Italian equipment in their production facilities.

In the brewery industrial segment, Peru's largest brewery has a preference for German equipment. The reason for this preference is the worldwide leadership by German companies, who are considered to possess the most advanced technology in brewery equipment. Another important factor for this preference is that German manufacturers of brewery equipment produce the complete line of processing and packaging equipment to build a complete brewery plant from one manufacturer. In the dairy industrial segment, Swedish companies produce high quality processing and packaging equipment and are considered to have the most advanced technology in this segment.

Beside the "cultural and technology" factors, local food producers expressed that European manufacturers pay much more attention to the importance of personal relationship with their clients. Representatives of European manufacturers travel periodically to Peru, and to other South American countries, to visit food producers and offer them the latest technology in processing and packaging equipment. European companies are more flexible in payment terms and their equipment is not too expensive in comparison with U.S. equipment. They also provide excellent after-sale services to their clients with periodic visits from their technicians to support their clients. In general, local food producers maintain much better communication, before, during, and after a sale, with their European suppliers.

COMPETITION

Due to the numerous products manufactured in the food industry in Peru, there is a wide variety of both U.S. and third-country suppliers of processing and packaging equipment with a long presence in the market. However, in several segments of the food industry, there are some well-known equipment manufacturers that over the years have established a very good reputation of high quality and reliability. Most important firms are Fima S.A. and Famipack S.A.C..

Fima is one of the major metalworking firms in Peru. Fima is divided in two food processing equipment units. The fish processing unit provides: equipment for complete fishmeal plants, fishing pumping systems, de-watering screens and conveyors, sea water treatment plants, bucket type elevating conveyors, fish blood coagulating systems, cookers, strainers, screw conveyors, dryers (disk, tubes, hot air), stick water plants, fishmeal coolers, wet and dry hammer mills, antioxidant feeding mixers, weighing systems (fish and fishmeal), bagging systems, bag conveyors, steel structures, bins, and tanks. The sugar processing unit provides: Cane preparation equipment, cane and bagasse conveyors, cane mills, inter-carriers, cane diffusers, juice clarifiers and heaters, evaporation stations, condensers, batch vacuum pans, continuous vacuum pans, strike receivers, mixers, crystallizers, vertical continuous crystallizers, dryers / coolers for sugar, vibrating screen, bagging & weighing systems, rubber belt conveyors, piping, and steel structures. Fima has signed cooperation agreements with Finnish-based Metso, Danish-based Atlas-Stord, and German-based Kokcs / KE for manufacturing their equipment and supplying the Andean market. During the last few years, Fima has been actively working with engineering companies, such as Bechtel, Kilborn, Simons, SNC Lavalin, Fluor Daniel, Hatch, Parsons, and Japanese trading companies such as Nissho Iwai, Mitsui, Hitachi, etc. to offer, as sub-contractors, engineering support and product manufacturing.

Famipack is one of the few local manufacturers of packaging equipment. The firm also provides after-sale service and maintenance program. Other local firms within the food processing and packaging sector which supply accessories, materials and low technology equipment are: Accesorios Industriales S.A., Cartones Villa Marina, Centro Papelero, Envases y Envolturas S.A., Envases Especiales S.A.C., Envases del Norte S.A. (Enorsa), Envases Lima S.A.C., Fabrica de Envases Lata Lux S.A., Industria de Estampados Metalicos S.A.C., Manufacturera de Papeles y Cartones, OPP Film S.A., Peruplast, Sacos del Sur S.A., San Miguel Industrial S.A., Termoencogibles del Peru S.A., among few others. Additionally, conveyor belts are supplied primarily by J&P Weighing Systems. Rest System S.A.C. supplies the injection equipment and accessories.

Despite the fact that there is no significant local production of food and beverage processing equipment, there has been a slight increase in flexible packing and packaging material local production due to steady increase of agribusiness product exports. Within the Peruvian food and beverage processing and packaging industry, it is not possible to determine the market share by major players.

END USERS

Major players usually purchase directly from the manufacturers when a complete processing line is required. Upgrades, accessories and related equipment may be purchased through companies' local representatives/distributors. Small- and medium-sized companies operating with low and intermediate technology mainly comprise the Peruvian food industry.

According to Prompyme, Peru's Small-sized Business Agency, there are approximately 7,400 medium- and large-sized firms in Peru. Of which, almost 30% are related to the food and beverage processing, packing or packaging equipment, production, export or import.

Peru: Formal Firms Distribution - By Sales Size

Type of Firms	%
Micro-sized firms 1/	20.8
Small-sized firms 2/	1.6
Rural small- and micro-sized firms 3/	77.3
Medium- and large-sized firms 4/	0.3
Total	**100.0**

Source: PromPyme
1/ Annual sales under US$ 80,000
2/ Annual sales (US$ 80,000 - US$ 750,000)
3/ Estimated
4/ Annual sales over US$ 750,000

Equipment direct purchasers are classified as follows: Beverage industry, fish/seafood industry, fruit, vegetable, edible oil and grain industry, dairy and confectionery industry, sugar processing industry, and meat and sausages processing industry. Please refer to the “Market Overview” section of this study for a listing of the key players.

SALES PROSPECTS

Best prospects include fully integrated high technology equipment and machinery for processing and packaging purposes such as machinery for filling, closing, sealing, and labeling bottles; cans, bags or other containers; machinery for encapsulating bottles, jars, tubes and similar containers; machinery for aerating beverages; dairy machinery; heat exchange units; other packing or wrapping machinery including heat-shrink wrapping machinery. Closing, sealing, and labeling equipment are mainly purchased from U.S. suppliers. It is also important to mention that European (French-based DMT and German-based Bruckner) flexible container manufacturing technology is preferred by Peruvian firms. On the other hand, Peruvians prefer U.S. technology for rigid containers manufacturing.

For the fish/seafood industry, most required materials and processing equipment are as follows: water softeners, fishmeal antioxidants, bactericides, mercuric chloride, sodium carbonate, scales, pumps, nylon cords and ropes, steam boilers, heaters, cold chambers, hydraulic wheelbarrow, flotation cells, trimmings, direct and indirect steam cookers, compressors, contact plate freezers, fishing lines, static dewatering screens, dumpers, chillers, A/C equipment, refrigeration equipment, evaporators, v-belts, conveyor and helicoidally belts, filters, hooks, iron cast spare parts, heat exchangers, steel wire meshes, hoses, gauges, without knot and twisted knotted nets, flotation equipment and spare parts, tanks, hoppers, freezing tunnels, turbo feeders, valves, ventilators, winches, and screens.

According to industry specialists, Peruvian prepared packaged meals, targeted to ethnic groups worldwide, will constitute a growing market niche for U.S. equipment and packing material suppliers. It is necessary to provide value-added and customized solutions, both in equipment and services, to succeed as supplier to this industry. The Commercial Service recommends that U.S. exporters hire a local representative to track trends and advise them about new equipment requirements.

MARKET ACCESS

There are no duties on key types of equipment and no tariff waiver programs for food and beverage processing equipment. In general, Peru enjoys a very open market, with trade restrictions at a minimum. There are no specific local content requirements for food and beverage processing equipment, parts and spare parts. International equipment standards (ISO and API) are widely known and accepted in Peru. The US-Peru TPA will have a positive impact on US products entering into Peru.

Distributor mark-up varies according to type of product, but usually ranges between 12% and 25%. All imports are subject to a 19% value-added local sales tax, which can be used as a tax credit by the importer.

New-to-market and increase-to-market firms need to keep in mind that: (1) Peru is a developing country that only now is beginning to modernize and upgrade its extracting and industrial processing industry; (2) the Peruvian labor force is young, unskilled, sizeable, and available at low cost; (3) Peruvian SMEs companies have difficulty obtaining good financing terms; and (4) English is commonly spoken among executives, but very little among intermediate level employees, and very rarely among the maintenance personnel.

Therefore, (1) Peru is considered a good market for equipment for medium-sized plants with an intermediate level of production automation which will take more advantage of the availability and low cost of the labor force; and (2) U.S. manufacturers may want to provide better information to Peruvian buyers about financing programs from US EXIM and OPIC. Also, (3) a Spanish version of the equipment specifications and/or the instruction manual would make a positive impact in the local market.

MARKET ENTRY

Peruvian owned food and beverage processing equipment distributor firms have either associated with international companies or complement their lines with imported machinery and products (e.g., Fima.) Typically, local machine and equipment manufacturers and assemblers import components from well-known international manufacturers. These companies have offices in Lima, Peru's capital city to serve their local clients. The most advisable strategy for entering the Peruvian marketplace is to appoint agents and representatives in Peru. Based on the reduced size of the Peruvian market, representatives demand exclusivity for Peruvian territory.

Peruvians consider service and support a critical factor in making the final purchasing decision, especially for products that require periodic servicing. It is important for the product to be sold through a reliable distributor that offers the quality and services that the client requires. For example, within the food and beverage processing equipment, European equipment after-sale service enjoys a superior reputation to that of third country competitors.

OPPORTUNITIES FOR PROFILE BUILDING

Most important industry-related multiplier that presents networking opportunities for services exporters are the National Society of Industries (SNI) and the Packing and Packaging Peruvian Institute (IPENBAL). These associations group all the major food- and beverage-processing equipment related firms.

UPCOMING TRADESHOWS

ENVASE PERU FAIR 2006, scheduled for September 2006 will feature the packing industry, bottling, processed foods, ingredients and related products. Envase Peru 2004 attracted more than 7,500 visitors. This fair is organized by the IPENBAL, the SNI and the Argentine Packing Institute (Instituto Argentino del Envase). For more information please visit the website: www.feriasalimentarias.com. The U.S. Commercial Service in Lima will run a catalog exhibition promoting U.S. packing and packaging equipment suppliers. For further information, you may contact Flora.Muroi@mail.doc.gov.

Outside Peru, local food processing and packaging businessmen attend Brasilpack (Brazil), Fruit Logistic (Berlin, Germany), ExpoPack (Mexico), some Argentine-based shows, and PMMI-organized shows in the U.S.