as most Japanese companies English-speaking representatives.

One company in Paraguay has exported leaves to China for processing into crystals (see section 2). This exportation was sold at a price of $1.00 per kg FOB versus the US$0.66 price sold in Paraguay. The fact that China can buy raw materials from Paraguay at a premium and still process the product competitively provides hope for the competitiveness of Stevia leaves and finished products from Paraguay.

If Paraguay is able to implement several of the suggestions in this report they will be able to sell their finished goods in Japan. The key steps to accomplish this include:
- Develop a dialogue with the Stevia Association in Japan
- Present Japan with the standards for processing Stevia leaves from Paraguay
- Educate the Japanese companies about the value of the “Stevia from Paraguay” seal
- Invite the Japanese to visit the farms, fields and operations in Paraguay
- Increase production and processing at the farm and factory level to allow for a decreased price and greater overall profits.

4.3 The Japanese Market

According to this section, the current volume of imported Stevia products in Japan has declined from 200 tons to 150 tons/year and it is expected to remain flat, with little to no growth. The price of Stevia in Japan has increased in recent months from US$14 to US$15 per kg to a price currently around US$33 per kg, which would result in an imported value of $4.95 million per year. The market for Stevia crystals has decreased in Japan over the past several years and according to Japanese Stevia companies, it is expected to remain flat. Stevia consumption in Japan is decreasing because many consumers associate Stevia with Genetically Modified Organisms (GMO).

The fact that Stevia is not a GMO product, but rather a natural herb with centuries of production in its natural condition – only in Paraguay – is not a point understood by the Japanese consumers. Japanese consumers are unaware of the nature and history of Stevia in Paraguay. These misconceptions can only be overcome with access to the correct information. In this case, consumer education, if developed properly through a marketing campaign on the benefits of Stevia from Paraguay, could be deployed to the advantage of Paraguay and not the industry as a whole, thus returning rewards nearly exclusively to Paraguay. This can be accomplished via the media kit to be produced by the Stevia Association in Paraguay (see section 5).

In recent months there has been a leaf shortage in China. It has not been determined whether this shortage will be short-term or long-term and therefore it is difficult to make recommendations on the long-term trend of the Japanese market.

The main applications of Stevia in Japan are:
- Salty foods: pickles, sea foods boiled in sweetened soy sauce, soy sauce, miso, and fish paste
- Drinks: beverages (low calorie or no sugar drinks) and milk drinks
- Desserts: ice candies, ice cream, yogurt and jelly
- Canned and jarred fruits
- Confectioneries: gums and candies
- Table sweeteners
- Toothpaste

The Japan Stevia Industry Association (http://www.stevia.gr.jp/index_02.htm) is composed of the following 10 major Stevia processing and marketing companies.
## Japanese Stevia Companies

- Ikedatohka Industries Co., Ltd. (http:www.ikedatohka.co.jp)
- TAMA Biochemical Co., Ltd. (http:www.tama-bc.co.jp)
- DAINIPPON INK AND CHEMICALS, Inc.(http:www.dic.co.jp)
- Toyo Sugar Co., Ltd. (http:www.toyosugar.co.jp)
- Tokiwa Plant/Chemical Lab. Co., Ltd. (http:www.trade.or.jp/member/tokiwa/tokiwa.html)
- Nichinouseiken Co., Ltd. (http:www.daily-yamazaki.co.jp/group_m.html)
- NIPPON PAPER CHEMICALS Co., Ltd. (http:www.npchem.co.jp/e/product/stevia/index.html)
- Fuji Kagakukogyou Co. Ltd. (http:www.waila.or.jp/kasei/fuji1.html)
- Maruzen Pharmaceuticals Co., Ltd. (http:www.maruzenpcy.co.jp)
- Morita Kagakukogyou Co., Ltd. (http:www.morita-Kagaku-kogyo.co.jp)

The association members’ supply to the customers are very specific to each end product, which means the Stevia extract/enzyme-treated products (for instance alpha glycosiltransferase-treated Stevia) are marketed as original but refined extracts, but also can be combined with other ingredients such as dextrin to adjust and/or improve the sweetness and taste. Because of this larger number of diverse market segments, which add considerable values to the commodity imported form China, it should be concluded that the actual Stevia sweetener market is a multiplier of the imported value of $4.95 million mentioned on the previous page.

The price of refined/reprocessed Stevia extracts in Japan has a very wide range because in most cases they are not sold as the pure Stevia extracts (>80 or 90 percent of the two sweetness components) but rather at the blend that meets customer requirements or applications. Very roughly speaking, the market price of Stevia extracts is about 4,000 to 9,000 yen/kg ($36.9 to $83.20 p/kg) depending on the quality (Stevioside and Rebaudioside contents), and enzyme-treated extracts about 10,000 to 25,000 yen/kg ($92.50 to $231.20). The price range looks quite wide, of course, the higher the concentrate ratio (Rebaudioside–A/Stevioside) the higher the price, as the sensory evaluation regarding sweetness mentioned above is very critical.

Few soy sauce/brown sauce producers in Japan use Stevia products, and the volume of those special sauces are very limited. According to a couple of sauce producers, a blend of licorice and Stevia is more favorable than straight Stevia in terms of masking salty taste.

What are the prospects for the future? As per the discussion with several association members as well as with sweetener suppliers, the future market of Stevia and Stevia products in Japan as sweetener may stay flat. The reasons would be: 1) safety issue, many scientific research results show that it is safe, but the consumers are rather leery, simply because some consumers have associated Stevia with GMO; 2) competition from alternatives, sugar derivatives (enzyme-treated sugar by Nikken kasei, Sucralose by San–Ei Gen), licorice (by many suppliers), and SUNET (Acesulfame K by Takeda).
The association in Japan also applied to place Stevia into the JECFA agenda (Joint FAO/WHO Expert Committee on Food Additives) that met in Switzerland in June 2004. The fact that the JECFA Committee recognized Stevia as a safe product may help with consumer acceptance. As mentioned earlier, the import price of raw materials has not been consistent, which may cause some uncertainty for Japanese processors. They need a stable supply in volume, price and quality.

### 4.4 Production Processes

Since the first entry into Japan’s market in the 1970s, extensive R&D has investigated its breeding, cultivation, processing/reprocessing methods, and its safety. The farming and processing has moved to China due to the lower associated production costs. Presently most Stevia marketed in Japan is imported from China as semi-processed Stevia extracts, but because of the quality requirements in Japan, e.g., purity or the content of sweetness components, foreign materials, moisture content and microbial contamination, almost all Stevia extracts imported from China are reprocessed to refine the extracts.

The members of the association have know-how for reprocessing imported Stevia extracts to meet Japanese quality standards. Two companies (Toyo Sugar Co., Ltd. and Nippon Paper Chemicals Co., Ltd.) reprocess the imported extracts by using a special enzyme treatment technique to produce Alpha glycosyltransferase-treated Stevia, which was patented by the Hayashibara Company. Others companies only reprocess and blend with other ingredients depending on the applications. The refining or reprocessing techniques of imported Stevia extracts are not separately disclosed but it is assumed to be very similar to the process mentioned below except membrane or ion exchange resin technique for sweetness and taste adjustment. The purpose of the enzyme treatment is to improve the taste of the finished products.
The following specifications for Stevia extracts and enzyme-treated Stevia were agreed to by the members of the Japanese Stevia Association and discussed at the JECFA meeting in Switzerland.

### The Japanese Specifications for Stevia Extracts

<table>
<thead>
<tr>
<th><strong>For Stevia extract:</strong></th>
<th><strong>For Enzyme–treated Stevia:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweetness of the four components: higher than 80 percent;</td>
<td>Sweetness of the four components: higher than 80 percent;</td>
</tr>
<tr>
<td>Dry matters: higher than 94 percent (1 g at 105° C for 2 hours);</td>
<td>Dry matters: higher than 94 percent (1 g at 105° C for 2 hours);</td>
</tr>
<tr>
<td>Ash: less than 1 percent (1g);</td>
<td>Ash: less than 1 percent (1g);</td>
</tr>
<tr>
<td>Heavy metals: less than 10 micro g/g as Pb;</td>
<td>Heavy metals: less than 10 micro g/g as Pb;</td>
</tr>
<tr>
<td>Arsenic: less than 2 micro g/g as As2O3;</td>
<td>Arsenic: less than 2 micro g/g as As2O3;</td>
</tr>
<tr>
<td>Sweetness components are analyzed by HPLC.</td>
<td>Sweetness components are analyzed by GC.</td>
</tr>
</tbody>
</table>
4.5 Supply from China

Almost no leaves are currently imported into Japan, but the processors do not want to say that they are not presently trading leaves. In order for other Stevia supply countries to compete with the raw materials from China the price/quality is critical. Dried Stevia leaves belongs to tariff code 121299300 (tariff rate is 5 percent for standard and 3 percent for WTO countries), and Stevia extract belongs to 293890000 (tariff rate is 4.6 percent for standard and 3.9 percent for WTO countries). There is no import quota or import limitation for both products from Paraguay into Japan.

The price of imported Stevia extracts from China was about 14 to 15 US$/kg C/F until early 2003 but recently the price has gone up over $30, even $33. They expect the price will come down again to the mid $20’s when the next crop becomes available. Currently association members are facing a difficult time caused by this very high price for raw materials because they cannot increase the price to the customers as it would allow for the competition to enter the market with lower prices, or other sweeteners.

The Two Main Suppliers of Stevia from China

Supplier #1 from Shandong Province

Supplied extracts to Association members
Supplied to Japan: 240 MT in last 3 years
Sweetness components 90% (5 components total=
Stevioside, Rebaudioside-A, Dulcoside-A,Rebaudioside-C and Steviolbioside)
Moisture content: 4 % max
Microbial: Total bacteria counts 100 cfu/g max
Yeast/Mold: 50 cfu/g max
Total Coli forms: negative
Total Coli: negative
Salmonella: negative
Appearance: White fine granule
Price: US$29.5/kg CIF or RMB260/kg FOB Qindao

Supplier #2 from Shandong Province

Supplied extracts to Japanese trading companies
The amount supplied to Japan
Specifications: There are 4 products. More than 90% sweetness products and more than 95% sweetness products
Moisture: less than 4 %
Foreign materials: less than 2/g
Microbial: bacteria less than 100/g
Particle size: 80 mesh pass
Price: RMB260 to 450 /kg depending on the specification
Zhuhai Stevia Science Development Co., Ltd., Following specification is obtained from Chinese Web site
TEL 0756-3226318
FAX 0756-3226319
E_mail:info@zhstevia.com
http://www.zhstevia.com
5. Prospective Market Opportunities in the United States

5.1 Introduction

The U.S. market is probably the most dynamic and is in the process of transforming itself into the largest Stevia market in terms of sales volume. In this section, the specific recommendations to the Paraguayan companies for capturing this market can be grouped in the following points:

- Focus on existing markets
- Improve Paraguay’s competitiveness
- Educate consumers
- Work with government agencies and organizations on the laws impacting Stevia sales

By working on these objectives we believe that Stevia production in Paraguay can rapidly increase and accomplish the objectives outlined.

5.2 Capturing the Market

The tendency in looking at a market is to look at the largest potential market and to determine how best to achieve sales in that market. In the case of Stevia the largest market is in consuming Stevia as an ingredient used to sweeten products ranging from soft drinks to ice cream and soy sauce. Though this is potentially the “greatest” market for Stevia, in most countries, it is not currently an available and open market.
Most countries prohibit Stevia as an ingredient or sweetener for other foods. However most major markets allow Stevia to be marketed and used as a dietary supplement. Due to this fact, Stevia can not be sold in bulk to industrial markets (sweetener), but rather is sold in specialty stores as a niche product. The U.S. market alone is greater than US$20 million.

In the long run, for Stevia to achieve its greatest potential, it needs to be legally used as an ingredient, as a sweetener. The Stevia industry must continue to focus on this long-term potential market, however, using the market currently available as a stepping stone to changing the laws may be the best means of opening this potential market.

Paraguay currently produces 500 tons of Stevia leaves. It was also determined through discussions with regional companies, that they alone have a current demand for more than 1,000 tons of Stevia leaves. With the support of these regional companies, the current production could nearly double without an increase in marketing effort or changing any domestic or international food laws.

Furthermore, a review of the U.S. industry determined that China is by far the largest supplier to the U.S. market. A review of the U.S. Stevia market illustrates that the U.S. importer associates Stevia with China, not with Paraguay. Therefore, it is important that Paraguay works to establish its reputation as a supplier of quality Stevia. When asked why various importers purchased from China, we received answers ranging from quality, to price, to ignorance of the suppliers in Paraguay.

Existing markets do not require efforts to change laws or extensive consumer education but rather focus on making Stevia from Paraguay competitive in the world market and increasing production to meet domestic demand.

A search on the Internet search engine Google for Stevia finds 295,000 hits. While adding the word “Paraguay” to the search hits are cut down to a mere 5,300. This is a drop out rate of 98 percent of the Web sites that have Stevia as their primary subject that are not associating Paraguay with Stevia in their site. When you add the word “China” to the Stevia search you get a return of 26,800 sites, nearly 10 percent of the Stevia sites associate China with Stevia while only 2 percent of the sites associate Paraguay with Stevia.

This clearly illustrates that there is significant interest in Stevia in the United States. As another illustration we learned that The King County Library (Seattle, Washington) has 15 books on Stevia and cooking with Stevia. When we checked availability we found that all of these books were checked out and there were waiting lists. Some of the lists had as many as five people waiting for the book – another testimony to the interest in Stevia.

When doing a search on the term “Stevia Sales,” Google returns over 10,000 hits. When adding the name “Paraguay,” this drops to only 587, which again reflects a very small percentage of consumers associates Stevia with Paraguay. When adding the name “China” the returns are 902, nearly double that of Paraguay and close to 10 percent of the total when simply searching for “Stevia Sales.”

If Paraguay is going to compete with China, and other countries, in Stevia production it will need to educate the consumers that Stevia “is” from Paraguay, just as wine is from France, cheese is from Holland, coffee is from Colombia and kiwi is from New Zealand.

There is no question that Stevia captures interest on a global basis. The key for Paraguay is to: a) determining a strategy to capture a reliable and loyal market share and b) pursue the defined strategy.

5.3 The U.S. Market

According to businessman Steve May: “We estimate the retail table top market for Stevia [in the United States] in 2003 was approximately $20 million to $22 million and growing at 40 percent per year.” This entire sales volume falls within the existing FDA regulations. These products are marketed as dietary supplements and come in the form of pills, powders, liquids and herbal teas. Wisdom Natural Brands (formerly Wisdom Herbs) has a 53 percent market
share while their nearest competitor is currently at 17 percent market share. Below the Wisdom of Natural Brands there are several brands with markets ranging from sales in natural food stores to mail order to Internet sales in virtual stores. For instance, there is an orange cream soda sweetened with Stevia, low-carb and natural, called Terra Soda.

Another product is launched with a formula of ecomarketing, through a Web-based retailer and wholesaler with their product originating in Peru and utilizing the social conscience marketing program to provide an image of saving the rainforest through purchasing their products.

### Some Stevia Suppliers in the United States

| **Wisdom Natural Brands** | +1 (800) 899 9908  
| 2546 W.Birchwood Ave, Suite 104  
| Mesa AZ 85202  
| United States  
| Vea el sitio Web [www.wisdomnaturalbrands.com](http://www.wisdomnaturalbrands.com)  |
| **Stevia from China** | +1 (212) 9229066  
| Emperor’s Herbologist  
| 301 East 45th Street Suite 12 A  
| New York, NY 10017  
| United States  
| Vea el sitio Web [www.emperorherbologist.com](http://www.emperorherbologist.com)  |
| **Stevia from Australia** | See the Website [www.goodonu.com](http://www.goodonu.com)  
| Good Sugar Substitute  |
| **Sellers of Stevia plants** | +1 (800) 7539199  
| Herbal Advantage  
| Route 3, Box 93  
| Rogersville, MO 65742  
| United States  
| +1 (417) 7533999  
| herbal@dialnet.net  
| [www.herokualadvantage.com](http://www.herokualadvantage.com)  |
| **NuNaturals** | +1 (800) 7534372  
| 2220 West 2nd Avenue #1  
| Eugene, OR 97402  
| United States  
| See the Website [www.nunaturals.com](http://www.nunaturals.com)  |
| **Stevia from Canada** | See the Website [www.steviacanada.com](http://www.steviacanada.com)  
| Stevia Canada  |
| **Stevia LLG – Brand Sweevia** | +1 (888) 8783842  
| P.O. Box 80253  
| Valley Forge, PA 19484  
| United States  
| See the Website [www.sweevia.com](http://www.sweevia.com)  |
| **Amazon Herb Company** | See the Website [www.rainforestbio.com](http://www.rainforestbio.com)  |
| **Terra Soda Orange Cream** | See the Website [www.sodaking.com](http://www.sodaking.com)  |
Wisdom Natural Brands was founded by James May in 1982, and today it manufactures and markets more than 50 products through 10,000 natural foods retail outlets and grocery chains throughout the United States and Canada. In addition, Wisdom Natural Brands supplies raw materials to other manufacturers as well as private label product formulations. Essentially the firm introduced and marketed four unique herbs in multiple formulations: YerbaMate, Pau d’Arco (Lapacho), Stevia and a blend of herbs for cold and flu symptoms called Symfre. During the tenure of Jim May’s son Steve May, the firm changed its name to Wisdom Natural Brands and developed new branded product lines, including SweetLeaf™ Stevia, which is the number one selling Stevia brand in North America.

### Products of Wisdom of Natural Brands

<table>
<thead>
<tr>
<th>Product</th>
<th>Ingredients</th>
<th>Packs</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweet &amp; Slender® Natural Sweetener</td>
<td>Frutafit® Inulin Fiber (FOS), Stevia Extract (standardized to a minimum of 90%).</td>
<td>2.82 oz shaker, 1.75 oz packets</td>
<td>Promotes fat burning, low calorie, low glycemic, use in cooking and baking</td>
</tr>
<tr>
<td>SteviaPlus® Fiber Packets and Shaker</td>
<td>Frutafit® Inulin Fiber (FOS), Stevia Extract (standardized to a minimum of 90%).</td>
<td>50g packets, 4 oz shaker</td>
<td>#1 selling Stevia product in America, zero calories, zero glycemic, all natural</td>
</tr>
<tr>
<td>SteviaClear™ Liquid Stevia</td>
<td>Purified Water, pure Stevia leaf extract standardized to a minimum of 90% Steviosides including 40% Rebaudioside A, Grapefruit Seed Extract</td>
<td>120 ml, 60 ml, 6 ml (travel)</td>
<td>No alcohol, no glycerine, concentrated liquid</td>
</tr>
<tr>
<td>Stevia Extract Powder</td>
<td>100% pure Stevia leaf extract standardized to a minimum of 90% Steviosides including 40% Rebaudioside A</td>
<td>25 g, 10 g</td>
<td>300 times sweeter than sugar, pure premium quality Stevia extract, use for baking and cooking, 25 g bottle = almost 17 lbs of sugar, zero calories, carbs, safe for diabetic.</td>
</tr>
<tr>
<td>Product</td>
<td>Ingredients</td>
<td>Packs</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SteviaTabs™ Stevia Extract</td>
<td>Stevia extract, sodium bicarbonate, citric acid, lactose, magnesium stearate</td>
<td>100 mg each</td>
<td>SteviaTabs™ Stevia extract will dissolve in hot or cold liquids, adding quality nutrition with an intensely sweet flavor without sugar or artificial sweeteners. It's calorie-free and safe for diabetics and hypoglycemics.</td>
</tr>
<tr>
<td>Stevia Concentrate Dark Liquid</td>
<td>Premium Quality Stevia Leaves (Stevia Rebaudiana Bertoni) in Pure Water (4:1 concentrate)</td>
<td>60 ml 6 ml (travel)</td>
<td>This product is made by concentrating nutritious, whole Stevia leaves in pure water by a special cooking process. Contains no alcohol or chemicals.</td>
</tr>
<tr>
<td>HoneyLeaf™ Stevia Leaf Powder</td>
<td>Premium Quality Stevia Leaves (Stevia Rebaudiana Bertoni)</td>
<td>1.8 oz</td>
<td>It contains no calories and may help suppress growth of some oral bacteria that cause dental cavities</td>
</tr>
</tbody>
</table>

5.4 The Competitiveness of Stevia from Paraguay

For Paraguay to increase its economic returns on Stevia, it needs to be competitive with products available from other markets. In order to market a product effectively Paraguay needs to answer the question: “why in the world would we buy your product over every other opportunity we have in the world?” It is clear that the Stevia industry in Paraguay does not have an answer to this question. Paraguayan entrepreneurs need to change this so that they can effectively compete in the world market.

A product has an advantage when it can claim superiority in one of the following areas, a) price, b) quality, c) image, d) service, e) relationship and f) minimizing or eliminating risk for the buyer.

Often the “comparative advantage” can be a combination of each of the above factors with no definite advantage in a single element but a solid performance in all areas of consideration. In the case of Stevia from Paraguay, this study believes that the combination of strengths is going to be the best way to achieve an overall advantage.

China consistently offers considerably lower prices on crystals and it has an image of being “the” source.
for exporting Stevia. “Paraguayan companies do not effectively market their product” indicates that customer service is not in the favor of Paraguay. Relationships, the final element when considering an advantage is also to the advantage of China where they have existing business relationships and joint ventures with Japanese buyers and other major global buyers.

5.4.1 Improving the Price

Price is often the first, and occasionally the only, reason to purchase from one supplier over another. It is going to be difficult for Paraguay to obtain an absolute advantage on price given several factors:

- China’s economies of scale given their current level of production
- Stevia in some form or another can be produced in several geographic locations
- Logistics costs associated with obtaining Stevia shipped from Paraguay
- Inefficiencies in agricultural production in Paraguay
- Business environment discourages foreign investment in Paraguay

According to a statement of Steve May, “the price [of Chinese leaves] in large quantities would be $0.79/kg in "bad" harvest times (i.e. relative shortages) and $0.55/kg in good or normal harvests. This is FOB San Francisco, for tonnage quantities. We pay a little under $0.70 for Paraguayan leaf FOB Asunción. Shipping by sea would add about $0.30/kg.”

Given these factors, and others, we suggest that Paraguay not focus on obtaining the best price, but achieving a competitive price, that when coupled with strengths in other areas will make buying Stevia from Paraguay “the right choice.”

5.4.2 Quality of Stevia from Paraguay

To date it has been difficult to compare end products made from Stevia leaves cultivated in Paraguay with that of other countries because they are not sold on the industrial market, but rather as consumer products. However there have been studies comparing the glycosides content, thus the purity and quality, of Stevia concluding that the products made from Stevia leaves cultivated in Paraguayan are better (see section 2).

Furthermore, it is important to assess the quality of the leaves. According to May (2001) “Good quality Stevia leaves, whether whole, cut and sifted or in tea bags, are about 30 times sweeter than sugar and have no calories. The best quality leaves are imported from South America and Mexico, and are about 12 percent to 13 percent Stevioside. The poorest quality, but most ample supply, is currently coming from China, where the leaves contain only about 5 percent to 6 percent Stevioside. A simple taste test quickly demonstrates the difference.”
5.4.3 Image of Stevia from Paraguay

The image of Paraguayan Stevia in the world market is one of unknown quality. This image can be easily turned into the favor of Paraguay. In this case the discussion of “image” relates to more than the image of the product. It encompasses factors in the following areas:

- Image of the quality of the product
- Image of the company selling the product – their strength, integrity and experience
- Image of the individuals within the company selling the product – their knowledge, integrity and personality
- Image of the country from which the product is produced and sold and their business ethics and understanding of the business
- Product shipping, packaging and marketing image
- Image of outside factors ranging from risk, shipping lines and banking relationships

Image is the easiest influenced aspect of the decision points when considering if a buyer should purchase your product over any other available to him in the world. Image is also the most difficult to gain back once an image is tarnished by market actions that conflict with the existing image.

Advertising agencies are often used to improve images, however, they are not as essential as common sense in image improvement. For example, an image of poor marketability can be changed by an improved label, and the image of poor service and business understanding can be improved by providing immediate service and customer feedback.

The image of Stevia from Paraguay is discussed throughout this document as it is the first step in achieving a competitive advantage as discussed above. This can, and should, be done on an industry and company level in order to achieve the greatest results.

5.4.4 Developing a Service Advantage

Providing good service is closely tied with image as discussed above. Good service results from paying attention to business, knowing that the customer is always right and communicating honestly with the customer.

A service advantage is often an individual company factor, however, a bad service image of one company can impact the entire industry. Therefore, it is critical that all companies involved in the industry understand that their actions impact the image of all in the Stevia business in Paraguay.

5.4.5 Advantages of Developing Relationships

 Buyers are people and they want to work with people that they enjoy working with and can trust. Therefore it is critical that a trusting personal relationship be established between the exporter and the importer. This can be done on a face to face basis; however, an actual meeting is not always essential. Many business contacts are maintained through the Internet. A strong business relationship is built upon honesty, therefore, maintaining an honest and open business relationship is essential.

A strong relationship between businesses is based upon trust, and as such it should be treated with the same high level of communication and commitment. It is always better to communicate “too much” than to not communicate with your customer. Building a strong relationship requires time since love at first sight is seldom the case in the business world; patience in this area is critical, however a competitive advantage in a relationship can be established, which will often overcome weaknesses in the other areas of the buying decision process.
5.4.6 Minimizing or Eliminating Risk for the Buyer

Buying a product from a new source is always a risk for buyers. It is a personal risk if they make the wrong decision because they lose their job and money. It is a business risk if a new supplier cannot perform, or the buyer’s company cannot perform or meet customers’ needs.

Therefore, it is essential that the buyer and his company have minimal risk in buying product. Though it is impossible to eliminate all risks when buying product, some can be minimized through having strength in each of the decision points listed at the introduction of this section.

It is critical to understand the risks the buyer faces. Paraguay can address these risks through communications with the customer and advise them how businesses can minimize their risks. For example, if quality control is a risk, provide customers with a diagram of the quality control system. Having Hazard Analysis and Critical Control Point (HACCP) or other internationally recognized quality control certification is another means of providing a level of comfort with for customers who know that HACCP helps minimize quality risks. Businesses address customer concerns by knowing risks associated with buying before closing the deal.

In the case of Stevia from Paraguay the risks to a new buyer include:

- New supplier presents unknown challenges
- Unrecognized quality raises quality concerns
- Inexperience of importers in dealing with Paraguay
- Shipping and logistics limitations – availability of container space
- Unknown customer acceptance toward product from Paraguay
- Other company specific challenges

If Paraguayan entrepreneurs can answer these questions, they stand a better chance of success being prepared as opposed to being surprised when these questions arise.

5.5 The Media Kit

To achieve the greatest market potential for Paraguayan Stevia, it is essential that companies in Paraguay improve their production efficiencies and focus on marketing Stevia from Paraguay as a premium product on a global basis. This requires that the Paraguayan Stevia industry have a visual presence in the markets they are targeting. This presence can be an individual company presence or an industry presence. Although a single company could accomplish the same objectives, their rewards would be shared by others in the industry that did not support the efforts, potentially producing frustration by the company that invested the time and money in marketing “Stevia from Paraguay.”

It is often difficult to get competing companies to participate in a trade association, however, if companies can see the individual benefit from cooperation they can justify their participation. It is highly recommended that the association include all processors, exporters, and growers in order to provide a forum for all to participate. The association can enforce membership by issuing a grade certificate supported by the industry, government and buyers. By providing a “grown at home – Paraguay” seal on product from Paraguay that meets the standards set by the association they can force others to join and support the association. If products that receive the “seal of quality” from the association receive a premium then others will be economically motivated to join in order to receive a premium for their production as well. The first objectives of the association of Stevia industry should be the following:
Establish and adopt standards and grading for Stevia products from Paraguay. Include in this effort the grades and associated “quality seal.” Compare these standards with those of other origins and publish a comparison document that clearly shows the advantages of working with “certified Stevia from Paraguay.”

Develop and disseminate a media kit that covers all aspects of Stevia. The contents of this media kit are to provide technical information, history, recipes, health data, technical specifications and other factual and historical information relating to Stevia produced in Paraguay. It should focus on the benefits of Stevia, but specifically focus on the benefits of Stevia from Paraguay. It should provide the reader with sufficient information to dig as deep as they would like to answer their questions on Stevia. The “target market” for this media kit are journalists who will write about Stevia and promote its use to a wider audience. This list should include all major newspapers, trade journals, gourmet magazines, health magazines, diet magazines, and fashion magazines in target markets.

By providing this information, the hope is that these influencers of the diet in the target market will publish reports which stimulate interest. By stimulating interest the demand will increase and more retailers will be forced to carry Stevia products to meet the demands of their customers. The caution here is that unless done effectively the media kit will stimulate demand for “Stevia” not for “Stevia from Paraguay.”

This media kit should take the form of a CD Rom and a Web site. The traffic to the Web site can be generated by the CD, news articles and direct e-mails to targeted groups of customers, importers, and regulators.

Develop a Paraguay Stevia Web site that provides full details on Paraguayan Stevia. This Web site should also provide a venue for Stevia leaf and Stevia production sales through a bulletin board or other trading type of marketing tools.

5.6 Creating a Marketable Difference

For Paraguay to compete businesses need to develop, and quantify, a difference between their production and that of other countries where labor, logistics or other resources are less expensive or other competitive advantages already exist.

A good example of an industry that has done this is the U.S. orange juice industry in Florida. While many origins of the world have lower costs in producing analytically identical orange juice to that of Florida, including a lower cost in production and shipping, the State of Florida has built an image over Florida orange juice that consumers prefer and are willing to pay a higher price. The producers of orange juice in Florida, as an industry, adopted a program which states if product is “100 percent Florida Oranges” or “meets Florida standards.” They state that “when you see the Florida Sunshine Tree, you know what’s inside is produced from oranges or grapefruit grown only within the state of Florida.”

Does this mean that it is better than orange juice that is not 100 percent from Florida? Probably not, but to the consumers it does make a difference. If a consumer perceives a difference in products offered on the market, then the difference exists from a marketing standpoint. Product produced exclusively with Florida citrus has the Florida Sunshine Tree, while product produced with Florida citrus blended with other oranges has the Florida Seal, signifying it meets Florida standards but not with 100 percent Florida citrus.

Another example of this type of perceived difference in the U.S. market is the “house” or private label business. In the United States there are now only a handful of canners of corn and fruit products.
These packing facilities often have their own brand which they market, however, work to fill their production capacity with other brands which they do not own or market. For example, Del Monte, the number #1 brand of canned vegetables in the United States, will also pack product under retailers’ brands — thus increasing their production capacity without increasing their marketing or associated costs. Del Monte then spends millions of advertising to promote their brand as a premium brand over retailers’ brands, though technically the product may be identical from the same plant and with the same specifications. Del Monte works to promote a premium for their brand through an image, not always supported by a quality difference.

If Paraguay can create such a difference in how consumers conceive the “original” of Stevia produced in Paraguay against that of other origins that would be to their advantage. To achieve such designation, standards would need to be set and monitored by the industry, or marketing companies inside of Paraguay. The efforts in creating a “difference” in Stevia from Paraguay versus that of other origins can be accomplished through the Stevia association or an individual company undertaking the actions discussed before.

### 5.7 Growth Potential of Stevia from Paraguay

The history of Stevia lends itself well to being a major crop produced and marketed from Paraguay. The history and culture of Stevia in Paraguay has centuries of production and use. This history can be used to the advantage of the growers and marketers of Stevia from Paraguay. These centuries of both cultivated and natural production of Stevia have helped ensure that the genetic varieties of Stevia available in Paraguay are suited for the local climate and soil conditions. The tradition of Stevia production and consumption provides for a cultural base from which to produce Stevia. Where Stevia cultivation and processing is new to other countries, it is well established in Paraguay. This history can be utilized as a competitive advantage if built upon effectively.

The current area dedicated to cultivating Stevia in Paraguay is 750 ha. From this total it is estimated that the San Pedro area has around 300 to 400 ha. With average family production of around .25 ha, this equates to roughly 1,600 rural families currently involved in Stevia cultivation. This number of families would represent only the 0.5 to 0.9 percent of the total number of families in the San Pedro area. Currently most of these families are involved with the cotton crop as their primary source of income. A study would need to be done to compare Stevia financial yields versus cotton yields in order to determine the feasibility of switching from cotton to Stevia, however, Stevia appears to be a viable option for these growers.

Considering the above mentioned situation, it can be assumed that there is a potential for growth, both to increase the economic activity (better income) and employment stability (more employment) through increased production of Stevia.

To be effective the increase of Stevia production needs to be driven by an increase in the demand for the product. Given current market conditions, regional companies will buy the additional production of Stevia leaves, until it reaches a total of 1,500 hectares of production. Currently the regional companies have a demand for finished products at this level and their plant could produce at this level without additional investment.

If Paraguay is successful in achieving this increased production of 1,400 ha with an average production of 2,500 kg/ha it would generate an increase of around US$2 million in rural income while providing an increase of employment efficiencies of around 5,600 rural families.

If the 1,500 ha is cultivated, enough to fill the capacity of the regional companies, the need for additional processing capacity would be required. At that time a Stevia processing factory in Paraguay could be economically justified, thus adding additional revenue and employment to Paraguay.

Paraguay Vende has not done a complete study on
the economics or efficiencies of production or processing of Stevia in Paraguay. The team has however talked with many in the industry who have expressed concerns about the production efficiencies in Paraguay and processing efficiencies in Brazil. Under most circumstances it is going to be difficult for Paraguay to compete with China on a commodity basis, in the target market of Japan as not only does China already possess economies of scale as a competitive advantage and produces a higher volume. However, China is known for not valuing labor when it comes to an export product. Therefore, it will be difficult for Paraguay to compete even when they are able to neutralize the economies of scale issue. The freight distance to the primary market of Japan and the cultural similarities and business ties between Japan and China also provide an advantage to China in the Japanese market (see section 4).

Paraguay Vende has determined that Stevia production on a hectare of land can generate a “net income” form $1,300 to $1,500 per year. With a land cost in the current areas of cultivation of $1,000 per hectare, it appears that, at the current market prices, Stevia production is a business venture that pays off the investment in land in a very short period of time (see section 2). Considering that most Paraguayan farmers already own their land this income is even more significant.

In comparing returns on farmland ownership in the United States, an Iowa State University study shows the period 1992-2002 had an average return of 12.2 percent of the value including a percentage change in land value average of 5.74 percent for a net return on the use of the land of about 6.5 percent. What this means is that in the U.S. farm returns pay off the land in about 10 years, while Stevia returns in Paraguay can pay off the land in 1 to 2 years.

Paraguay Vende has not completed a comparison of the returns on Stevia versus other crops in Paraguay. Given the return in 1 to 2 years, this far exceeds the return on agricultural lands in the United States where, without an increase in the value of land, the returns on farming require an average of 15 years to cover the cost of the land. This economic analysis would encourage investment in Stevia farming in Paraguay and further economic research and investment prospectus should be developed to pursue investment in this area. With this level of return and as foreign ownership of land in Paraguay is assured, U.S. investors and others could be attracted to Paraguay agriculture for implemented contract farming of Stevia.

Paraguay Vende also realizes that there are other factors which influence both the cost of land and the rate of paying off the land including interest rates, availability of cash and loans, stability of currency. However, the team believes that the above figures, coupled with the cost/benefit analysis prepared in the section 2 provide sufficient information to firmly state that Stevia production in Paraguay can be profitable and in fact the returns (sales price of leaves) could be reduced and Stevia production would still prove to be a good investment.

If additional land were to be placed into Stevia production, it would result in increasing supply and lowering the price of the Stevia leaves while providing reasonable returns to the grower. The resulting lower raw materials price (resulting from additional supply of leaves) would allow the processor to produce more products, increase efficiencies and lower their cost due to two factors – lower raw material costs and increased efficiencies.

With the current demand of 1,000 tons of production from regional companies it could mean that a doubling of hectares would not result in a significant lowering of prices. Simply stated, production could double without demand increasing and prices could remain stable due to current demand.

Paraguay Vende realizes that the numbers used in these calculations are theoretical and that being an agricultural crop there are several variables that come into play when theory changes to reality, however, given the calculations, additional land can be placed into Stevia production at a profitable level. If demand for Stevia products from Paraguay increases as a result of enhanced marketing or competitive market factors, this effort will prove even more beneficial to the expansion of hectares.


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