

**Identifying growth opportunities
and supporting measures to
facilitate investment in commodity
value chains in landlocked
developing countries**

**The case study of Paraguay: Sugar
Sector**

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Key Issues

- Opportunities and prospects for Paraguay to increase its competitiveness in the sugar market
- Opportunities for the country to participate in regional and global commodity value chains
- Key challenges facing the sugar industry of the country
- Key actions that must be undertaken at the government level, the private sector and the international community

Opportunities and Prospects to Increase Competitiveness in Sugar Market

- Paraguay produces between around 250 thousand tons of sugar per year.
- World annual market of sugar is 180 million tons.
- It is estimated that, currently, the global organic sugar market does not represent more than 0.2-0.3 percent of the global conventional sugar market: approximately 300,000 tons annually. Paraguay tends to 25 percent of the market with its exports, and other countries like India and Cuba also produce to supply a niche market that fetches premium prices when compared to conventional sugar.
- The most important markets for the export of organic sugar are focused in countries with high per capita income like the USA, Germany, France, Japan, Australia, New Zealand, and others. Countries with inhabitants with greater income tend to pay differentiated prices for organic or natural products, prioritizing their personal health.
- It is estimated that the demand for this niche product could continue to grow at more accelerated rates as governments push measures destined to promote good health and the consumption of organic sugar based products such as marmalades, sweets, cereal bars, sweetened tea, and others.
- According to the information provided by the Paraguayan Alcohol Center, the market of organic sugar represents 0.3 percent of global sugar consumption. The majority of the sugar is for domestic consumption.
- 100% of Paraguay's sugar exports are organic

Opportunities and Prospects to Increase Competitiveness in Sugar Market

- Paraguayan companies have already accessed the organic sugar and ethanol consumer markets.
- Possibility of Paraguayan manufacturing companies to invest in joint ventures with organic food industries in developed countries that have a growing organic products market like the USA, Germany, France, Canada, Japan, Singapore, and New Zealand.
- Paraguay's sugar cane and industrial process are small in scale, and tend to work with manual labor, which affects the sector's overall efficiency, but provides an ideal environment to concentrate on the Organic Sugar Market, also small in scale and which excludes the use of chemical products which are required for high intensity high scale high efficiency sugar industries.
- Capacity to design a regulatory and commercial framework for generating electricity using the bagasse as an eco-fuel.
- Opportunities to enhance, through research, industrial and farming processes to add value and to improve competitiveness in relation to regional and global competitors in the sugar industry.
- Possibilities to develop a local market for the consumption of ethanol as a biofuel that can substitute petroleum based fuels that are imported.

Opportunities and Prospects to Increase Competitiveness in Sugar Market

- Paraguay's organic sugar is recognized as one with high quality
- The higher price of organic sugar (usually double the price of conventional sugar) makes it possible for a small scaled and low efficiency industrial value chain to compete in the global organic sugar market
- Main industrial and exporting countries do not concentrate on the organic sugar market
- However, such a small market is vulnerable considering that small amounts of production from countries like India or Cuba, or some Central American Countries, or some small firms in Brazil could bring more supply to the market and prices could decrease considerably.
- Therefore, Paraguay must continue to incorporate R&D to reduce costs

Opportunities for Paraguay to participate in Regional and Global Value Added Chains in Sugar

- Paraguay's opportunities to participate in the regional and global sugar value chains are few or limited
- The country currently faces many challenges both from the demand and supply sides.
- From a demand perspective, intermediate inputs used in the production of sugar are imported from Asian markets, mainly China, and in cost terms their impact is relatively marginal, not exceeding 10 percent.
- From a supply perspective, conventional sugar manufactured in Paraguay does not meet quality standards and requirements necessary to sell to local, regional, or global markets as an intermediate input to industrial products with greater value added.
- So much so that, 55 percent of Paraguayan domestic demand is met by sugar smuggled illegally into the country, according to research by the National Government and the Paraguayan Sugar Center.
- Organic sugar is the Paraguayan product that can be competitive at regional and global levels.

Opportunities for Paraguay to participate in Regional and Global Value Added Chains in Sugar

- The cost of all intermediate inputs at the industrial production stage represents a percentage no greater than 10 percent of the product's total cost, while the raw material or primary input, sugar cane, represents 70 percent. Labor and other general expenses account for 20 percent.
- The imported products are chemically complex polymers, sulfur, and enzymes. The opportunity to make these products in Paraguay is considered nil in the opinion of the stakeholders interviewed in this study since the country does not have the required conditions like:
 - The investment level required for these capital and technology intensive industries
 - The amount of qualified or specialized human resources is unavailable since there is no academic, research, and human talent training personnel in these types of industries
 - The level of eventual economies of scale that could not compete with international prices in terms of unit costs
 - The local market is very small and will choose to import
 - The requirement to import other products as inputs that are costly
 - Added costs due to bottlenecks because of the lack of adequate transportation infrastructure and being a landlocked country
 - Added costs in river transport due to political and relational difficulties between Paraguay and Argentina that hinder transportation on the waterway
 - Research and development capacity is permanently low or nil
 - Lack of a scientific foundation

Opportunities for Paraguay to participate in Regional and Global Value Added Chains in Sugar

- Companies that import organic sugar from developed country markets are distributors or intermediaries. The firms then pass along the product to small scale industries that manufacture organic foods like dairy products, baked goods, confectionaries, jams, beverages, and others.
- In the USA, the primary export market for Paraguay, the industries that use organic sugar as an input are small or medium businesses, with limited capital and capacities concentrated in their local market. Therefore, until now, Paraguayan industries and these foreign industries have not approached conversations about possible agreements or joint ventures to work together in the expansion of the value chain. There is an opportunity here that should be explored.
- However, there are high entry barriers for finished products that need to be considered and which represent a problem.

Key Challenges Facing Paraguay's Sugar Industry

- Industrial cost reduction
- Raw material cost reduction
- Increase in industrial and logistics efficiency
- Increase scale
- Increase investment in the sector
- Understanding of Global Value Added Chains and how they function
- Build capabilities to attract FDI and search for international partners in markets with increasing demand for organic products

MAIN POLICY RECOMENDATIONS

FOR SUCCESSFUL FDI ATTRACTION

- DEFINITIONS: Paraguay must define:
 - A model of sustainable economic development
 - A national agenda
 - A national strategic plan
 - Strategic production chains to be developed
 - Components of the strategic chains to be developed that require investment
 - Define the most convenient markets for Paraguayan producers
 - Identify business groups, industrial sectors, global value chains whose profiles best adjust to investment requirements in Paraguay
- CREATION OF INSTITUTIONS: Paraguay must:
 - by law or the most effective legal mechanism possible, create an institution to regulate and manage FDI
- GRANTING OF INSTITUTIONAL CAPACITIES: Paraguay must allow its institutions administrative and regulatory authority to attract and benefit from FDI in such areas as:
 - legislative authority
 - administrative capacities
 - financial administration capacities
 - political decision making capacities
- Within the context of a state policy that is adequate for FDI attraction, the private sector of the sugar production chain must coordinate with the national government to include this chain among its priorities for its impact on labor; potential; and lag in terms of competitive development.

Improve Overall Competitiveness of Sugar Sector

- Build Institutions
- Create Consensus for Long Term Sugar Sector Development Policy
- Search for Internal and External Cooperation
- Private sector institutions capacity building
 - Lobby
- Acces to long term financing
- Science and tecnology Policiy
 - Technological observatories
- Trade Agreements with countries and regional blocks
- Government agreement regarding logistics
 - Argentina
 - Technological Innovations
- FDI
- Vertical and horizontal integration
- Market intelligence

Conclusions

- **The competitive development of the sugar cane production chain in Paraguay faces important challenges in the short, medium, and long term.**
- **The industry's current state in Paraguay shows productivity and efficiency that is substantially inferior to minimum standards of subsistence at all stages of the chain: primary, industrial, and the services and commercial stages (logistics, transportation, distribution, sales).**
- **The Paraguayan sugar industry is isolated, and does not have the support of the national government with a program or national competitiveness plan that proposes a systemically integrated, and holistic approach.**
- **The integration of Paraguayan industries to the global value chains is undeveloped as is a policy to attract foreign direct investment.**
- **International markets present a competitive environment in which it is impossible to maintain the Paraguayan sugar sector without efficiency and productivity, quality, innovation, and integration in global added value chains.**

Conclusions

- **Environmentally speaking, the substitution of fossil fuels is inevitable. Developed countries with high environmental pollution levels shall have to modify their energy sources and seek alternatives in foreign markets. An example of this is the Japanese study showing that a ten percent alcohol addition to gasoline and fifteen percent to diesel will allow the country to comply with the Kyoto Protocol, whose objective is the reduction of greenhouse gas causing emissions.**
- **Additionally, the petroleum supply, concentrated in only a few countries, has concerned governments that seek new energy alternatives and solutions.**
- **Brazil, as a major global producer, has great interest in the process of transforming alcohol into an international commodity.**
- **A more aggressive stance by the Brazilian government in the international arena would be fundamental for other countries to produce, consume, and export alcohol at a large scale. Credit lines from Brazil to countries interested in acquiring technology and equipment for alcohol production will not only contribute to this objective, but will have an important contribution to the country's exports as well.**

Conclusions

- **Public and private institutions of Paraguay must undergo a significant transformation to be able to propose initiatives that aim for an improvement in competitiveness of specific strategic sector such as the sugar sector.**
- **The lack of competitiveness in the sector is substantial and requires urgent measures to increase the overall competitiveness of the sector as a whole. Integration with global or regional value chains should be explored to seek exports of greater added value with the possibility of attracting greater income and generating better jobs with better pay. Currently, the costs of conventional sugar and ethanol in Paraguay are at least 50% higher than in countries such as Brazil and Argentina and Colombia.**
- **Any investment that is considered to improve the sector's performance, requires long term financing which is nonexistent in Paraguay at low interest rates. Therefore, an overall comprehensive approach is required to solve problems that are generating inefficiency, with emphasis on the production of sugar cane as the main factor of excessive costs.**

Conclusions

- **In the industry's current situation, attracting local or foreign capital investments is difficult. Any investment that implies generating greater demand for sugar as an input for an industry with greater added value within the national market can only increase illegal sugar and ethanol imports under current conditions.**
- **The profitability analysis undertaken by investment groups to invest in the Paraguayan sugar sector shows an unclear picture about the industry's rules of the game. At the same time, investments that must be made are capital intensive with a low rate of return considering the time necessary to produce sugar cane with one's own crops. The production of sugar cane requires a period of three to four years. The lack of public policies in the country to support the industry and the shortage of qualified labor force will continue to discourage investment in the sector.**



Thank You