

# Preparation and Marketing of Granulated Panela in Family Businesses from Caluma (Ecuador)

Riveliño Ramón<sup>1</sup>, Katherin Beltrán<sup>1</sup>, Luis Verdezoto<sup>1</sup>, Angel Remache<sup>2</sup>, Favian Bayas-Morejón<sup>1,\*</sup>

<sup>1</sup>Department of Postgraduate and Continuing Education, Faculty of Agricultural Sciences, Bolivar State University, Guaranda, Ecuador

<sup>2</sup>Unidad Educativa Guaranda, CP: 020150, Guaranda, Ecuador

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**Abstract** For decades, the canton Caluma has maintained its traditions in the cultivation and obtaining of the production derived from the cane of sugar, as well as in the commercialization of the same one. So, the objective of this work was to identify opportunities for improvement of the production and marketing processes of granulated panela in family businesses in canton Caluma, for which a field investigation was applied, surveys (face-to-face surveys) with open and closed questions were applied to a population of 60 farmers. Methods were used: Inductive, Deductive, Synthetic Descriptive and Statistical. The results of the field diagnosis showed that 35% of farmers are illiterate, 40% middle school and 35% higher education, more than 50% of farmers account for between 1 and 4 hectares of land, the 70% of the producers are associated, 28% generated by-products (block panela, 47% burning water and 25% granulated panela). Most of the production is sold in local markets with 48% in the cities of Caluma, Guaranda or Chimbo (Ecuador). With the improvements in the commercialization chains, it is estimated that the most interested would be: CIBVS Children's Centers, Fundación Maquita, CAMARI, Bolivar brand, Supermarkets and local stores. According to the analysis, the elasticity of demand is 1.16, with a profit margin of 73% in high season and 43% in low season. The sales strategy that is sought to be implemented is to have a number of fixed customers that constantly place orders, whether weekly or monthly, before distributing through an operating system.

**Keywords** Marketing, Granulated Panela, Businesses,

Ecuador

## 1. Introduction

Globally, the cultivation of sugarcane (*Saccharum officinarum*) has become very important, since by-products such as granulated panela can be obtained, having an approximate production of 1,550 million tons and about 22 million hectares cultivated. Among the countries with the highest production worldwide, it tops the list Brazil followed by India and China [1].

At the agricultural level, problems of cultivation, yield, cane varieties, soluble solids and maturity are evident. Regarding the industrialization field, technology problems stand out where rudimentary and artisanal processes that affect the quality and safety of the product prevail. Waste management affects the environment, caused by the non-application and poor control of standards [2]. The sugar industry in our country is very significant in terms of the economic development of the lowlands in the provinces of Guayas, Cañar, Santa Elena and Los Ríos, to a lesser extent in Bolívar and this in turn contributes to the production of sugar destined to human consumption. The percentage with which this industry contributes to the national gross domestic product is 1.4%, creating around 30,000 direct and 80,000 indirect jobs in times of greatest production [3; 4]. Sugarcane production has achieved a

significant increase in 2017. 116,000 hectares were sown compared to 109,000 in the previous year, with a growth of 6.03%. This has contributed enormously to the development of the popular economy, from this point of view, the Organic Law of Popular and Solidarity Economy is in the form of an economic organization where its members individually or collectively organize and develop processes of exchange production, commercialization, and consumption of goods and services to satisfy needs and generate income [5]. Although, to achieve this, a collective education is very important, specifically aimed at a product marketing activity, because good production can be obtained, but if marketing and commercialization is unknown, the desired achievement cannot be obtained [6].

The province of Bolívar is located in the number seven position within the ten cane producing provinces, its highest productivity is 50 Tm per hectare, while in the mills it is 105.9 Tm per hectare and the sugar producers produce 103.4 Tm per hectare (**Table 1**).

**Table 1.** Sugarcane production in the province of Bolívar

Year	Canton	Harvested Surface (Ha)	Harvested production	Yield / Ha	Provincial Percentage
2017	Caluma	220	80400	365.45	9.30
	Echeandía	367	149450	407.22	15.51
	Guaranda	932	472250	506.71	39.39
	Las Naves	11	2180	198.18	0.46
	Chimbo	159	67606	425.19	6.72
	San Miguel	677	276204	407.98	28.61

**Source:** Ministry of Agriculture and Livestock (MAG) of Bolívar, 2017.

Based on information from the Ministry of Agriculture and Livestock (MAG) of the Bolivar province, the highest percentage of sugarcane cultivation is the canton Guaranda with 39.39% followed by the San Miguel with 28.61, Echeandía with 15.51, Caluma with 9.30, Chimbo with 6.72 and finally Las Naves with 0.47%.

For decades, the canton Caluma has maintained its traditions in the cultivation and obtaining of the production derived from the cane of sugar, as well as in the commercialization of the same one. Despite the undeniable improvement in production and productivity for sugarcane derivatives, marketing remains a problem, as producers continue to market their products individually.

Based on information recorded at the Central Bank of Ecuador, it can be observed that granulated panela exports keep encouraging figures being very popular at national and international level, among the countries of destination of exports are: Italy, Spain, Germany, Netherlands, France, Colombia and the United Kingdom [7].

The objective was to identify opportunities to improve the production and marketing processes of granulated

panela in family businesses in the canton Caluma (Ecuador).

## 2. Materials and Methods

### A Field Investigation Was Applied

To obtain information necessary for the study, surveys were applied to the active producers in the area and to the merchants.

The survey was based on face-to-face or in-depth work, since it allowed guiding and advising the respondent. The types of questions used in the survey were open and also closed, which are of a single choice (politomic).

Observational Through the observation, the behavior of the different agents involved in the production and commercialization processes was described and explained.

Explanatory it is used in order to determine the causes and consequences of the problem under study. Obtaining qualitative and quantitative data from the application of surveys, the information related to the production and marketing of granulated panela in Caluma was established.

The methods used for the development of this research were: Inductive, Deductive, Synthetic Descriptive and Statistical. Table 2 shows the study of the population of sugarcane producers.

**Table 2.** Study population

Canton	sugarcane producers			
	Small producers	medium producers	Total	%
Caluma	58	2	60	100

## 3. Results

Analysis of surveys of granulated panela producers, through the field work carried out, a 50% gender participation for both men and women of a total of 60 respondents was considered.

The population of the Caluma canton according to the 2010 census represents 6.5% of the total of the Bolivar province. 59% reside in the rural area; it is characterized by being a young population since 44.9% are under 20 years old, and the population by sex of men 50.3% and women 49.7% [8].

### Education Level

In the field diagnosis, it was determined that 35% of farmers are illiterate, 40% have primary education; while they have had access to higher education barely 3%.

### Land Tenure

In relation to land ownership, more than 50% of

farmers account for between 1 and 4 hectares of land (Table 3).

Table 3. Land tenure

HAS.	N°	%
Less than 1Ha.	6	10
From 1 to 4 Ha.	31	51.67
More than 5 Ha.	13	38.33
TOTAL	60	100

The 70% of farmers are associated in different ways, while 30% of families do not belong to associative groups, they work on their own; the association that concentrates the largest number of families is the so-called "FLOR DE CAÑA".

### Cane by Products

About 30% of the farmers produce brown sugar in block; however, almost 50% of these are dedicated to producing burning water (Table 4).

Table 4. Derivatives of cane

Derived	N°	%
Panela in block	17	28
Schnapps	28	47
Granulated panela	15	25
TOTAL	60	100

The 88.83% of families produce panela two or three times a year, while 12% produce once a month. None of the families surveyed produce granulated panela a week since this work takes too much time (at times that go from 5 am to 6 pm). This work is carried out mainly in the summer season with an average of 2 harvests; the yield in the winter season is lower.

Most of the producers (58%) use mixed methods (traditional and technical) in the production of sugarcane, while 37% do so only by hand.

### Analysis of Supply and Demand

#### Production Scale

The national production of sugar is mostly destined for the domestic market, since according to the Ministry of Agriculture and Livestock (MAG), the minimum support price for the metric ton of sugarcane is USD 32.20. In Ecuador, there are 74,000 hectares of sugarcane, of which 50% belongs to the mills and the other 50% is distributed among the 3000 small and medium producers. [9].

#### Offer of Granulated Panela

The approximate production of granulated panela of the families under study is 259,000 kg, which are offered in

the fairs of the city and nearby towns and intermediaries.

### Marketing Channels

Most of the production is sold in local markets with 48% in the cities of Caluma, Guaranda or Chimbo (Ecuador). 45% of the production is delivered to the different collection centers or intermediaries and 7% is sold in the same sector (farm).

There are currently buyers or claimants of the product. Once improved its quality, the main markets interested would be:

- CIBVS Children's Centers
- MCCH (Maquita Foundation) Marketing as Brothers
- CAMARI that works with all the stores of popular organizations
- Marketing centers of the Provincial Council of Bolivar (Marca Bolivar)
- Supermarkets and local stores

### Price Elasticity

According to the analysis, the elasticity of demand is 1.16, this means that we have an elastic demand. When having an increase in the price, the answer will be a variation more than proportional in the quantity demanded, moving away some consumers that will be able to replace the product by other substitute goods. In the same way, the profitability of granulated panela per 1Kg of production is shown in table 5.

Table 5. Profitability of the production (1kg) of granulated panela

Profitability	High season	Low season
production cost for 1kg	1.26	1.26
Price	1.8	3.25
(=) Beneficio	0.54	1.99
Profitability margin	43%	73%

### Proposal

Producers will have a buyer that guarantees a price and profitability and buyers will have a quality product and the safety they need.

The association that is legally constituted is aimed at obtaining the FLOR DE CAÑA patent, and the following objectives will be considered.

- Create the association's own brand.
- Streamline marketing with technological means
- Describe functions and procedures of the web platform.

### SWOT Analysis

#### Strengths

- Granulated panela is desired for its nutritional properties.

- Producers with experience in the production of panela.
- Ability to form fundamental marketing systems
- Technical advice received from foundations and government entities.
- Association in the process of organic certification.
- Closeness to the target markets.
- Proximity to a road that communicates between the mountains and the coast of Ecuador.

- The product does not have organic or fair-trade certification.

### *Opportunities*

- Progressive interest in the organic products market.
- High price for the sale of the product in bulk.
- Attractive prices for direct sale to the final consumer.
- Municipality of Caluma with predisposition to cooperate with the association.

### *Weaknesses*

- Inadequate communication routes for the transfer of production.
- Most growers do not have stainless steel equipment.
- There is no technification in the facilities of the sugar growers.
- Demotivation of the partners due to existing problems in marketing.
- High production costs due to failures in the transformation process (raw material).
- Quality of the panela not in accordance with the market requirement.
- Personnel not trained to handle productive costs, quality control and sales.

### *Threats*

- Decrease in prices of panela sold in bulk.
- Very long or rainy winter season that makes it difficult to use the access roads.
- Attrition of members of the association due to lack of perceived benefits.

### **Identification of needs and measures to be taken**

The list of needs and measures to take are shown in **table 6**, on the other hand, the marketing methods can be seen in table 7 and the organizational mechanism in table 8.

### *Production*

**Table 6.** Needs and measures to take

Needs	Measures to take
Improved quality of granulated panela	<ul style="list-style-type: none"> <li>• Technical analysis of the production process</li> <li>• Constant training to partners on good production and manufacturing practices.</li> </ul>
Optimize the use of resources in production	<ul style="list-style-type: none"> <li>• Technical analysis of the production process</li> <li>• Improve infrastructure to make the production process faster and incur less labor use</li> </ul>
Constant supply of raw material	<ul style="list-style-type: none"> <li>• Improvement of access roads.</li> <li>• Use of the cane produced by the partners of nearby properties</li> </ul>
Reduce production costs	<ul style="list-style-type: none"> <li>• Technical studies of the production process</li> <li>• Records and Control of the use of resources and efficiency of the process</li> </ul>
Increase in production volume	<ul style="list-style-type: none"> <li>• Increase in available raw material.</li> <li>• Analysis regarding the efficiency of the production process</li> </ul>
Quality control	<ul style="list-style-type: none"> <li>• Train a person to handle the quality control of production</li> </ul>

**Table 7.** Commercialization

Needs	Measures to take
Fixed direct customers	<ul style="list-style-type: none"> <li>• Software implementation with database.</li> <li>• Search for customers with fixed weekly orders.</li> <li>• Maintain prices and improve the quality of panela</li> <li>• Production of constant units.</li> </ul>
Reach the final consumer directly and in this way Increase the perceived profit per unit	<ul style="list-style-type: none"> <li>• Obtain health records.</li> <li>• Preparation of individual packages to market the panela.</li> <li>• Design and development of labels for the product</li> <li>• Brand design</li> </ul>
Increase sales volume	<ul style="list-style-type: none"> <li>• Once a brand of the association is obtained, it is necessary to start with promotional campaigns (publicize the product)</li> <li>• Assign a person responsible for sales.</li> </ul>
Train members of the organization on accounting and marketing issues	<ul style="list-style-type: none"> <li>• Execution of accounting management workshops</li> <li>• Workshops and training on product marketing</li> <li>• Training to the seller of the product. Use of FREE-LANCE sales commissions</li> </ul>

**Table 8.** Organizational

Needs	Measures to take
Arreglar situación de la asociación con el S.R.I (Internal Revenue Service, Ecuador)	<ul style="list-style-type: none"> <li>Carry out the necessary procedures to keep the association's obligations up to date and be able to start the process of obtaining health records</li> </ul>
Increase the motivation and commitment of the members of the association	<ul style="list-style-type: none"> <li>Hold meetings in order to motivate the members of the association</li> <li>Increase panela orders</li> <li>To inform the members of the association about improving the functioning of the association.</li> </ul>

**Strategy:** The sales strategy to be implemented is to have a number of fixed customers that constantly place orders, whether weekly or monthly, before distributing through an operating system. With this, it is certain that the production will be purchased, constituting a motivation for the producer, in addition to generating long-term relationships of trust with these customers.

**Web environment/ clients**

This environment was created for the entry of our customers from the web, through which you can enter your orders and register your different points of sale (Figure 1).

**Promotion**

The promotion of granulated panela using the product brand will seek to persuade the consumer to purchase informing of the benefits of the consumption of panela, its way of use, through a lower price in relation to competition (Figure 2), focused on the associative work carried out with support to small producers and using organic certification. Another form of promotion is the participation in food fairs nationwide organized by the private company or by the government.



**Figure 1.** Web environment



**Figure 2.** Product label

**4. Conclusions**

It is concluded that despite the existence of perfectly established legal associative organizations in the study area, the confidence of the producers is negative since they have not fulfilled the proposed purposes, maintaining a weakened organizational system that they have been enduring for several years.

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