



Redes. Revista do Desenvolvimento Regional

ISSN: 1414-7106

ISSN: 1982-6745

revistaredes@unisc.br

Universidade de Santa Cruz do Sul

Brasil

Molina Ochoa, Juan Patricio; Albeiro Mora-Villalobos, Carlos; Gallardo Coca, María Mery

Relations between politics and coffee reality: case study in Pitalito (Huila-Colombia)

Redes. Revista do Desenvolvimento Regional, vol. 26, 2021, January-December

Universidade de Santa Cruz do Sul

Santa Cruz do Sul, Brasil

DOI: <https://doi.org/10.17058/redes.v26i0.17253>

Available in: <https://www.redalyc.org/articulo.oa?id=552070455031>

- How to cite
- Complete issue
- More information about this article
- Journal's webpage in redalyc.org

redalyc.org

Scientific Information System Redalyc

Network of Scientific Journals from Latin America and the Caribbean, Spain and Portugal

Project academic non-profit, developed under the open access initiative



Relations between politics and coffee reality: a case study in Pitalito (Huila-Colombia)

Juan Patricio Molina Ochoa

Faculty of Agricultural Sciences - Universidad Nacional de Colombia – Bogotá – Colombia

ORCID: <https://orcid.org/0000-0002-9859-8148>

Carlos Albeiro Mora-Villalobos

Faculty of Agricultural Sciences - Universidad Nacional de Colombia – Bogotá – Colombia

ORCID: <https://orcid.org/0000-0002-9859-8148>

María Mery Gallardo Coca

Professional in Business Administration - Universidad Surcolombiana – Bogotá – Colombia

Abstract

Since 2012 the Department of Huila and the municipality of Pitalito are the largest coffee producers in Colombia. By 2018 Pitalito represented 2.2% of the national coffee production and 12.7% of the departmental production. The purpose of this article is to *characterise the coffee production chain in Pitalito and its connection with the prevailing coffee policies* as an input for proposals to improve this relationship. A mixed research approach was applied that included 3 stages: *pre-field* (institutional secondary information), *field* (application of structured surveys by snowball sampling) and *information analysis*. The results show that the coffee from Pitalito is internationally recognized for its high quality; however, there are problems of disarticulation in the chain that influence prices, volumes and competitiveness, which can be corrected with policies adjusted to the regional context.

Keywords: Coffee. Production chain. Competitiveness. Coffee policy. Pitalito.

Relações entre política e realidade cafeeira: estudo de caso em Pitalito (Huila-Colômbia)

Resumo

Desde 2012, o Departamento de Huila e o município de Pitalito são os maiores produtores de café da Colômbia. Em 2018, Pitalito representava 2,2% da produção nacional de café e 12,7% da departamental. O objetivo deste artigo é *caracterizar a cadeia produtiva do café em Pitalito e sua conexão com as políticas cafeeiras vigentes*, como um insumo para propor propostas para melhorar essa relação. Foi aplicada uma abordagem de pesquisa mista que incluiu 3 estágios: *pré-campo* (informações institucionais secundárias), *campo* (aplicação de pesquisas estruturadas por amostragem em bola de neve) e *análise de informações*. Os resultados mostram que o café de Pitalito tem reconhecimento internacional de alta qualidade, porém,

existem problemas de desarticulação na cadeia que influenciam preços, volumes e competitividade, que podem ser corrigidos com políticas ajustadas ao contexto regional.

Palavras-chave: Café. Cadeia produtiva. Competitividade. Política do café. Pitalito.

Relaciones entre política y realidad cafetera: estudio de caso en Pitalito (Huila-Colombia)

Resumen

Desde 2012 el Departamento del Huila y el municipio de Pitalito son los mayores productores de café en Colombia. Para 2018 Pitalito representaba el 2,2% de la producción cafetera nacional y el 12,7% de la departamental. Este artículo tiene como propósito *caracterizar la cadena productiva del café en Pitalito y su conexión con las políticas cafeteras prevalecientes* como insumo para plantear propuestas de mejoramiento de esa relación. Se aplicó un enfoque mixto de investigación que incluyó 3 etapas: *precampo* (información secundaria institucional), *campo* (aplicación de encuestas estructuradas por muestreo bola de nieve) y *análisis* de información. Los resultados muestran que el café de Pitalito tiene reconocimiento internacional de alta calidad, sin embargo, hay problemas de desarticulación en la cadena que influyen en precios, volúmenes y competitividad, que pueden ser corregidos con políticas ajustadas al contexto regional.

Palabras clave: Café. Cadena productiva. Competitividad. Política cafetera. Pitalito.

1 Introduction

Understanding the coffee reality according to the particular characteristics of the producing areas is of interest for the design of policies that interpret territorial dynamics. In the coffee world, dominated by globalization, international market conditions have been imposed, and Colombian policies have been moving forward in a process of adjustment over the last three decades, after the termination of the International Coffee Pact. These changes are aimed at maintaining the positioning of Colombian coffee quality in the world market.

In this scenario, the study of territorial specificities acquires relevance. Due to their diversity, coffee-growing areas are a valuable source for the design of policies that combine the demands of international markets with local practices. Two parallel phenomena seem to be occurring in the country: the dynamics of national policies and territorial dynamics. While institutional policies on coffee are inclined to adapt the productive apparatus towards greater cost efficiency and productivity achievements, social, institutional and cultural processes that transcend the economic sphere are at work in coffee-producing areas. It is therefore of great interest to understand these territorial processes, given their relevance for policy implementation. The study presented here is part of this purpose.

One way to examine the complexity of local processes and their interaction with policies is through the characterisation of production chains. For more than a decade, the *National Federation of Coffee Growers* (FNC, for its acronym in Spanish) has proposed the need to understand production chains in order to identify those links where value can be added to gain market share (Bitzer *et al.*, 2009; Silva, 2008; Silva, 2006). This approach coincides with the recognition of the importance of continuous regional capacity building for the development of coffee growing. In this aspect, not only the use of comparative advantages comes into play, but above all the generation of competitive advantages in production, marketing, processing,

value generation, application of quality controls and other variables related to the acceptance of the product in international markets (Lozano y Yoshida, 2008).

Inasmuch as coffee competitiveness strategies incorporate the favorable elements of the producing regions, solid progress will be made in the markets and the well-being of the population. Hence, the relevance of studies that demonstrate the comparative and competitive territorial advantages, as well as the strategies that lead to their strengthening. Following the reasoning of Krugman *et al.*, (2012) that “*it is not countries that produce wealth but cities and regions*”, it is expected that analyses that respond to this perspective will contribute to the direction of policies towards a greater strength of regional productive capacities.

In this order of ideas, this paper aims to *investigate the connection between prevailing coffee policies and coffee production chains in their territorial reality*, as an input for proposing ways to improve this relationship. To illustrate this analysis, the coffee production chain in Pitalito-Huila, the main coffee producing municipality in the country, is studied, and the options for improving producer prices, increasing commercial volumes and guaranteeing the quality of the product for the consumer are described.

Following this introduction, and once the conceptual framework, methodology and policy framework have been developed, the characterization of the production chain is presented in six links: *supply, production, marketing, processing, consumption and institutional support*. Finally, the results and conclusions on the connection between the particularities of the production chain and the policy dimension are discussed.

2 Conceptual framework

The *Coffee growing*, understood as the practices, techniques and activities linked to growing, harvesting, processing, drying, marketing and adding value to coffee, invites us to explore the concept of a *production chain*. Although this concept is relevant to understand the productive and commercial dimension of coffee growing, it should be emphasized that it encompasses a social dimension with distinctive features compared to other products, the result of a historical process that gives it a territorial identity. Thus, in addition to its productive and economic characteristics, the set of practices, techniques and activities inherent to coffee have a very particular social and cultural content. This notion of coffee growing is important to explain different approaches to the concept of production chain, which are relevant for the discussion of the results of the case study.

According to a first approach, some authors define the production chain from a functional perspective in terms of the role of the actors involved: activities, factors and agents articulated in different stages for the production, distribution, transformation and marketing of an agricultural product, through a process that involves physical, technological, economic and human resources (DNP, 2004; Cano, 2004).

Accordingly, Colombia's legal framework on production chains highlights the importance of linking production and trade stages. According to Law 811 of 2003: “*The chain is understood as the set of activities that are technically and economically linked from the beginning of the production and processing of an agricultural product*

to its final marketing. It is made up of all the agents involved in the production, processing, marketing and distribution of an agricultural product”.

In addition to its functional and articulating approach, another more strategic perspective of the production chain emphasizes its efficiency purposes and its territorial and sectoral nature: it integrates a network of links that are actively articulated through continuous flows of economic relationships derived from territorial proximity and sectoral concentration, with the objective of generating efficiency, value and utility for the parties involved (Nahuamel-Jacinto, 2013).

The concept of *value chain* has been introduced in the literature with connotations that differentiate it from the *production chain*, and which are of interest for the purposes of this paper. According to this third perspective, the *value chain* is understood as an alliance resulting from relationships between organizations in a *production chain* that recognize their mutual interdependence and willingness to collaborate with each other. It focuses on the identification of common strategic objectives in the market, through a constant commitment to critical factors such as production, processing, distribution and quality (Lundy, 2012). Thus, while the production chain is based on market and exchange relationships, the value chain is based on agreements around shared purposes.

By incorporating the construction of agreements, it invites discussion of elements of collective action and the construction of social capital that come into play because of their impact on the performance of actors throughout the productive and commercial articulations. These concepts feed-back on each other: while collective action refers to shared efforts around common purposes, social capital is based on links governed by trust and reciprocity which, in turn, serve as a basis for solving collective action problems (Poteete et al., 2012; Ostrom y Ahn, 2003).

Production chains are also relevant because of their connection with other concepts such as *Localized Production Systems* (SPL), which provide explanatory elements for competitive rural economies located in territorial areas (Parra-Peña et al., 2013). According to Rendón y Forero (2014), SPLs constitute spatial agglomerations of companies engaged in the production and marketing of one or several products in the same sector. They are mostly made up of micro, small and medium-sized companies; those related to marketing stand out; there is no concentrated market power (monopolies or oligopolies); and they present associative dynamics between companies for competitiveness and innovation.

PNUD-DPS (2012) proposes a perspective for coffee based on the identification of those processes that give rise to the configuration of the links that make up the chain, from the supply of inputs to the transformation of the raw material for domestic consumption or international marketing. Accordingly, García and Olaya (2006) draw attention to a notorious characteristic of the coffee agro-industrial chain, related to its segmentation at a local and global level, as a result of the type of market, actors and processes involved.

Finally, it is necessary to consider the political referent. Historically the coffee guild has been characterized by its relative autonomy and power vis-à-vis the State, although this has represented changes as a result of the price crises that the sector has faced in recent decades. Although the government participates in the definition of policies, their formulation is mainly the responsibility of the coffee industry

association based on its national, regional and municipal institutional structure. These processes are nourished by specialized studies that propose the guidelines to follow.

3 Methodology

A mixed methods research approach was used, combining quantitative and qualitative methods. Three stages were applied: *pre-field* (search for secondary institutional information), *field* (application of structured surveys and semi-structured interviews) and *analysis* of the information collected.

It is important to establish that the methodological vision of mixed methods assumes that knowledge is a construction based on the reality that is experienced and lived, which is why, for the researcher, the importance of knowledge lies in the ability to *provide answers, applications and functionalities* that allow contributing to the development and generation of social welfare (Hernández-Sampieri et al., 2014).

The *pre-field phase* allowed for the collection of diagnostic information through documentary research and the analysis of statistical series obtained from institutional sources, seeking to *identify the determining factors of the coffee production chain in Pitalito*. The six links were studied: supply, production, commercialization, industry, consumption and institutional support.

The calculation of the sample size took into account that data from the *National Federation of Coffee Growers (CCH-FNC-SICA, 2019)* for 2018 indicate the existence in Pitalito of 13291 coffee farms and 10804 coffee growers. For the determination of the number of surveys, the data of “*coffee farms*” was used, since it is the harvested area that determines the production and not the number of registered coffee growers. A sample of 45 respondents was obtained, applying the equation:

$$n = \frac{N * z^2 * p * q}{(N * e^2) + (z^2 * p * q)}$$

The variables of the equation are as follows: **N** (population = 13291 farms), **z²** (confidence level = 95%), **p** (proportion of farms producing coffee = 97%), **q** (proportion of farms that do not produce coffee = 3%, by processes of zoca, renovation or age of the coffee plantation), and **e²** (sampling error = 5%).

A *structured snowball survey* was applied to the sample, containing 50 questions for producers subdivided into 6 groups of questions (*production; use of production factors; input supply; cultivation, harvest and post-harvest techniques; socioeconomic factors of the producer; and institutional support and technical assistance*).

In addition, and in accordance with the qualitative approach to obtain information on the production chain as a whole, structured surveys were conducted for suppliers (9 questions), marketers (16 questions), processors (20 questions), department stores (11 questions), and stores specializing in coffee consumption in Pitalito (18 questions). It was not possible to establish an exact population number for these actors, so the surveys were applied by *snowball sampling* to the largest

possible number of actors in each link during the times that fieldwork was carried out.

During the field stage, carried out between December 2018 and December 2019, 7 visits were made to the municipality, averaging 4 days and with a frequency of approximately a month and a half between each one. A total of 78 surveys were applied: 46 to producers, 6 in supply warehouses, 7 to marketers, 5 to processors, 7 to supermarkets and department stores, and 7 to stores specialized in selling regional coffee for consumption. The information collected was analyzed in Excel-Microsoft® Office.

4 Policy framework

Based on the studies carried out in Colombia on coffee policy it is possible to identify a useful policy framework for the analysis of the coffee production chain in Huila and Pitalito.

The *Coffee Regional Competitiveness Index* (ICRC), constructed by Lozano y Yoshida (2008) for the *National Federation of Coffee Growers*, classified the producing departments by means of a *statistical analysis of principal components* that incorporated 51 variables, grouped in 9 pillars. The results, with scores ranging from 0 to 100, showed differences in competitiveness. Of the 16 departments with the highest coffee production, the most competitive were Quindío (100), Valle (98) and Caldas (98), followed by Risaralda (85) and Antioquia (79). Huila was in 11th place (48 points).

This overview of regional competitiveness was complemented by another study on the main problems of Colombian coffee growing and their explanatory factors. According to the report “*El mercado mundial del café y su impacto en Colombia*” (The world coffee market and its impact on Colombia) prepared by Cano et al., (2012), the decrease of participation of Colombian coffee in the world economy was a consequence of falling productivity, low adoption of technologies and the slow implementation of resistant varieties. The report concluded that increasing labor costs, low production, poor education and the poverty of many coffee growers, together with the lag in institutional change, were holding back the efficiency of the sector. For this reason, it recommended modernizing the institutional framework by seeking to integrate all links in the production chain.

The *Mission of studies for the competitiveness of coffee growing in Colombia* (Echavarría et al., 2015) is the most recent study that proposes strategies for production, productivity, marketing, innovation, generation of added value, employment and income. It seeks the consolidation of a competitive and sustainable coffee industry in social, economic and environmental terms, based on technological development, the recognition of the social capital of the coffee growing regions and institutional decentralization.

With this background, within the framework of the 2019 *National Congress of Coffee Growers* the FNC proposed the “*Strategic Agenda for the Coffee Sector 2020-2030*” called “*For Coffee Sustainability*” (FNC, 2019a), made up of 6 axes: (i) Strengthen the strategy “*More agronomy, more productivity, more quality*”; (ii) Consolidate the differentiation by quality of Colombian coffee; (iii) Reduce production costs; (iv) Reduce the volatility of coffee grower's income; (v) Implement

new marketing strategies and value addition; (vi) Position coffee as an instrument of legality and stabilization of the territories (FNC, 2018).

5 Results: the coffee production chain in Pitalito

The geographic characteristics of Pitalito have been important, but not sufficient, to explain the determinants as the main coffee producer in Colombia, with yields above the national average and with high quality. Although the natural conditions have been the basis for the comparative advantages of the municipality, it has been the efforts of the producers and other local actors that have generated competitive advantages, the coffee production chain being an example of this. Hence the importance of appreciating the geographical attributes of the municipality, as well as the work of its people.

Pitalito is a municipality in the department of Huila and for several years both have been leading the national coffee production. According to the *National Federation of Coffee Growers*, in 2018 there were 22 departments growing coffee, of which 8 concentrated 78.7% of the cultivated area equivalent to 690484 hectares: Huila (16.7%), Antioquia (13.8%), Tolima (12.7%), Cauca (10.6%), Caldas (7.5%), Valle del Cauca (6.3%), Santander (5.8%) and Risaralda (5, 3%) (FNC, 2019b). Likewise, for 2018 national production reached 13.5 million 60 kg bags of green coffee (12.75 million exported), of which Huila contributed 17.7% of production of which, in turn, 91.5% was exported (FNC, 2019b). For 2016, Huila's yield was 1.15 Ton/ha, exceeding the national average of 0.93 Ton/ha (Agronet, 2019).

5.1 Geographical characteristics of Pitalito

Historically, Pitalito has been recognized since colonial times as the commercial and economic epicenter of the region, being in its beginnings a large hacienda of 3000 Km² (approx.), extended between the departments of Caquetá, Cauca and southern Huila, recognized by the name of “*Finca de Laboyos*” for its location in the Laboyos valley, where the municipal seat is currently located, which gave rise to the nickname “laboyano”. Located in the south of the department of Huila, the municipality has an area of 666 km². Its 8 townships (Bruselas, La Laguna, Guacacallo, Criollo, Regueros, Charguayaco, Chillurco and Palmarito) with 137 villages are home to a great diversity of cold and temperate climate ecosystems.

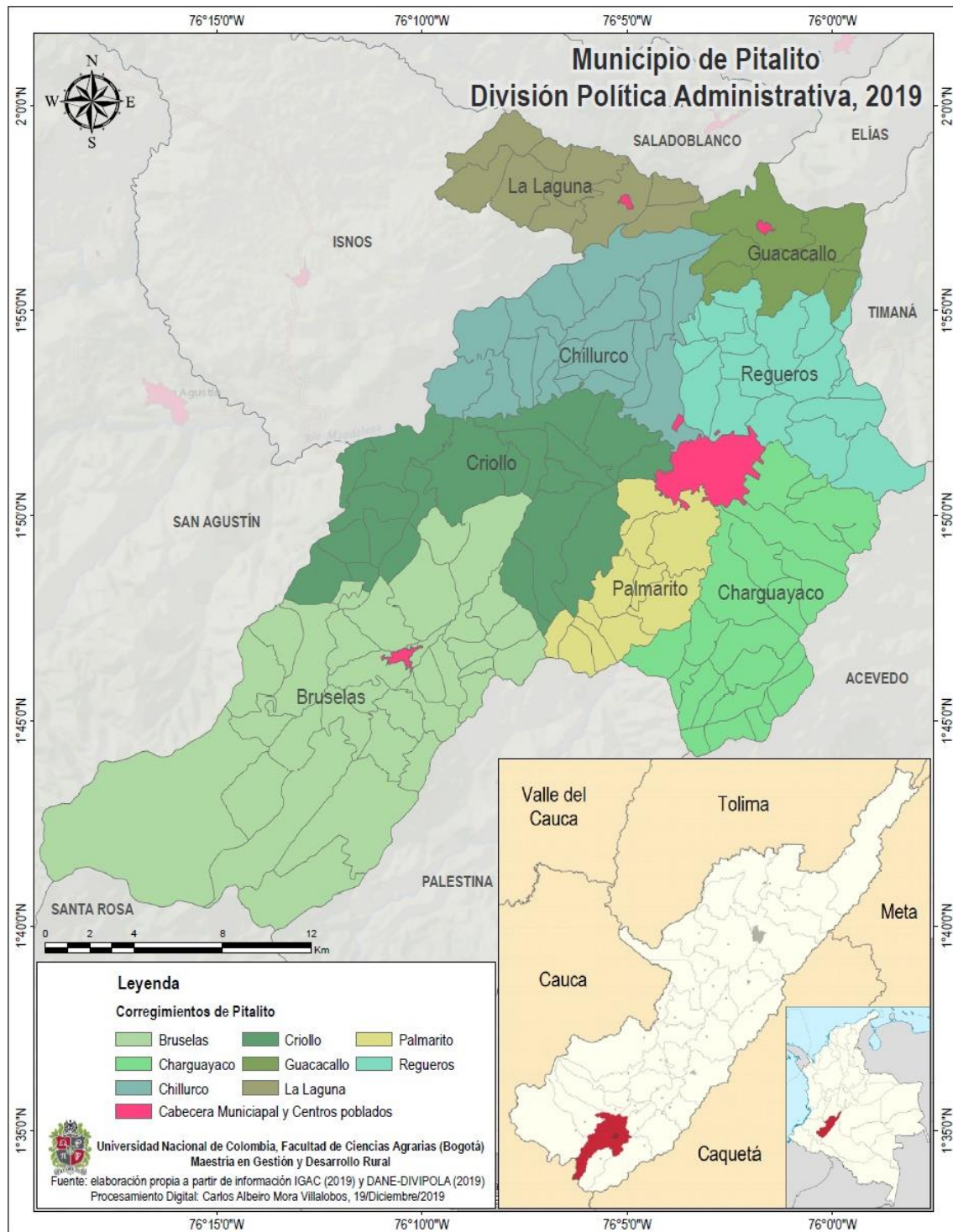
The *Figure 1* shows the geographic division of the municipality by townships and hamlets, showing that several of them are distant from the main urban center, which gives the rural life of the municipality a marked identity with differences among its communities, to the point that three townships have their own urban center (Bruselas, La Laguna and Guacacallo). Furthermore, the township of Bruselas, the main coffee producer in Pitalito, has been requesting political and administrative autonomy as a municipality for several years.

The physical geography of the municipality (*Figure 2*) corroborates that, in addition to the varied topographic and altitudinal conditions, connectivity between villages and access to populated and urban centers is affected by low road coverage of regular quality.

Regarding climatic zoning, *Figure 3* shows the influence of temperate climate zones, with differences ranging from *semi-arid* to *super-humid*, being mostly a predominantly *semi-humid region*, which is very favorable for coffee cultivation. In fact, according to historical records of average annual temperature between 1971 and 2000 zoned in *Figure 4*, most of Pitalito has a relatively stable temperate climate between 18C° and 21C°, typical of altitudes between 1000 and 1900 meters above sea level (AMPH, 2019). These natural conditions, very suitable for the cultivation of Arabica coffee, are privileged for high quality production, whose ideal altitudinal levels are between 1400 and 1900 meters above sea level. As can be seen in *Figure 5*, the diversity of soils in the municipality is dominated by agricultural and livestock use, along with some forest cover and legally protected areas.

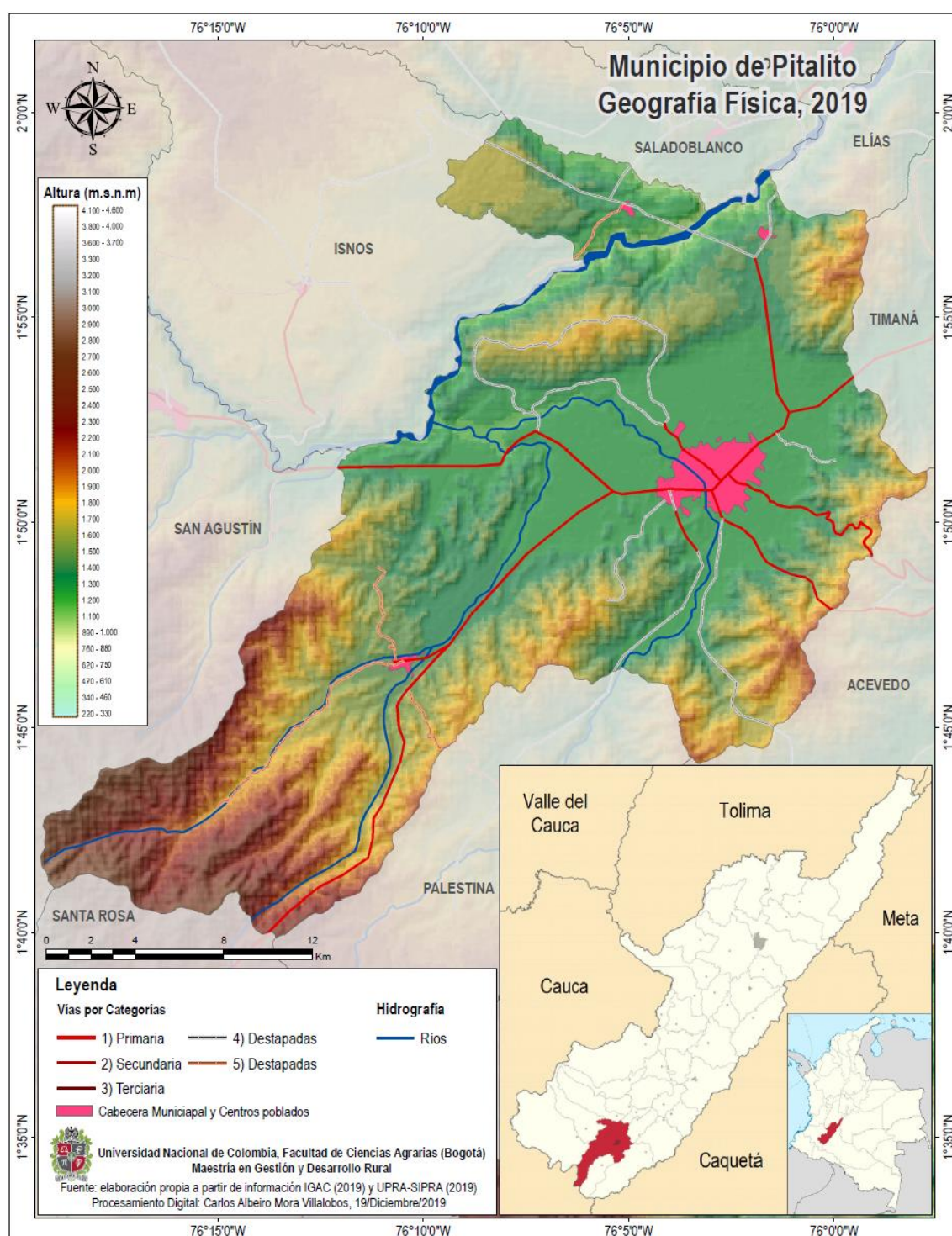
The *figures 1 to 5* have been the product of an exercise of our own elaboration to provide the municipality with basic spatial information that contributes to the planning and territorial organization processes. They are based on available official records and sources.

Figure 1 - Administrative political division of Pitalito (townships and villages), 2019



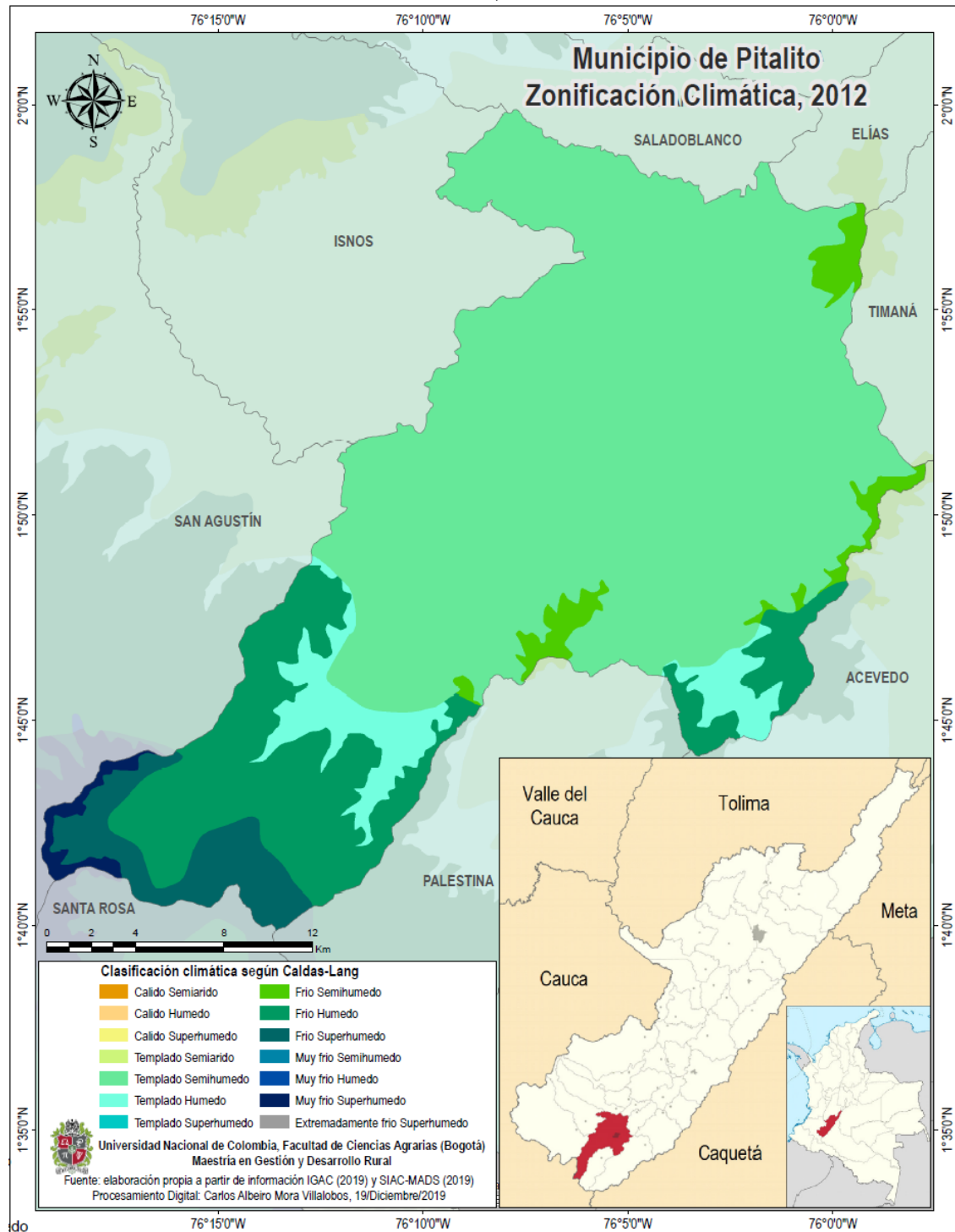
Source: Prepared by the authors based on information from (IGAC, 2019a),(IGAC, 2019b) and (DANE-Divipola, 2019).

Figure 2 - Physical Geography of the municipality of Pitalito, 2019



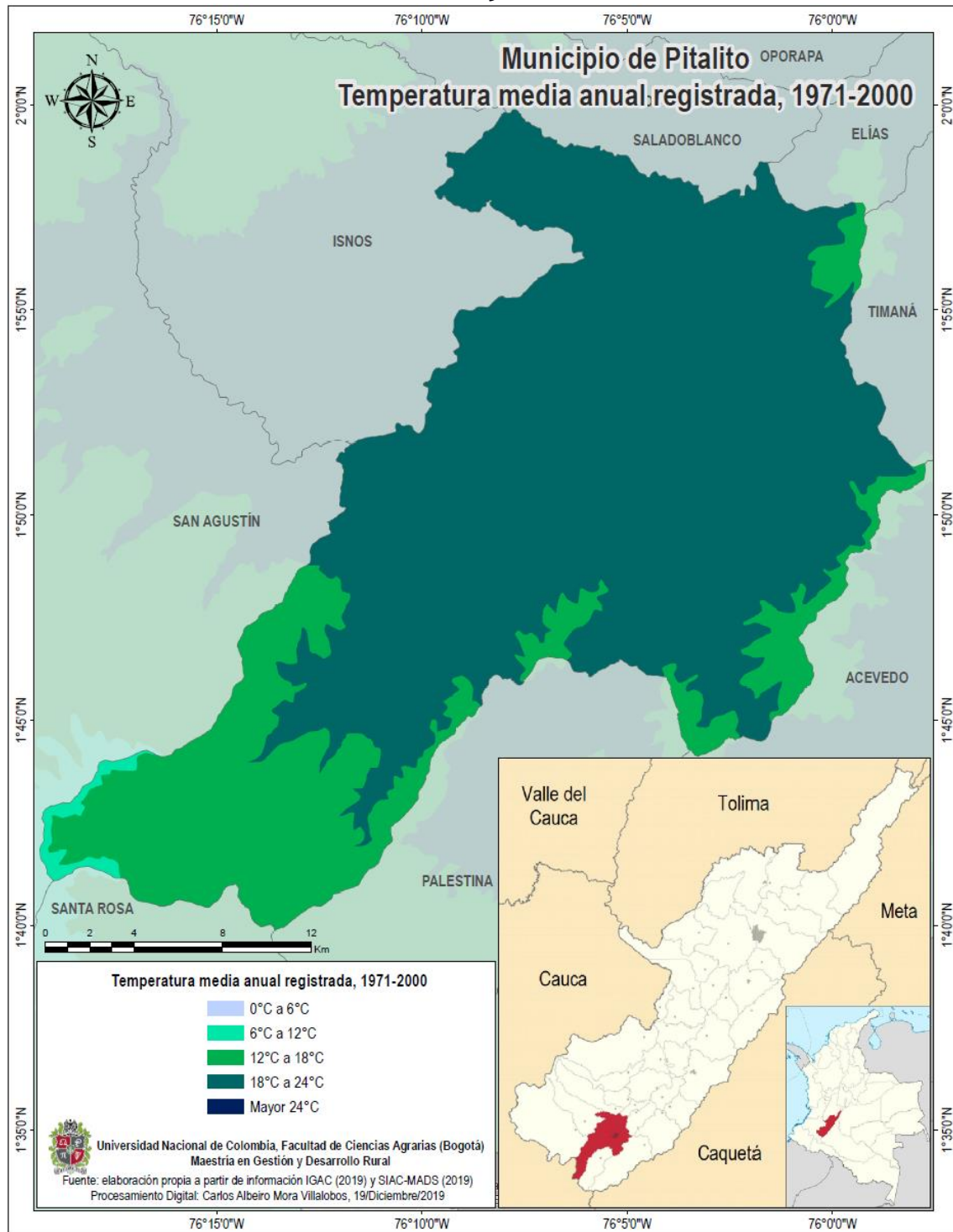
Source: Prepared by the authors based on information from (IGAC, 2019a), (IGAC, 2019b) and (UPRA, 2019).

Figure 3 - Climate Zoning according to *Caldas-Lang* of the municipality of Pitalito, 2012



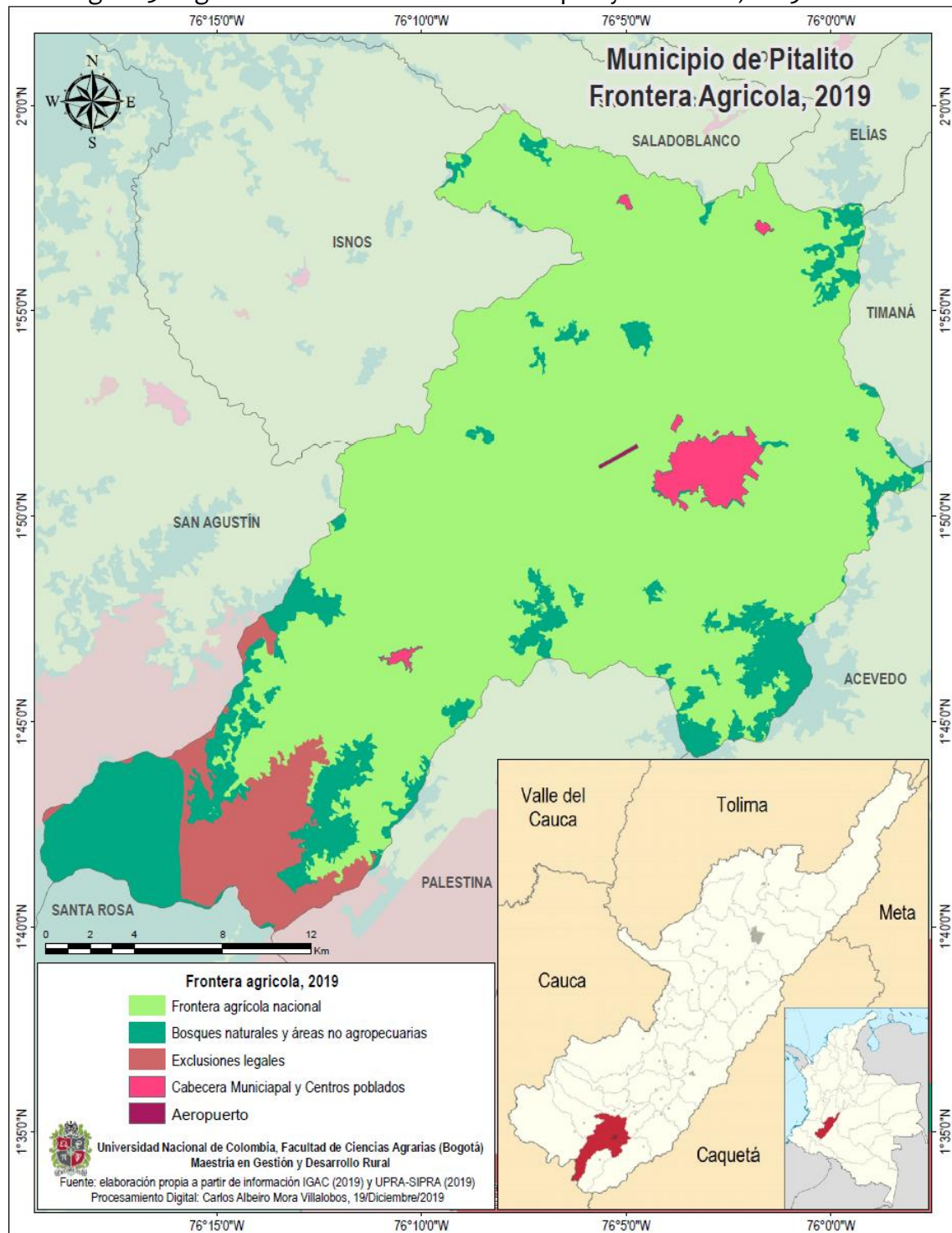
Source: Prepared by the authors based on information from (IGAC, 2019a), (IGAC, 2019b) and (SIAC-MADS, 2019).

Figure 4 - Mean annual temperature recorded in the municipality of Pitalito between 1971 - 2000



Source: Prepared by the authors based on information from (IGAC, 2019a), (IGAC, 2019b) and (SIAC-MADS, 2019).

Figure 5 - Agricultural Frontier of the municipality of Pitalito, 2019

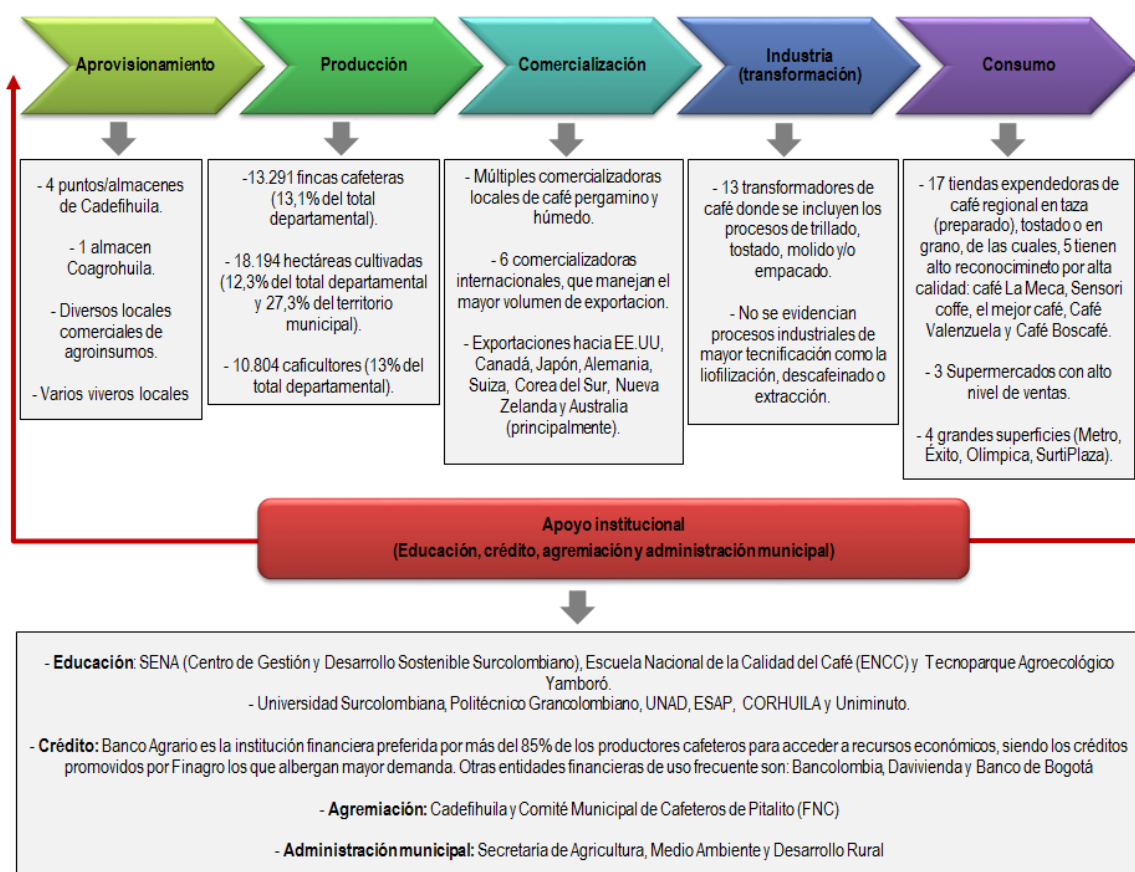


Source: Prepared by the authors based on information from (IGAC, 2019a), (IGAC, 2019b), (UPRA, 2019) and (SIPRA, 2019).

5.2 The coffee production chain in Pitalito

The production chain is made up of 6 links where *institutional support* is transversal:

Figure 6 - Coffee Production Chain in Pitalito



Source: Prepared by the authors based on information obtained during field work.

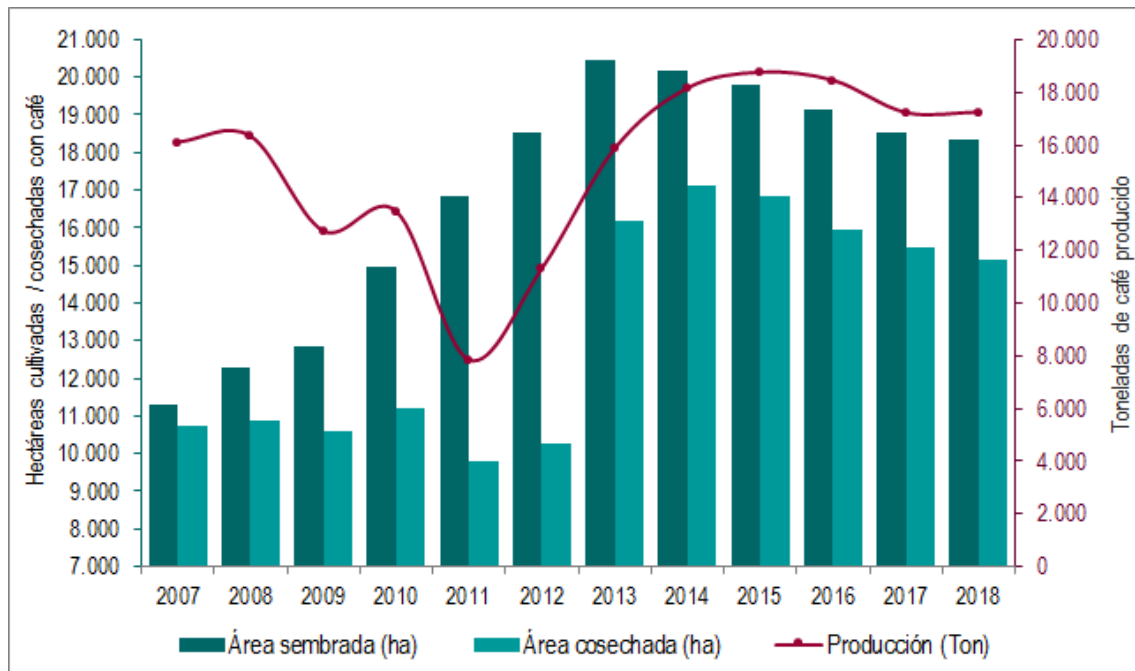
1. Provisioning: supply of seedlings, fertilizers, agrochemicals and machinery for the efficient development of agricultural activity. In Pitalito, this function is performed in more than 70% of the cases by the warehouses of the *Cooperativa Departamental de Caficultores del Huila-Cadehiuila* (4 points: Bodega Pulmón, warehouses Centro, Galería and corregimiento de Bruselas), and the *Cooperativa Multiactiva Agropecuaria del Huila-Coagrohuila*. Producers also find input stores in the municipal capital (50 distributors) and in the town of Bruselas (10 stores).

Seasonal demand prevails, with a peak in December, January and February; price volatility due to exchange rate variations and the harvest and harvesting seasons; and cash payment (more than 90% of the cases) with low credit card use.

2. Production: parchment coffee obtained on the farm is the raw material used to produce roasted coffee. For 2018, Pitalito registered 13291 coffee farms (13.1% of the department), with a total cultivated area of 18194 hectares (27.3% of the

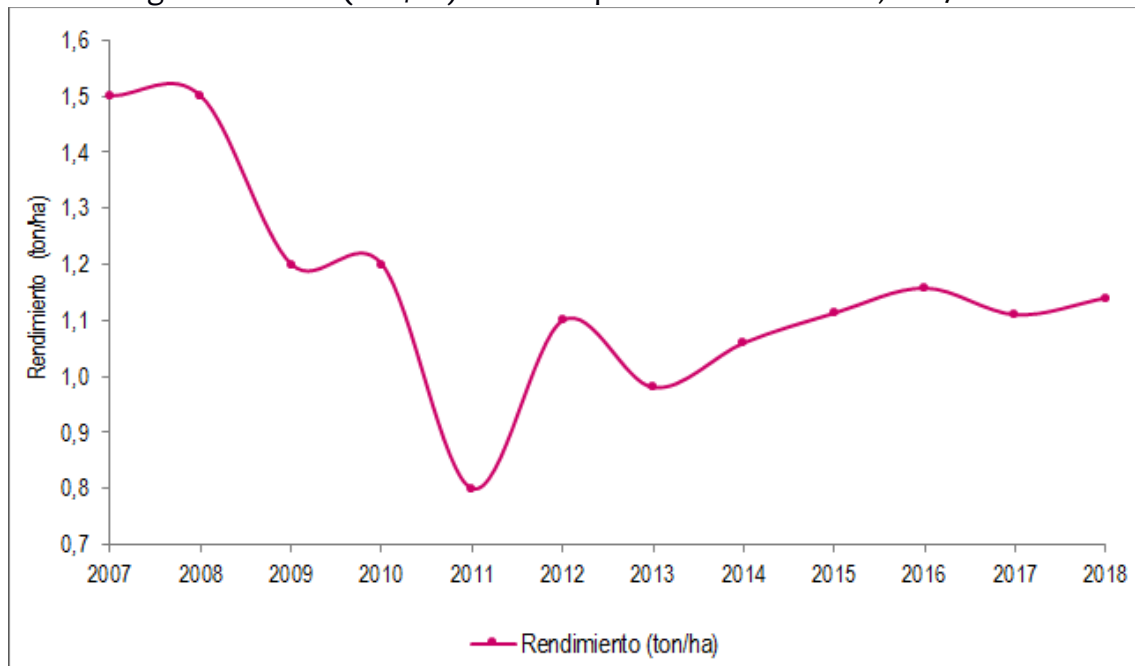
municipality and 12.3% of the departmental cultivated area), where 10804 coffee growers worked (13% of Huila's coffee growers) (CCH-FNC-SICA, 2019). Since 2016, its production reached 307338 bags of green coffee of 60 Kg (12.7% of the departmental production and 2.2% of the national production), which added to its high yield of 1.16 Ton/ha, placed Pitalito among the main coffee growing municipalities in the country.

Figure 7 - Planted area, harvested area and coffee production in Pitalito, 2007- 2018



Source: Prepared by the authors based on information from (Minagricultura-EVA, 2019), (Agronet, 2019) and SICA of the FNC.

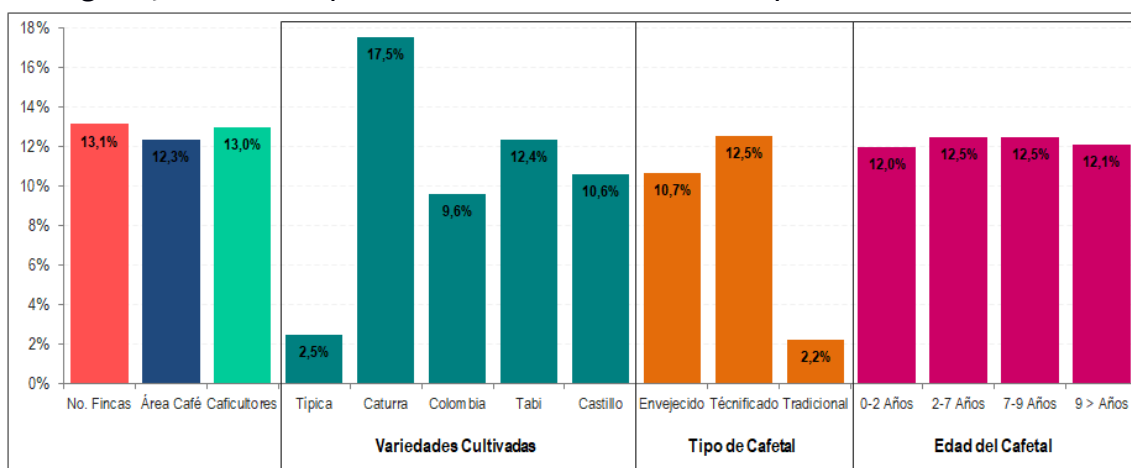
Figure 8 - Yields (Ton/ha) of coffee production in Pitalito, 2007-2018



Source: Prepared by the authors based on information from (Minagricultura-EVA, 2019), (Agronet, 2019) and SICA of the FNC.

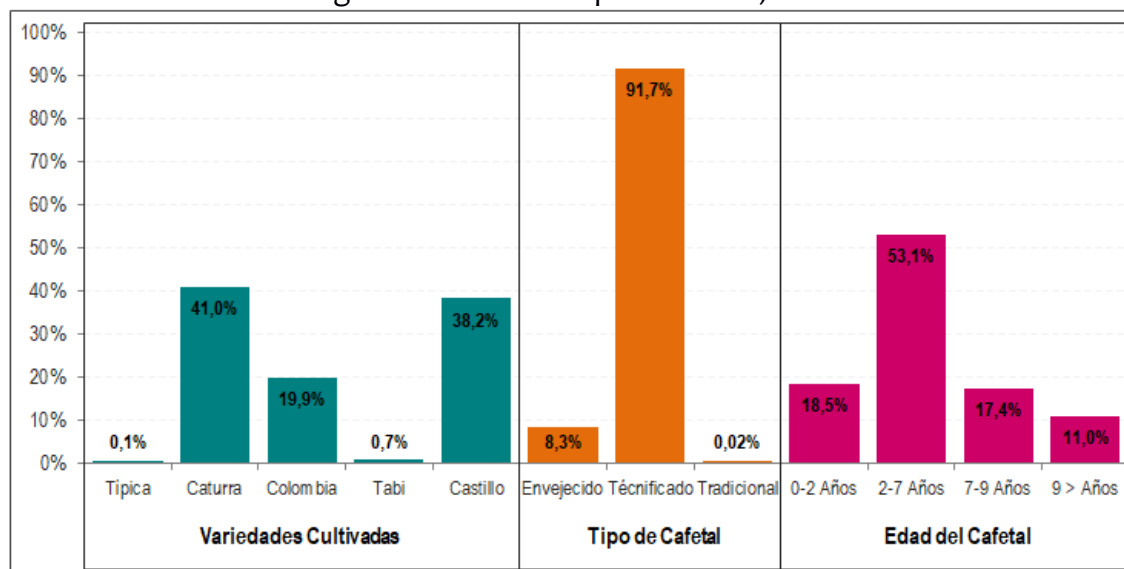
By 2018 Pitalito had 5 varieties of *Arabica coffee* grown on 18194 ha, of which 41% (7465.7 ha) were *Caturra*, 38.2% (6955.9 ha) were *Castillo*, 19.9% (3621.4 ha) were *Colombia variety*, 0.7% (136.3 ha) were *Tabi* and 0.1% (14.7 ha) were *Típica variety*. Additionally, 91.7% of the coffee plantations were *technified* (16677.9 ha), 8.3% were *aged* (1511.9 ha) and 0.02% were *traditional* (4.2 ha). By age of cultivation, coffee plantations between 0-2 years old occupied 18.5% of the total cultivated area (3366.4 ha); those between 2-7 years old occupied 53.1% (9659.4 ha); those between 7-9 years old 17.4% (3168.1 ha), and those older than 9 years old 11% (2000 ha) (CCH-FNC-SICA, 2019).

Figure 9 - Coffee crops of Pitalito in relation to the Department of Huila, 2018



Source: Prepared by the authors based on information from (CCH-FNC-SICA, 2019).

Figure 10 - Coffee crops in Pitalito, 2018



Source: Prepared by the authors based on information from (CCH-FNC-SICA, 2019).

The field work showed that 73% (approx.) of coffee production in Pitalito is concentrated in 3 townships: Bruselas (44% approx.), Chillurco (15% approx.) and Criollo (14% approx.). The other townships have production between 4% and 10% due to geographical conditions of altitude and temperature: Charguayaco (8% approx.), Palmarito (6% approx.), Guacacallo (5% approx.), Regueros (4% approx.) and La Laguna (4% approx.). In addition to the most popular varieties in terms of productivity (*Caturra*, *Castillo*, *Colombia* and *Tabi*), we have identified the cultivation of *yellow Bourbon*, *red Bourbon*, *pink Bourbon*, *pepper Bourbon* (under implementation), *San Bernardo* (Catimor), *Geisha* and *Cenicafé I*. Even on a small scale, these data suggest a process of diversification that shows the emergence of new perspectives related to specialty coffees from microlots and the presence of innovative producers. In

technical and processing aspects, 95% of the coffee growers harvested only ripe beans, 91% had a greenhouse type dryer, 65% calculated the number of hours of washing and 58% selected the parchment coffee by “zarandeo”.

3. Social aspects of coffee growing in the municipality: the coffee farms are small with an average size between 2 and 5 hectares, of which 88% are cultivated with coffee. The average age of the producers and their partners is 49 years old, who in 95% of the cases derive their income solely from the coffee farm. The value of the daily wage in 2018 was COP\$32250 (without food).

Three types of producers stand out: 1) coffee growers focused on high quality production as a competitiveness mechanism to obtain better prices in the market; 2) coffee growers who are implementing or are willing to implement some type of technological improvement to increase quality, competitiveness and obtain better selling prices for dry parchment coffee; and 3) coffee growers who for various circumstances sell harvested coffee as “wet coffee” (not parchment) or as parchment coffee with low levels of technical improvements in harvest and post-harvest.

The associativity plays a relevant role for producers that focus on quality production as a differential attribute to capture better prices. In particular, associativity is a trait of women coffee producers. Unfortunately, crime problems were identified in the townships of Bruselas and Criollo. This “economy of crime” phenomenon (robberies of producers) discourages interest in quality production and the adoption of technology, and leads to the commercialization of “wet coffee” for which very low prices are recognized

4. Commercialization: intermediation process through which parchment coffee is sold to threshing companies to be later sold to international marketers under the name of “green coffee”. Although there are multiple local buyers of wet coffee (harvested, pulped, washed and not dried beans) and parchment coffee, in Pitalito the trade is concentrated in 6 international marketers among which are *Banexport SA*, *SKN Caribecafe Ltda*, *Virmax Caravela Coffee*, *Maruyama Coffee Visit*, *Azahar Coffee* and *Cadefihuila*. This parchment coffee is exported to the United States, Canada, Japan, Germany, Switzerland, South Korea, New Zealand and Australia, and its price is determined by the *yield factor* and the *cup test*.

5. Industry/transformation: stage in which the green coffee is subjected to processes of classification by kernel size, roasting, grinding, freeze-drying and extraction. In Pitalito 13 coffee processors were identified that carry out threshing, roasting, grinding and/or packaging processes: *Grupo Asociativo San Isidro*, *Naturcafé del Macizo*, *Procesadora Café Vital SAS*, *Tostadora de Café La Gaitana*, *Villa Molina Café SAS*, *Jeruel Inversiones SAS*, *Tolcafé SAS*, *Entre Aromas Und Kaffe SAS*, *Trilladora de la FNC*, *Trilladora Algrano SAS*, *Aromas del Huila SAS*, *Trilladora Cafecol* and *Trilladora de Pasilla Emmanuel “La Casa Amarilla” (The Yellow House)*. No high-tech industrial processes such as freeze-drying, decaffeination or extraction were identified, but there was evidence of a preference for coffee processed with medium roasting and fine grinding.

On the other hand, although a good percentage of the farms have a proportion of their coffee for threshing, roasting, grinding and packaging for their own consumption and marketing in small quantities to tourists and visitors, there was no evidence of a trend towards the creation of their own roasted and ground coffee brands, the development of family businesses or the formalization of SMEs.

6. Consumption: the final stage of the production chain in which the consumer acquires processed coffee (roasted and ground) in stores and supermarkets or consumes it in specialized stores. We identified 17 stores specializing in regional coffee in cup (brewed), roasted or beans: *Café La Meca*, *Sensory coffe*, *Tienda Café Valenzuela*, *El mejor café*, *San Juan Boscafé*, *Tienda Ordoñez*, *San Isidro*, *Disfruta Café Pitalito*, *La Macarena “miel y café”*, *Café Mall Pitalito*, *Diffiori café*, *Tienda de Jake*, *Tienda Mariana*, *Pitacoffe*, *Villa Molina*, *Lobby café bar* and *La tertulia café*. There is no preference among local consumers for processed coffee from the region, being the traditional commercial brands (Sello rojo, Águila roja, Nescafé, Colcafé) the most accepted. This seems to be influenced by price as a determining variable in the decision to purchase in local consumption.

Although presentations of 250 gr, 340 gr (Sensory coffee) or 500 gr are handled, the highest sales are of roasted and ground coffee of one pound (500 gr), whose price for high quality regional coffee ranged between COP\$13000 and COP\$50000 (december/2019). The highest sales occur in december, January and june, and the lowest in february, march and april. Frequent customers are domestic and foreign tourists, hotels, restaurants and, to a lesser extent, residents and farmers. For the selective consumer there are 5 stores that specialize in high quality regional coffee with their own brands and employ between 2 and 8 people trained in cupping, barismo or gastronomy.

In relation to supermarkets, a 10-question survey was applied to grocery managers in 7 stores: *Metro*, *Exito*, *Olímpica*, *SurtiPlaza*, *Supermercado Rubio*, *Supermercado Vargas (Bruselas)* and *Supermercado La Placita Campesina Superior (Bruselas)*. According to the results, the most sold brand is *Café Sello Rojo*, followed by *Águila Roja* and the store's own brands, in 500 gr bags of ground coffee at an average price of COP\$8314 (prices as of december/2019) and with a monthly sales volume ranging from 96 to 2250 pounds, with an average of 942 pounds per month.

7. Institutional support: referred to *education, credit, aggregation, and municipal administration* policies focused on coffee. In Pitalito the most relevant **education** and training institution is the *National School for Coffee Quality (ENCC)* administered by SENA through the *Surcolombiano Center for Management and Sustainable Development*. Located in the *Yamboró Agroecological Technopark*, its objective is to provide technical training for the cultivation, physical analysis, threshing, roasting, packaging, storage, preparation and cupping of coffee. Additionally, in Pitalito there are branches of the *Universidad Surcolombiana (USCO)* that offers a *Master's Degree in Coffee Science and Technology*, the *Politécnico Grancolombiano*, the *Universidad Nacional Abierta y a Distancia (UNAD)*, the *Escuela Superior de Administración Pública (ESAP)*, the *Corporación Universitaria del Huila (CORHUILA)* and the *Universidad Minuto de Dios (Uniminuto)* that has 2

technological programs specialized in coffee (*Technology in Sustainable Coffee Management and Professional Technician in Coffee Production*).

In terms of **agricultural credit**, the Banco Agrario is the institution preferred by 85% of coffee growers to finance, preferably with Finagro resources, renovation, zoca and equipment purchases. Other financial institutions used are: Bancolombia, Davivienda and Bank of Bogotá.

In relation to the **unions**, the *Departmental Cooperative of Coffee Growers of Huila* (Cadeфиhuila), is the most important institution for coffee growers in Pitalito. It supplies credit and inputs, markets the parchment coffee of its members, and provides welfare services (educational credits, school kits, health insurance, and home improvements). In the municipality it has 6 sectional offices (Cadeфиhuila, 2019): Pitalito 1/Bodega Pulmón (sale of fertilizers and purchase of coffee); Pitalito 2 (purchase of coffee only); Centro and Galería warehouses (storage and sale of fertilizers); specialty coffee warehouse (purchase of coffee only); Bruselas (sale of fertilizers and purchase of coffee).

Additionally, the *Municipal Committee of Coffee Growers of Pitalito* regulates the extension service for the region. The Neiva Chamber of Commerce – CCN (Pitalito branch) offers courses and workshops on entrepreneurship, SME formalization, and business plans. Export seminars for local producers are held under an agreement with Procolombia. Finally, in response to requests from coffee growers for more specialized support, in 2019 the **municipal administration** created the *Secretariat of Agriculture, Environment and Rural Development*.

6 Discusión

The results obtained give a precise idea of the structure of the coffee production chain in Pitalito, being pertinent to discuss the prevailing types of articulation and to go deeper into the restrictions and opportunities related to competitiveness and the production of high-quality coffee. The reflections lead to the identification of favorable elements of policies, coherent with the coffee development of the municipality and its perspectives. Therefore, the discussion will use as a category of analysis of the results obtained “*the processes of relationship and integration*” of the links that make up the coffee production chain.

1. Functional relationship approach: this approach emerges among the actors of the links, mainly driven by exchange and market prices, who emphasize production and marketing by volume. This situation means that coffee marketers and exporters play the relevant role as they are the first to identify market signals regarding the behavior of coffee demand and prices. This quality makes marketers key actors in the management and dissemination of market information to the other links in the chain, as well as in the structuring and conditioning of the dynamics of its functioning.

In addition, the municipal reality indicates a segmentation of the coffee production chain in which each actor performs its functions according to its own interests. Although segmentation responds to the very nature of the functioning of the markets, the important thing to highlight is that it disadvantages small coffee growers who make up the most atomized segment. It would be desirable that segmentation, resulting from the type of actors and processes involved in the chain, which shows imbalances in favor of traders, does not exacerbate fragmentation and

the bias of individual interests against collective interests. Since markets are not self-correcting, but on the contrary tend to concentrate their dominance in the strongest segments, territorial policies are needed to correct these flaws and lead to the strengthening and organization of the weakest and most disorganized segments.

Therefore, it is advisable that in the course of time this segmentation is articulated around the generation of new relationship ties that not only transcend exchange relations, but also promote medium and long-term agreements based on the agreement of common interests among the interrelated agents. Thus, the recommendations of the study “*World coffee market and its impact on Colombia*” (Cano et al., 2012) which suggests integrating the links of the production chain to solve its competitiveness problems, would be taken into account. In this respect, the results allow us to observe that the territorial *proximity* between the townships with the greatest coffee production represents an advantage for the strengthening of socio-economic processes around the municipal coffee identity, the construction of social capital and collective action.

2. Strategic relationship approach: This approach responds to significant and individual criteria of interest in the interrelationship, defined by the actors in the production chain. The results indicate that marketers are focused on exports and the foreign market, where the quality of Colombian coffee is recognized with differential prices depending on the cup test score. From this perspective, producers enter to play the relevant role. With the purpose of raising the cup test score in order to improve their income via parchment coffee prices, producers implement innovations to reduce the action of local buyers and capture the direct attention of international marketers who purchase the harvest on the farm, thus increasing the efficiency of the chain. This trend encourages the organization of producer associations and the establishment of agreements based on *collective action processes*.

The results show that the productive relationships and the role of international marketers have contributed significantly to the recognition of the quality of the coffee from Pitalito. Additionally, the institutional support of the FNC, the consolidation of the *National School of Coffee Quality* (ENCC for its acronym in Spanish) and the diversification of the varieties of Arabica coffee cultivated have promoted the articulation of the productive chain, the improvement of agricultural practices and the valorization of the territory based on a coffee cultural identity that is inclined towards the production of high-quality coffee. It is therefore essential that coffee policies emphasize the construction of social capital, the consolidation of value chains, the strengthening of collective action, associativity and the generation of agreements, with the objective of consolidating the quality of Laboyan coffee.

This suggests that the concept of territory is valuable for understanding the strategic scope of the coffee production chain. Understanding territory as a *socially constructed, culturally marked, institutionally regulated and administratively delimited space* (López y Muchnik, 1997), It would be coherent to highlight its determining role in the competitiveness of agricultural activities associated with a specific region (Muchnik, 2006). Moreover, it constitutes a resource for a social collectivity. Indeed, the French geographer Guy Di Meo argues that *territory is a space of collective appropriation* (UChile, 2011).

In this sense, it is important to incorporate the premises of *Local Economic Development* that privilege the objective of productive growth through the creation of competitive advantages. Silva Lira (2005) argues that *Local Economic Development* and *territorial competitiveness* are endogenous processes that take advantage of territorial potentialities to promote *Local Productive Systems* (LPS) that increase productive capacities, employment and the quality of life of the population. From this perspective, it would be valid to frame coffee growing in Pitalito within the SPL approach, whose distinctive feature is its emphasis on differentiation strategies through high quality production and its articulation in value chains. This approach is useful for defining policy elements, since it would bring into play a set of instruments to be designed according to local needs, such as: access to financing, human resource training, innovation, product quality improvement and market access, factors that make a territory more competitive than others (Silva Lira, 2005).

In this scenario, the coffee production chain in Pitalito shows that this product is not only the basis of the municipal economy, but also explains the regional identity built since colonial times around the Laboyos valley, as the commercial and economic epicenter of the region. Thus, the culture of the territory, defined by histories and forms of *know-how*, has a determining influence on the economic and social organization, which is why it would be desirable that productive development policies could take advantage of the social and historical capital, assuming a strong territorial approach. In this sense, the study of the coffee production chain in Pitalito provides a relevant message for the design of coffee policies.

3. Relationship approach as a value chain: This approach is based on articulation focused on common interests through the *dynamics of three pillars: collective action, social capital and human capital*. These pillars build cooperation agreements between the different actors in the chain. The priority is to enhance the value of parchment coffee through quality, improve sales prices and reduce commercial intermediation. This situation shows that the coffee production chain in Pitalito has been permeated by transition processes (increasingly stronger), from the predominant functional focus to a strategic focus in which the quality of the coffee is imposed as a criterion for the interrelationship between producers and marketers. In this focus, the protagonism is shared between the producers, the marketers (national and international) and the consumption in international markets, where the quality of Colombian coffee is recognized, especially of the *Denomination of Origin of Huila*.

The development of this approach is complex due to the heterogeneity of the producers that are usually classified as large, medium and small depending on the size of the productive unit and the volume produced. However, in Pitalito a categorization is identified according to the level of innovation and technological adoption to improve the quality of dry parchment, namely: 1) technified coffee growers; 2) coffee growers in the process of adopting technologies and improving processes; 3) traditional coffee growers. The results also suggest a direct relationship between the willingness to innovate and associativity (the greater the associativity the higher the level of innovation), aspects that are permeated by a gender component and generational replacement.

This heterogeneity denotes the existence of favorable conditions for the development of innovation processes that allow the promotion of policies that stimulate the production of high-quality coffee. Therefore, agricultural diversification in Pitalito should not consist in changing crops, but rather in changing coffee varieties that respond to the interests of innovative producers and to the conditions of alternative markets that are inclined towards exotic varieties such as geisha or pink bourbon. For these reasons, it would be desirable to create territorial policies oriented towards the creation of conditions to stimulate innovation and diversification within the coffee identity of the municipality.

Hence, the contribution of coffee extension is decisive in the design and implementation of policies, due to its direct contact with the needs and new dynamics of producers. Educational processes are also fundamental. The existence of an innovative environment of human capital in coffee growing is no coincidence. This is due to the significant presence of university, technological and middle-level institutions, which have also had an impact on generational change and cultural identity.

Finally, the FNC has been implementing the strategy “*More agronomy, more productivity, more quality, better profitability*” aimed at improving the competitiveness of Colombian coffee production. Given the importance of mild coffees of arabica varieties with high demand potential in specialized markets, the country has focused on the goal of continuing to be the third largest coffee producer in the world and the main international producer of mild coffees. In this sense, the 87th National Congress of Coffee Growers held in December/2019 resulted in the commitment of the National Government and the FNC to make joint efforts to consolidate the “*Strategic Agenda for the Coffee Sector 2020-2030*”. This policy emphasizes on the quality of Colombian mild coffee. In this respect it is important to note that *quality* is a category indexed to the cup test for international commercialization as a mechanism to define and differentiate the price per load of dry parchment. Therefore, it is relevant that the national policy be coherent with this fundamental criterion.

In this context, the lessons learned from the Pitalito production chain take on special significance in terms of policy. They reinforce the opportunity to strengthen *collective action, associativity and generational change in coffee-growing families*, giving greater importance to *value chains and systemic competitiveness* and not only to the traditional idea of the *production chain, commercialization by volume and competitiveness based on individual business interests*. In this way, there would be awareness among the actors of the importance of lasting *collective action* centered on the quality of coffee, which would allow us to advance towards the construction of *Localized Agrifood Systems* (SIAL for its acronym in Spanish) that promote social and human capital, culture, and know-how, as categories for the generation of endogenous development.

Based on the above arguments, important bases can be established for the formulation of coffee policies with a territorial approach that should focus on the creation of structural conditions for the strengthening of agreements, the creation of social and human capital, collective action and the structuring of value chains.

7 Conclusions

The structure and internal articulation of the coffee production chain in Pitalito is determined by its insertion in the international market. In effect, a distinctive feature of Pitalito is its character as a region that produces high quality specialty coffees, almost all of which are exported to the United States, Canada, Japan, Germany, Australia, New Zealand, Switzerland and South Korea. Its production, with a low level of processing and geographically concentrated, is carried out on farms of less than 5 hectares, by heterogeneous producers, either with the vision of small entrepreneurs focused on quality (to improve prices), or with a traditional focus on dry parchment coffee by volume (with improvements in the processing stage and collective management of new markets), or with low levels of technification (without improvements in the processing process). As a result, the relationships between the links in the chain also respond to different approaches: centered on improving trade, or on strategic objectives based on quality achievements, or on the construction of value chains based on the generation of agreements through collective action processes. These particularities highlight the need for policies with a territorial focus.

In Pitalito the competitiveness of coffee is not determined by productivity, but by its organoleptic quality characteristics, the result of the variety and the improvement processes in the harvesting and processing stages. Thus, a strategic purpose of the productive chain is to promote innovation oriented towards competitiveness through quality, according to the differential attributes of the *Huila Coffee Denomination of Origin* and the reputation of the bean produced in Pitalito. This fact places greater demands on the actors of the production chain, in terms of defining agreements and collective action processes, to guarantee increasing levels of quality.

In order to make continuous quality scaling more solid, it would be advisable to evolve the production chain towards a value chain approach. This would require awareness-raising among innovative actors, as well as the construction of agreements and organizational processes that support interactions of a more integral nature.

Territorial policies should create the conditions for the different processes mentioned above to take place, without interfering with the initiative and autonomy of the actors.

REFERENCES

AGRONET. Reporte: Área, Producción y Rendimiento Nacional por Cultivo. Cultivo consultado: café. Bases consultadas el 25/enero/2020. 2019. Disponible em: <https://www.agronet.gov.co/estadistica/Paginas/home.aspx?cod=1>.

AMPH, (Alcaldía Municipal de Pitalito-Huila). Nuestro municipio. 2019. Disponible em: <http://www.pitalito-huila.gov.co/municipio/nuestro-municipio>.

BITZER, Verena; FRANCKEN, Mara; GLASBERGEN, Pieter. Alianzas Intersectoriales para una cadena de café sostenible: ¿Te-niendo realmente en cuenta la sostenibilidad o solamente recogiendo las cerezas del café? Revista Ensayos de Economía Cafetera, v. No.25, p. 123–145. 2009.

CADEFIHUILA, (Cooperativa Departamental de Caficultores del Huila). Cadefihuila: Nosotros, Servicios (productos) y Cobertura. 2019. Disponible em: <http://www.cadefihuila.com/cobertura/>.

CANO, Carlos Gustavo. Manejo social del campo: Memorias 2003-2004. Ministerio de Agricultura y Desarrollo Rural. 2004.

CANO, Carlos Gustavo; VALLEJO, César; CAICEDO, Edgar; AMADOR, Juan; TIQUE, Evelyn. El mercado mundial del café y su impacto en Colombia. Revista Borradores de Economía-Banco de la República. 2012.

CCH-FNC-SICA, (Comité de Cafeteros del Huila - Federación Nacional de Cafeteros de Colombia-Sistema de Información Cafetero de Colombia). Comité Departamental de Cafeteros del Huila, División Técnica - Oficina Sica: Estado de La Caficultura del Departamento por Seccionales y Municipios (Diciembre de 2018), 2019. Disponible em: https://huila.federaciondecafeteros.org/fnc/nuestros_cafeteros/category/118.

DANE-DIVIPOLA, (Departamento Administrativo Nacional de Estadística-División Político Administrativa). Consulta Divipola (División Político Administrativa) - Geoportal: Geovisor de Consulta de Codificación de la Divipola. Consultado 22/Noviembre/2019. 2019. Disponible em: <https://geoportal.dane.gov.co/geovisores/territorio/consulta-divipola-division-politico-administrativa-de-colombia/>.

DNP, (Departamento Nacional de Planeación). Cadenas productivas: estructura, comercio internacional y protección. 2004. Disponible em: <https://www.dnp.gov.co/programas/desarrollo-empresarial/paginas/analisis-cadenas-productivas.aspx>. Acceso em: 5 may. 2018.

ECHAVARRÍA, Juan José; ESGUERRA, Pilar; MCALLISTER, Daniela; ROBAYO, Carlos Felipe. Informe de la misión de estudios para la competitividad de la caficultura en Colombia. Resumen ejecutivo. 2015. Disponible em: <http://www.urosario.edu.co/Mision-Cafetera/Archivos/Resumen-Ejecutivo-version-definitiva/>.

FNC, (Federación Nacional de Cafeteros). Estrategia ‘Más agronomía, más productividad’ rinde importantes frutos. Informe Gerente General, diciembre 5 de 2018. 2018. Disponible em: <https://federaciondecafeteros.org/static/files/masagronomiamasproductividad.pdf>.

FNC, (Federación Nacional de Cafeteros). Gobierno Nacional y Federación Nacional de Cafeteros firman agenda 2030 para el sector cafetero. Sección noticias del

Bogotá, diciembre 18 de 2019 (Prensa FNC). 2019a.

FNC, (Federación Nacional de Cafeteros). Estadísticas históricas - información estadística cafetera. Bases consultadas el 25/enero/2020. 2019b. Disponible en: <https://federaciondecafeteros.org/wp/estadisticas-cafeteras/>.

GARCÍA, Rafael; OLAYA, Érika Sofía. Caracterización de las cadenas de valor y abastecimiento del sector agroindustrial del café. Revista Cuadernos de Administración- Pontificia Universidad Javeriana, v. Vol. 19, n. No 31, p. Pág. 197-217, 2006.

HERNÁNDEZ-SAMPIERI, Roberto; FERNÁNDEZ, Carlos; BAPTISTA, Pilar. Metodología de la Investigación. 6ta Edición ed. 2014.

IGAC, (Instituto Geográfico Agustín Codazzi). Datos Abiertos Agrología - Subdirección de Agrología. 2019a. Disponible en: <https://geoportal.igac.gov.co/contenido/datos-abiertos-agrologia>.

IGAC, (Instituto Geográfico Agustín Codazzi). Datos Abiertos Catastro - Subdirección de Catastro. 2019b. Disponible en: <https://geoportal.igac.gov.co/contenido/datos-abiertos-catastro>.

KRUGMAN, Paul; OBSTFELD, Maurice; MELITZ, Marc. Economía Internacional: teoría y política. Education, Pearson SA, 9a Edición - Madrid, 2012.

LEY 811, (Congreso de Colombia). “Por medio de la cual se modifica la Ley 101 de 1993, se crean las organizaciones de cadenas en el sector agropecuario, pesquero, forestal, acuícola, las Sociedades Agrarias de Transformación y se dictan otras disposiciones”. 2003.

LÓPEZ, Elisabeth; MUCHNIK, José. Petites entreprises et grands enjeux: le développement agroalimentaire local. En L'Harmattan Paris, 2 Tomes 716 p, 1997.

LOZANO, Andrés; YOSHIDA, Paula. Índice de Competitividad Regional Cafetero (ICRC). Revistas Ensayos sobre economía cafetera, v. No 24., p. Pág. 103-131, 2008.

LUNDY, Mark. ¿Como hacer análisis de cadenas? Metodologías y Casos. ASOCAM, p. 26 páginas., 2012.

MINAGRICULTURA-EVA, (Ministerio de Agricultura y Desarrollo Rural-Evaluaciones Agropecuarias Municipales). Reporte: Evaluaciones Agropecuarias del Sector Agropecuario - EVA y Anuario Estadístico del Sector Agropecuario, [Base Agrícola EVA 2007-2018 (P)]. Bases consultadas el 25/enero/2020. 2019. Disponible en: <https://www.agronet.gov.co/estadistica/Paginas/home.aspx?cod=59>.

MUCHNIK, José. Sistemas agroalimentarios localizados: evolución del concepto y diversidad de situaciones. III Congreso Internacional de la Red SIAL “Sistemas Agroalimentarios Locales” Alimentación y Territorios “ALTER 2006”. Universidad

Internacional de Andalucía, Baeza-(Jaén-España), 18-21 de Octubre 2006., p. Pág. 1-21, 2006.

NAHUAMEL-JACINTO, Edwin. Competitividad de la Cadena Productiva de Café Orgánico en la Provincia de La Convención, Región Cusco. 2013. Tesis de Maestría - Universidad Nacional Agraria La Molina, 2013.

OSTROM, Elionor y AHN, T.K. “Una perspectiva del capital social desde las ciencias sociales: capital social y acción colectiva”. Revista Mexicana de Sociología, 65 (1), 155-233, 2003.

PARRA-PEÑA, Rafael; MILLER, Vail; LUNDY, Mark. Cadenas productivas colombianas: Cómo la política pública transforma la Agricultura. Centro Internacional de Agricultura Tropical (CIAT). Políticas en Síntesis, [S. l.], v. No. 8, p. Pág. 1-6, 2013.

PNUD - DPS, (Programa de las Naciones Unidas para el Desarrollo - Departamento para la Prosperidad Social). Cadena Productiva del Café Perfil ocupacional y generación de ingresos en el departamento del Quindío. 2012.

POTEETE, Amy, JANSSEN, Marco y OSTROM, Elionor. Trabajar Juntos: acción colectiva, bienes comunes y múltiples métodos en la práctica. México D. F. 2012.

RENDÓN, Jaime Alberto; FORERO, Jesús David. Sistemas productivos locales: estrategias empresariales para el desarrollo. Revista Semestre Económico, Vol.17, No. 35, pp. 75-94, enero-junio/2014. Universidad de Medellín (Colombia), 2014. Disponible em: <http://www.scielo.org.co/pdf/seec/v17n35/v17n35a4.pdf>.

SIAC-MADS, (Sistema de Información Ambiental de Colombia-Ministerio de Ambiente y Desarrollo Sostenible). Catálogo de mapas: Tema:Cambio climático; subtema: Temperatura. 2019. Disponible em: <http://www.siac.gov.co/catalogo-de-mapas>.

SILVA, Gabriel. El contexto del mercado mundial cafetero. Editorial, Revista Ensayos de Economía Cafetera, Año 21, No.24, p. 7-11, 2008. Disponible em: <https://federaciondecafeteros.org/app/uploads/2020/06/Ensayos-Econom%C3%ADa-Cafetera-No.-24.pdf>

SILVA, Gabriel. Federación y Caficultura : Permanencia , Sostenibilidad y Futuro. Editorial, Revista Ensayos de Economía Cafetera, Año 19, No.22, 2006., p. 7-16, 2006. Disponible em: <https://federaciondecafeteros.org/app/uploads/2020/06/Revista-Ensayos-de-Econom%C3%ADa-Cafetera-No.-22.pdf>

SILVA LIRA, Iván. Desarrollo económico local y competitividad territorial en América Latina. Revista de la CEPAL No 85, abril 2005. Páginas 81-100, 2005. Disponible em: https://repositorio.cepal.org/bitstream/handle/11362/11001/1/085081100_es.pdf.

SIPRA, (Sistema para la Planificación Rural Agropecuaria). Departamento del Huila (Diferentes filtros para la generación de capas e información estadística). 2019. Disponível em: <https://sipra.upra.gov.co/>.

UCHILE, (Universidad de Chile). Guy Di Méo y la noción de espacio social, territorio e imaginarios. 2011. Disponível em: <http://www.fau.uchile.cl/noticias/75255/dr-guy-di-meo-y-la-nocion-de-espacio-social-territorio-e-imaginarios>. Acesso em: 9 abr. 2018.

UPRA, (Unidad de Planificación Rural Agropecuaria). Presentaciones institucionales de la UPR: HUILA_2019.pdf. Gestión de información agropecuaria y planificación del desarrollo agropecuario:Huila. 2019. Disponível em: <https://sipra.upra.gov.co/>.

Juan Patricio Molina Ochoa. Economist (Universidad de los Andes - Colombia), Master's degree in Agricultural Economics (University of Reading - England), Master's degree in Administration (Universidad Nacional de Colombia), and PhD in agricultural, food, forestry and sustainable rural development engineering (Universidad de Córdoba - Spain). He is an associate professor at the Faculty of Agricultural Sciences of the Universidad Nacional de Colombia.

E-mail: jpmolinao@unal.edu.co ORCID: <https://orcid.org/0000-0002-9859-8148>

Carlos Albeiro Mora-Villalobos. Economist (Universidad de La Salle - Bogotá D.C), Geographer (Universidad Nacional de Colombia) and Master's degree in Management and Rural Development (Universidad Nacional de Colombia).

E-mail: caamoravi@unal.edu.co ORCID: <https://orcid.org/0000-0002-4268-0396>

María Mery Gallardo Coca. Professional in Business Administration (Universidad Surcolombiana), analyst at the Chamber of Commerce of Huila (Sectional Pitalito).

E-mail: mega-765@hotmail.com

Submitted on: 30/06/2021

Accepted on: 08/11/2021

CONTRIBUTION OF EACH AUTHOR

Conceituação (Conceptualization): Juan Patricio Molina y Carlos Albeiro Mora.

Curadoria de Dados (Data curation): Juan Patricio Molina, Carlos Albeiro Mora, María Mery Gallardo.

Análise Formal (Formal analysis): Juan Patricio Molina y Carlos Albeiro Mora.

Obtenção de Financiamento (Funding acquisition): Juan Patricio Molina y Carlos Albeiro Mora, a tarvez del Centro de Investigación y Extensión Rural (CIER) de la UNAL.

Investigação/Pesquisa (Investigation): Juan Patricio Molina, Carlos Albeiro Mora, María Mery Gallardo Coca.

Metodologia (Methodology): Juan Patricio Molina y Carlos Albeiro Mora.

Administração do Projeto (Project administration): Juan Patricio Molina y Carlos Albeiro Mora.

Recursos (Resources): No aplica.

Software: No aplica.

Supervisão/orientação (Supervision): Juan Patricio Molina.

Validação (Validation): Juan Patricio Molina.

Visualização (Visualization): Juan Patricio Molina, Carlos Albeiro Mora, María Mery Gallardo.

Escrita – Primeira Redação (Writing – original draft): Carlos Albeiro Mora y María Mery Gallardo.

Escrita – Revisão e Edição (Writing – review & editing): Juan Patricio Molina, Carlos Albeiro Mora y María Mery Gallardo.

Sources of funding: This article is the result of the thesis research for the Master's Degree in Management and Rural Development at the Universidad Nacional de Colombia, entitled “*Technological and social innovation in coffee production: a case study in the municipality of Pitalito-Huila (Colombia)*”, directed by Professor Juan Patricio Molina and carried out by the student Carlos Albeiro Mora-Villalobos. The field work was financed by the Center for Rural Research and Extension (CIER) of the UNAL.