

Innovation and Associativity: Key Factors in Competitiveness for Green Onion Production in the Township of Buesaquillo

Innovación y asociatividad: factores clave de competitividad en la producción de cebolla junca en el corregimiento de Buesaquillo

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Abstract

This chapter presents a diagnostic study of the competitive and associative ability of growers and traders of green onions in the township of Buesaquillo in the Pasto municipality. The aim is to put forward an associative model that would allow them to operate within a framework of process innovation in order to achieve results marked by productivity, profitability, and the well-being of the region. The study was conducted using the guidelines of the quantitative paradigm and in line with descriptive research, allowing the characteristics of the study population to be identified. A questionnaire was conducted with this population to provide information, which, in turn, was complemented by a review of various texts. The results of the research show difficulties present in work methods, land care, product cultivation, the final appearance of green onions, and the trading process, among other things, which are posing obstacles to working associatively and competitively. The study leads to an important conclusion: the need to implement innovation concepts in the process of producing green onions, from planting technique to the form of organization.

Keywords: farmers, associativity, green onions, competitiveness, innovation.

Resumen

El presente capítulo describirá el diagnóstico de la capacidad competitiva y asociativa de los agricultores y comercializadores de cebolla junca del corregimiento de Buesaquillo, en el municipio de Pasto, para proponer un modelo asociativo que les permita desarrollar sus actividades en el marco de la innovación de sus procesos para que puedan alcanzar resultados caracterizados por su productividad, rentabilidad y bienestar de la región. El trabajo se realizó desde los lineamientos del paradigma cuantitativo y según el tipo de investigación descriptiva, que permitieron identificar las características de la población objeto de estudio, a quienes se les aplicó un cuestionario para obtener información, que a su vez fue complementada con la revisión de diversos textos.

Los resultados de la investigación evidencian que las características asociadas con aspectos como forma de trabajar, cuidado del terreno, cultivo del producto, presentación final de la cebolla y proceso de comercialización, entre otras, demuestran dificultades que impiden la realización de un trabajo asociativo y competitivo. Reviste de importancia la conclusión obtenida en el estudio, que hace referencia a la necesidad de implementar conceptos de innovación en el proceso de producción de cebolla junca, que abarca desde la técnica de siembra hasta su forma de organización.

Palabras clave: agricultores, asociatividad, cebolla junca, competitividad, innovación.

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Introduction

The market demands that its economic agents be increasingly competitive, to the point where they must generate income from their productive activity not only to cover their costs and spending, but also to create assets that will help them grow; otherwise, the competition will eliminate them from the market. In this sense, one of the most vulnerable sectors in Colombia has been the agriculture sector. It has shown major structural weaknesses, and strategies must therefore be adopted to make it more productive and competitive.

In order to develop the horticultural sector in the township of Buesaquillo, research on competitiveness, associativity, and innovation is required. These are essential topics for the township's farmers, who work lands with an area equal to or greater than 50 square meters, according to the information registered in the National Agricultural Survey 2005, conducted by the DANE. In this regard, an analysis was conducted on rural farmers in Nariño, who are characterized by their conservative manner of carrying out farming and trading activities. This has made them less competitive commercially, and to some extent in production, too. Their nature has a bearing on their failure to diversify production methods or use methods of trading other than the traditional ones, leading to low competitiveness in the market.

This study on the characteristics of the agriculture sector incorporates the theories put forward by various authors on the subjects of associativity, competitiveness, and innovation. According to Moraleda (2004), "The key to successfully facing these times lies in accentuating innovation in companies, understanding innovation as the ability to transform business processes and create more competitive, agile, and effective organizations" (p. 135). It is also important to bear in mind the definition of innovation provided by the Spanish Royal Academy, which indicates that it is the "creation or modification of a product, and its introduction into a market" (2001).

According to Peter Drucker (2004), innovation is the means by which an entrepreneur creates new resources that generate wealth, or increases existing resources to provide better potential for creating wealth; this is a factor to take into account with respect to the competitiveness of this sector.

Another important factor in the development of the horticultural sector is competitiveness. Although this can be approached from various points of view, the study of farmers in Buesaquillo took concepts such as those of Mathews and Porter into account. Mathews (2009) defines competitiveness as:

The ability of an organization, public or private, for-profit or not-for-profit, to obtain and maintain advantages that enable it to consolidate and improve its position in the socioeconomic environment it operates in. These advantages are determined by the organization's resources and its ability to perform better than its competitors (p. 13).

Another author who studies how to be competitive is Professor Michael Porter. In his five forces model, he asserts that a company is surrounded by five fundamental factors within an industry, and it must learn to manage and control these well to survive in the market. To do this, the company must make good decisions, in such a way as to enable success and permanence in the market.

According to Porter's proposition (2009, p. 32), to be competitive a company must first and foremost be prepared to face the entry of new competitors, and this is important to bear in mind with respect to market characteristics. The township of Buesaquillo has a comparative advantage of location next to the city of Pasto, the principal consumer of the product and a market that has always been assured. This is not the case for the national territory, where the competitive advantage of location ceases due to distance from market and other factors.

The problem in the onion sector in the Pasto municipality, and specifically in the township of Buesaquillo, lies not only in production, but also in the commercialization process, which poses various difficulties that affect farmers' work. The most representative problems that arise in the townships of the Pasto municipality include the inefficient use of resources and the inability to penetrate wholesale markets with orders larger than those produced individually by smallholder farming.

Other research studies, similar to the one in the township of Buesaquillo, have been conducted at the regional, national, and international levels. For example, one study identified the research needs for establishing the causes of resistance to rural commercial associativity in Santiago de Chile. In this research, conducted in 1999, Zamora sought out the predominant attitudes among small producers towards commercial associativity by analyzing previous experiences and the profile of an "ideal" organization. This study was used as a reference in the associativity process, although the cultures of the regions differ.

At the national level, the research study titled "Associativity as a development alternative for young companies in Colombia" provided a source for consultation and background. This study sought to optimize economic, logistic, commercial, organizational, and human resources to compete in today's complex markets with the advantages of globalization (FTA, FTAA). It focused on plans related to national markets and included a lofty vision of internationalizing the trade process (Corporación Emprendedores Colombia, 2006).

Another study that was considered in this research was that of the Ministry of Commerce, Industry, and Tourism (2006) on chains, business networks, and associativity. It was aimed at improving the productivity of the companies that form part of the regional production chains by raising awareness about associative projects, as well as structuring and developing such projects to present in different calls for proposals to support productivity and competitiveness. This study was a very important reference, as it deals with the subject of research.

At the regional level, one prior study proved decisive in conducting this research on the township of Buesaquillo: “Organizational forms in agriculture in the township of Buesaquillo in the Pasto municipality,” a study undertaken by students in the Postgraduate Specialization in Regional Development at Universidad de Nariño. It identified and characterized the organizational forms in agricultural activity in the township of Buesaquillo in order to formulate strategies for strengthening agriculture that would provide models of organizational forms for farmers in the studied township (Chaves, Eraso, & Ruano, 2004).

The objectives of the research presented in this chapter are related to factors of the associativity, competitiveness, and innovation of the township of Buesaquillo’s farmers and traders. The aim is to identify the characteristics of production, trading methods, and the level of formal and informal associativity in order to suggest some strategies for the horticultural farmers and traders and increase their competitiveness. In addition, the goal is to propose an associative model for consolidating the production and trading process, enabling higher levels of competitiveness through association and innovation in production, processing, and trading.

Methodology

In order for this research to gauge the social reality experienced by green onion farmers and traders in the township of Buesaquillo, the researchers used the quantitative paradigm, as well as descriptive research, which offer advantages in understanding the study population’s situation.

The information for the study was obtained through surveys conducted with a sample of 76 farmers, who shared the characteristic of working on lands with an average area of 50 square meters, according to information provided by the DANE in the results of its National Agricultural Survey in 2005. With respect to traders, a random sample of eleven people was chosen. These traders buy and sell green onions in the city’s central market, named El Potrerillo.

Secondary sources of information included documents from the Nariño department’s Ministry for Agriculture, DANE, Corponariño, and municipal and

departmental development plans. Documents and research on rural economic and agro-industrial development, information on the internet, magazines, newspapers, books, and reports related to the topic were also reviewed.

Results

The research in this chapter was guided by the objective of diagnosing the competitive and associative ability of fruit and vegetable farmers and traders in the township of Buesaquillo in the Pasto municipality in order to propose an associative model. This led the researchers to a better knowledge of the characteristics that affect the competitiveness of farmers and growers.

As mentioned previously, the postulates of Porter (2009), Mathews (2009), and Moraleda (2004) were taken into consideration for this research. Based on these, factors of competitiveness were analyzed, including entry of new competitors, threat of possible substitute products, bargaining power of suppliers, bargaining powers of buyers, and rivalry between competitors.

This chapter presents relevant facets of the research, framed within aspects that show the farmers' characteristics, such as demography, processes of production, trading and associative work related to competitiveness, associativity, and innovation.

Demographic characteristics

Characterization of the farmer population in the township of Buesaquillo shows that the father of the family and his sons are in charge of the onion cultivation work. This indicates that 66% of the population dedicated to cultivating green onions is male, due to their greater physical strength and ability to carry out the activities of weeding, fumigating, making and maintaining furrows, planting, fertilizing, harvesting, and organizing the green onions into bundles for their subsequent sale. Although a smaller proportion, 34% of the population are women who have moved into agricultural activities, from preparing the land for planting to harvesting. Their involvement stops with final organization of the produce, as this activity is undertaken specifically by the person in charge of the land, and therefore, of the production.

A very small percentage of farmers are less than 18 years old (1%), 25% are aged between 19 and 35, and the majority (74%) of farmers are over 35. The population aged under 18 is engaged in primary school studies, and some in secondary school studies, as it is considered important for children and adolescents to study to allow them to seek appropriate life opportunities in the future. When farmers reach an age

that ranges from 19 to 35, they are faced with various options, the least important option being to continue studying, as opposed to pursuing other opportunities for generating income for themselves and their family group; accordingly, the low percentage of people in this age group—a particularly productive age for growing green onions—is caused by young people leaving the township to look for different work options that offer greater income, leaving the work of planting and growing green onions to the population aged over 35.

For this reason, it was found that farmers have a basic level of education: 86% have only undertaken primary school studies, 13% have had the opportunity to study at a secondary school level, and only 1% have had the chance to receive technical training.

Production and trading process

To gain knowledge about the characteristics of the production and trading processes of green onion farmers in the township of Buesaquillo, researchers looked at relevant aspects that allowed them to become familiarized with the situation experienced by the population. In particular, they investigated the characteristics of lands, the products cultivated, innovation in onion cultivation, commercialization of the products, and associativity.

To provide an awareness of the characteristics of the land where green onions are cultivated, it should be pointed out that, with respect to area, 50% of the population work on properties of 1/4 of a hectare, 43% work on properties of 1 hectare, 4% have lands measuring 2 hectares, and only 3% work on lands with an area greater than 2 hectares. This corroborates the point made in the methodology section which states that the lands where agricultural activities take place measure 50 square meters on average. Land ownership in the form of smallholdings is a standout feature of the region.

In terms of ownership of the land where the green onions are cultivated, it was found that 76% of lands were the property of the green onion farmers, 17% of farmers work on rented land, and 7% conduct their activities on lands acquired through an antichresis contract.

With regards to public services, the research showed that 97% of farmers have access to electricity, 64% have water supply services, and 4% have sewage services.

To complement the study of public services, research was conducted into the conditions of water supply sources. This found that 58% of green onion farmers have a water supply service for irrigating crops, 54% have their own springs, and 68% take water from nearby streams.

In order to determine whether farmers have the capacity to store harvested green onions on their land, researchers investigated the presence of storerooms on the properties. It was found that 12% of farmers have storerooms on their land. Due to the fact that the transport trucks arrive the same day that the green onions are harvested, it is not a priority for farmers to have storerooms for this product. Additionally, 63% of farmers have space to construct a storeroom if necessary, and 37% do not have space to construct.

The township of Buesaquillo is a region characterized by green onion cultivation; however, an analysis of the additional activities that farmers undertake shows that 55% of those surveyed only cultivate green onions on their land, while 45% plant other crops.

These results led to the finding that when farmers cultivate products other than green onions, the most frequent crops are potatoes, aromatic herbs, flowers, tamarillo (tree tomato), and blackberries. These are secondary products, as green onions offer greater profitability due to their characteristics. This was the finding of a study related to onions, which stated:

It is a semi-permanent crop that provides various harvests during the year; that is, it does not require replanting after every harvest and provides various “cuts” from a single planting. It can offer three or four harvests per year, which is not possible with any other crop (Pinzón, 2004, p. 39).

Innovation requires open-mindedness to set out on the road to change, which, in turn, enables procedures to be improved. Of the farmers in the township of Buesaquillo, 99% are willing to improve production processes, indicating that they are on track to achieving greater competitiveness; however, although there is a will to improve, only 25% of them implement innovations in their production processes. It was noted that there is a big difference between wanting to do something and actually doing it, and in order for there to be competitiveness, there must be an awareness of trends towards comprehensive production processes, given that

Innovation processes offer multiple opportunities and options for changing agriculture practices, above all from an environmental and social inclusion perspective. It is essential to incorporate more intelligence and knowledge into the production and processing of agricultural products, and into production processes, commercial strategies, and organizational design (IICA, 2011).

With respect to the farmers who are following the innovation guidelines in their agricultural processes, it is important to clarify that changes are being made in different areas including the way of fertilizing the land, irrigation, improvements

to onion seeds, and adding greater value for sale by washing and arranging the green onions.

Additionally, biological control has also become an innovative process aimed at improving production processes and productivity; however, only 22% of farmers in the township of Buesaquillo know about this practice.

Biological control is an agricultural method for controlling pests and plant diseases using living organisms that are their natural enemies including predators, parasites, and herbivores. It is an alternative for making crops healthier without damaging the ecosystem, and it is one of the most efficient strategies for achieving the objectives of sustainable agriculture (Control Biológico Integrado, 2012).

Soil studies are another process that leads to innovation. Through these studies, farmers can obtain technical information about the state of the soil in which they grow crops; however, 24% of green onion farmers seek advice from engineers at agricultural stores in order to identify the properties of their soil and receive suggestions about the processes required to maintain or improve the fertility of their land.

Of the green onion farmers in the township of Buesaquillo, 51% know how to compost—that is, transform organic material into an organic fertilizer—and how to obtain organic fertilizer to reap the benefits of healthy and fertile land. But 49% do not know about this process, or that its intention is to improve production and protect the environment.

For this reason, only 1% of farmers are aware that one of the best fertilizers is organic fertilizer. While they generally use it, 28% still exclusively use chemical fertilizer for its high performance, and 71% use a combination of organic and chemical fertilizer, taking advantage of the availability of raw material for making organic fertilizer and its low cost.

Having described the production process, it is now appropriate to address the trading process. The research showed that the majority of green onions are sold to traders, who manage the distribution process. This was the case for 93% of farmers, while 7% sell directly to customers in the El Potrerillo marketplace.

Analyzing the variable of changes that have been made in green onion trading, it can be said that the traders are traditional and that it is difficult to innovate in these professions; only 5% have looked for other ways of selling their products, as they generally sell directly to wholesalers in marketplaces in other regions such as Cali, and also directly to end users or customers in the El Potrerillo marketplace. Thus, traders are natural persons (that is, individuals as opposed to legally constituted groups of people) who travel around the township of Buesaquillo in order

to obtain the product in the best condition in terms of quality and plant thickness, which they buy and send to the country's markets.

Although the last thing that anyone wants is difficulties in the trading process—as stated by 78% of farmers who said that they do not have problems in the sale of green onions—one aspect that destabilizes those who do have problems is price fluctuation. This was confirmed by 22% of farmers and asserted in 2010 by the Food and Agriculture Organization of the United Nations (2010) when it argued that: “The essence of the price system is that when a commodity becomes scarce, its price rises, which induces a fall in consumption and more investment” (p. 1). This truly is a problem for farmers in the township of Buesaquillo, as so far it has not been possible to establish constant prices in the agricultural sector. Instead, prices fluctuate according to the levels of supply of the products, and farmers take advantage of high prices in order to recover losses suffered in previous harvests.

Another problem that the farmers believe significantly affects their competitiveness is the intermediary, as according to them, this person lowers the purchase price of the product to increase brokering profits; the trader does not pay according to market value, but according to what he or she considers appropriate based on other factors that affect the price of the product such as transport, trading, storage, and financing. Other farmers did not reply when asked about these problems, but stated that they do have issues when selling their products.

Associative work

The most common form of association among farmers is that based on agricultural work in their family groups. In the first instance this is made up of the father, mother, and children, and in some cases of uncles and aunts, cousins, or brothers, sisters, and sons-in-law if they cannot work in their own family unit. This was confirmed by the finding that 76% of farmers carry out their farming work with their family, as it was a family tradition developed over time and taught by their parents and grandparents. In contrast, 24% do not cultivate with their families.

Associative work with people other than family poses problems; accordingly, 88% of farmers do not work with partners in cultivating green onions, as the production levels can be covered with the help of the family and do not require the involvement of other people. The remaining 12% of farmers work with partners owing to the need to produce larger quantities and obtain greater profits.

As shown in the research, associativity is a highly cultural issue; this means that each person clings to the practice of working with the same people in their family that they have always worked with, which prevents them from seeing the advantages that joint work brings. Accordingly, 99% of farmers confirm that they

do not belong to associations or unions of organizations, and only 1% are part of an association. Furthermore, although 34% are reluctant to belong to an associative organization, 66% think otherwise and see that working with people outside their family offers the chance to obtain better work opportunities, earn higher incomes, produce better quality onions, and strengthen relationships with traders and intermediaries.

The farmers are also aware that an association needs resources in order to function. For this reason, 55% agree with making an economic contribution and helping the association operate properly, as the success of associative work stems from the progress of the association; however, 45% are not willing to make an economic contribution, as they do not have enough money in their households, and they anticipate problems in making regular payments.

Discussion

As a very important part of the township of Buesaquillo's economy, agriculture has not developed in line with the growth of the national economy, and even less so with the international economy. Innovation, associativity, and competitiveness are therefore fundamental in developing this economic sector, and have not, in one way or another, been able to complement each other. This should be the prime objective in the quest for positioning, permanence, and growth in the market.

One of the key factors for achieving competitiveness is that farmers and traders have the mindset or awareness that association creates synergies which can strengthen this sector. They should also be aware that innovation is another very important factor for achieving competitiveness.

Markets are always changing, not only due to growth and competition, but also due to the range of unmet needs that they must fulfill. Innovation therefore represents a challenge for this economic group, which it can take advantage of through its competitive advantage in an already satisfied market in the city of Pasto, as well as through the availability of new technologies which help provide extensive information about economic processes.

It should be mentioned that the majority of farmers in the township of Buesaquillo grow crops without any formal training and do not make an effort to acquire new knowledge in subjects such as more productive modern techniques. This issue, which has been occurring for generations, has prevented improvements in the level of competitiveness in harvest and post-harvest processes. It has also led to ignorance about systems for costs and trading, activities that can be made more effective and optimal by information and communications technology. Farmers thus

experience various problems, including a lack of innovation in both production and administrative processes.

According to the community of farmers in the township of Buesaquillo, globalization is yet to directly affect the local trading of green onions as it has domestic and foreign trading, a fact that, in turn, represents a challenge to achieve greater development in the sector; however, it also involves a risk for the farmers, as they must be more competitive with their products in order to improve their production system. Accordingly, this research presents the study of associativity, innovation, and competitiveness, these being fundamental aspects of the community's economic and social development, especially when members conduct similar activities that could complement each other.

Mathews (2009) considers competitiveness to be the ability to obtain and maintain advantages that enable an entity to consolidate and improve its position in the economic environment where it operates. From this perspective, the township of Buesaquillo should utilize its advantage, not restricting itself to the way it has always carried out its economic activities, but developing itself in order to compete in a changing and aggressive market such as agriculture, which is determined by supply and demand.

In the quest for competitiveness, it should also be taken into account that this is not only competition for one farmer or a group of farmers, but for a sector of the economy in a region or country, and associativity is a fundamental factor in achieving this.

Administrative management is vital in developing associativity, strengthening production processes, and taking advantage of technology in trading. In order to develop a product it is very important to develop production chains, thereby achieving market strategies that allow competition in local, national, and international markets.

Once production in the agricultural sector has been improved, international markets must be sought for commercializing its products in order to penetrate into new markets, which requires high levels of development and competitiveness, among other things. This can be achieved with good agricultural practices and associative processes that enable competitiveness in local, national and international markets.

Conclusions

In the township of Buesaquillo in the Pasto municipality, the majority of farmers are dedicated to cultivating green onions owing to the comparative advantage this

region has in the cultivation of this product. The harvest of green onions is alternated with other products.

The township of Buesaquillo's green onion producers are characterized by being a population mostly made up of males who are older than 35 and whose level of education does not extend beyond primary school. It can also be observed that women are breaking into some processes in green onion cultivation.

The green onion farmers in the township of Buesaquillo need training and incentives in order to innovate in the cultivation of their product. Although they are keen to improve each process they carry out, they do not have sufficient knowledge to get this underway.

The Buesaquillo region is marked by a culture of associativity based primarily on the family unit; however, the associative work does not extend to including people outside the family unit, as this is generally not considered an option and the population has not experienced joint work on a permanent basis.

Recommendations

To develop the competitiveness of farmers in the township of Buesaquillo, an associative model must be put forward that generates credibility and the conditions that will give the farmers the security they need to enter global markets, creating an environment that allows them to face new international policies with a view to the signing of free trade agreements.

To promote competitiveness in the sector it is essential to develop the activities connected to the green onion production process. These include transport, communications, supply of agricultural materials, and technical advice for green onion cultivation in the region.

It is recommended that an association of producers be formed in order to create a collection center. This center would include cleaning of the green onions, an activity that would add value to the product and allow producers to compete in terms of presentation, quantity, opportunity, price, and quality of the product.

It is important to instill in green onion farmers the need to train themselves in management of the production process as well as the post-harvest and commercialization processes.

In order for the green onion production process to develop, it is essential that it move from being empirical and non-formal to being carried out from a more technical perspective. This would produce better products and, as a result, more resources for the farmers, and growth and development for the region.

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