Dom. Cien., ISSN: 2477-8818
Vol. 6, núm. 4, Diciembre Especial 2020, pp. 412-428

DOI: http://dx.doi.org/10.23857/dc.v6i5.1610

Ciencias técnicas y aplicadas

Artículo de investigación

Analysis of the productivity and competitiveness of the agricultural sector in Ecuador

Análisis de la productividad y competitividad del sector agropecuario en el Ecuador

Análise da produtividade e da competitividade do sector agrícola no Equador

Jesenia Alexandra Moreano-Logroño [I]
jesenia.moreano@espoch.edu.ec
https://orcid.org/0000-0002-7443-3592

Carlos Andrés Mancheno-Herrera [II]
andres.mancheno@espoch.edu.ec
https://orcid.org/0000-0002-2682-0336

Correspondencia: jesenia.moreano@espoch.edu.ec

***Recibido:** 23 de septiembre de 2020 ***Aceptado:** 20 de octubre de 2020 *** Publicado:** 19 de diciembre de 2020

I. Ingeniera de Empresas, Analista financiera Escuela Superior Politécnica de Chimborazo, Riobamba, Ecuador.
II. Ingeniero Zootecnista, Técnico Docente Escuela Superior Politécnica de Chimborazo, Riobamba, Ecuador.

Abstract

In Ecuador, the countryside has usually been abandoned by the State. Agricultural activities have been maintained thanks to the efforts of its main actors: the farmers, who with effort maintain a practice that sustains the table of all Ecuadorians. This has led to limited productivity resulting in lost investments, low crop yields and low participation rates. In particular, this year, 2020, in addition to all the difficulties that agricultural producers have to face periodically, the COVID-19 pandemic has been added. However, this disease exposed that agricultural activities cannot be stopped for any reason, even if their situation is one of survival.

Keywords: Productivity; investment; agriculture; Ecuador.

Resumen

En Ecuador, el campo ha estado usualmente abandonado por el Estado. Las actividades agrícolas se han mantenido gracias al esfuerzo de sus principales actores: los agricultores, quienes con esfuerzo mantienen una práctica que sustenta la mesa de todos los ecuatorianos. Esto ha determinado una limitada productividad dando como resultado pérdidas de inversiones, poco rendimiento de los cultivos y bajo interés de participación. Particularmente, este año 2020, a más de todas las dificultades que los productores agrícolas deben afrontar periódicamente, se sumó la pandemia por la COVID-19. Sin embargo, esta enfermedad expuso que las actividades agrícolas no pueden detenerse por ningún motivo, a pesar de que su situación sea de sobrevivencia.

Palabras clave: Productividad; inversión; agropecuario; Ecuador.

Resumo

No Equador, o campo tem sido normalmente abandonado pelo Estado. As actividades agrícolas têm sido mantidas graças aos esforços dos seus principais actores: os agricultores, que com esforço mantêm uma prática que sustenta a mesa de todos os equatorianos. Isto levou a uma produtividade limitada que resultou em investimentos perdidos, baixos rendimentos das colheitas e baixo interesse em participar. Em particular, este ano, 2020, para além de todas as dificuldades que os produtores agrícolas têm de enfrentar periodicamente, foi acrescentada a pandemia da COVID-19. No entanto, esta doença expôs que as actividades agrícolas não podem ser interrompidas por qualquer razão, mesmo que a sua situação seja de sobrevivência.

Palavras-chave: Produtividade; investimento; agricultura; Equador.

Introduction

This article is based, on the situation reports Investigation of the Agricultural Sector, numbers 93-I-20 and 93-II-20, carried out in the months of July and October 2020, respectively, by the Central Bank of Ecuador. Those involved in this study are stakeholders directly involved in agricultural activities in the provinces of Guayas, El Oro, Manabí, Chimborazo, Bolívar, Tungurahua, Imbabura and Carchi.

In this text, we will deal mainly with the results obtained in the first quarter of 2020, in relation to the size of the cultivation area, as well as the forecasts on the yields per hectare and volume of production that could be obtained in the current agricultural year. The crops studied under those parameters are some of short cycle: winter rice, hard winter corn, soft corn, red onion, bean and vegetable tomato. However, a greater detail will put the first three products.

Methodology

The present analysis corresponds to a non-experimental research design. This design is systematic and empirical research, which is carried out without deliberately manipulating variables; that is, what is done in this type of research is to observe already existing situations, in particular, independent variables that have already occurred and therefore cannot be manipulated. Specifically, this design of non-experimental research will be transversal, since the information collected to arrive at the end with this will be from a single moment, that is, the first quarter of 2020. The transversality of this research will be of a descriptive type, fully bibliographic.

As mentioned above, the analysis will be carried out using the situation report prepared by the Central Bank of Ecuador (BCE) for the first quarter of 2020.

Analysis of productivity and competitiveness of the agricultural sector in Ecuador

Productivity involves improving the production process. "Improvement means a favorable comparison between the amount of resources used and the amount of goods and services produced. (Carro Paz & González Gómez, 2006, p. 1). The concept of productivity is closely associated with others such as "efficiency, performance, and utilization, [which] each measure the degree of utilization of labor, capital, and raw materials. (Carro Paz & González Gómez, 2006, p. 5)

In addition, productivity is related to the purpose of the organizations, whether they are governmental or private, and the strategies to reach them. There is no productivity if there is not "to begin with, a clear, defined and shared strategy, a concrete structure and a distribution of responsibilities in accordance with that structure". (Carro Paz & González Gómez, 2006, p. 6).

Particularly in agricultural activities, "it is very common that high levels of productivity are not achieved due to the absence of an adequate policy for the professional training of rural workers (...) The lack of serious programs to improve the activity with prizes and incentives when certain objectives are achieved, as well as effective systems to measure productivity (...). (Carro Paz & González Gómez, 2006, p. 12).

Finally, there is a correlation between productivity and competitiveness . "Productivity gains are mainly the result of a better combination of capital, labor and technology. The lack of investment in people through education and training, in equipment and in technology, can lead to an underutilization of the potential of the labor force (...)". (Carro Paz & González Gómez, 2006, p. 15). And low productivity will always be against competitiveness.

2020 first quarter results

In the 2020 winter planting, the area planted with winter rice decreased by 10%. This undoubtedly led to a decrease in yield and production volume by approximately 11%. It can be said that this situation was due to multiple factors, such as variations in rainfall that directly affect this crop; however, this year the health emergency caused by COVID-19 is added.

The cultivation of winter hard corn, during the first quarter of 2020, also registers negative figures: The cultivation of winter hard corn during the first quarter of 2020 also records negative figures: -4%, the opposite of the 7% increase in the cultivated area during the same period in 2019. This leads us to expect that yields per hectare and the volume of production (-6%) will also be lower.

In the first quarter of 2020, the cultivation of soft corn increased by 2% in the area planted. This could lead to an equal increase in the volume of production of this grass. In terms of yield, the results are expected to be maintained. The increase in the cultivated area was mainly due to the improvement in prices in the last months of 2019 and early 2020, which served as a stimulus for corn growers.

In relation to other crops: red onions are experiencing new growth compared to the first quarter of 2019. The area planted grew by 5%; the volume is also expected to grow by 4% this year, given the good weather conditions experienced by the Ecuadorian Sierra. In addition, there will be an increase in the sales price of this bulb vegetable due to an improvement in its demand.

According to most respondents, the next planting period would see additional investments (79%); the rest indicate that they will maintain their level of investment (21%). This would necessarily imply an increase in production. Therefore, one can imagine good conditions for onion producers, despite the current situation.

With respect to beans, it is estimated that the area cultivated for this legume has been reduced by 1%, which would lead to a drop in production volume of the same percentage. With regard to future investment expectations, these would be maintained, which would determine further falls in the volume of production in the coming year.

Finally, the area planted with vegetable tomatoes registered a 3% increase over the first quarter of last year. This is surely the result of the construction of new greenhouses in the second half of 2019, especially in the Chambo canton in the province of Chimborazo. In addition, the price of tomato had a significant recovery, as the demand for this vegetable increased substantially.

In relation to new investments that could be made by tomato growers in the immediate future, the study revealed that 42% of those interviewed said that they would increase and only 9% said that they would decrease. In any case, the conditions of tomato producers oscillate between good and normal, since no one considered that in the near future they would be worse off.

The variations in the area planted, as well as the forecast for the volume of production in short-cycle products, are shown in the following Table 1:

Table 1: Area sown and production of winter products short cycle. Quarterly Variation Rates (Interannual): Compared to 1st Quarter of previous year

PRODUCT	**Area**	**Production**	**Area**	**Production**	**Area**	**Production**
	2018	**2018**	**2019**	**2019**	**2020**	**2020**
Winter rice	6,0	1,0	-1,0	-3,0	-10,0	-11,0
Hard winter corn	13,0	-16,0	7,0	14,0	-4,0	-6,0
Soft corn	13,0	13,0	-4,0	-12,0	2,0	2,0

Red onion	-5,0	-6,0	3,0	3,0	2,0	4,0
Bean	6,0	-5,0	4,0	4,0	-1,0	-1,0
Horticultural Tomato	4,0	4,0	1,0	8,0	3,0	3,0

Source: (Ecuador, Banco Central, Julio de 2020, pág. 7)

Superficie: Área sembrada; Producción: volumen de producción

For the analysis about the evolution and perspectives of the short cycle crops, we will take as reference the winter rice, hard winter corn and soft corn crops.

Winter rice

The area planted with winter rice in the provinces of Guayas, Manabí, Los Ríos, Loja and Cañar, during the month of May 2020, according to the study conducted, had the following considerations: lower according to 46% of those interviewed, equal according to 53% and higher said 1%.

On the other hand, the yield per hectare, had the following results: 49% of the interviewed affirmed that they were minor, 50% considered them equal and the remaining 1%, major. Consequently, the volume of production would also be similar: 68% said it was lower, 31% said it remained the same and 1% higher.

Regarding investments: 12% of those interviewed said that rice growers increased them, 65% said they did not change and the remaining 23% said they decreased.

The above data is the result of a different rice scenario in each productive zone due to different climatic conditions. For example, in Guayas, in the cantons of Daule, Salitre and Naranjal, the sown surface decreased by 80%, 10% and 30%, respectively. This is due to the fact that rice farmers did not sow so as not to assume losses during the current agricultural cycle. Therefore, it could be said that the situation in these cantons at the time of sowing (early February) was one of uncertainty, due to abnormal weather conditions. However, in mid-February the rains were present, causing flooding in low-lying areas, especially in the canton of Daule.

With regard to yield, those surveyed, mainly in the aforementioned cantons, indicated that it was lower, decreasing by approximately 10% in Daule and Salitre, 20% in Colimes and 30% in Santa Lucía. Consequently, the production volume would suffer falls of 10% in Daule and Salitre, 20% in Naranjal and 30% in Santa Lucía. In addition, during the analysis period the farmers did not make large investments in the mentioned cantons, they only carried out basic infrastructure works.

On the other hand, in the province of Manabí, canton Calceta, sites such as Tosagua, Junín and Bolívar, the planted area remained unchanged with respect to the same period of the previous year. However, in Portoviejo (Crucita sector), the planted area was 50% less.

Regarding yields, these would remain unchanged in the cantons of Tosagua and Portoviejo, while in Junín and Bolívar this condition would decrease by 10% due to the low sales price. Farmers in these areas described did not make new investments in rice planting.

The province of Los Ríos, on the other hand, presented the same levels as the 2019 agricultural cycle. Thus, the area planted in the cantons of Urdaneta, Pueblo Viejo and Vinces remained unchanged (winter planting in these sectors is not significant). In addition, the other variables under study (yields and production volume) also remained unchanged.

In the province of Loja, in the cantons of Macará and Zapotillo, the sowing of winter rice remained without major changes with respect to the same period of the previous year, due to the fact that in this canton the agricultural frontier is full. In relation to the yields and volume of production, the behavior would be similar to that of the area sown. Particularly in the Zapotillo canton, it was known that the smuggling of grass from Peru makes the price of rice low, which causes damage to the economy of Ecuadorian rice growers. In addition, because of the pandemic, the reduction in the employment of labor, which also came from Peru.

For its part, in Cañar (La Troncal canton), the area planted with rice shows growth indicators (5%). As a result, yields and the volume of production increased by the same percentage as the area under cultivation. Also, the rice farmers increased the investments that were directed to maintain the reactivation of the sector in this canton.

One negative factor that came into play during this period of study was the health crisis caused by COVID-19, which prevented mobility, making it impossible to market the product and causing damage to the farmer.

With regard to foreign trade, rice exports grew between January and March 2020, as shown in Table 2 below.

Table 2: Statistics of foreign trade of goods

Period: Quarterly. Years: 2020, 2019: January, February, March	Tm and values in thousands of dollars	
	2020	2019

Sub-heading code	Sub-item	Destination country	Total weight	FOB	Total weight	FOB
TOTAL			23.771,0	17.835,4	9.212,8	5.204,2
1006200000	RICE (BROWN RICE)	Spain	0,3	0,3	0,0	0,0
1006200000	RICE (BROWN RICE)	EEUU	0,0	0,0	0,0	0,1
1006300000	SEMI-BLANKED RICE	COLOMBIA	23.770,8	17.835,1	9.212,8	5.204,1

Source: (Ecuador, Central Bank, July 2020, p. 10)

In the first quarter of 2020, "23,771.0 metric tons (MT) were exported at an FOB value of USD 17,835.4 (thousands); this figure is higher than the 9,212.8 MT exported in the same period of the previous year. (Ecuador, Central Bank, July 2020, page 11).

The main problems that affected rice planting were: unfavorable climate, particularly flooding (48%); high labor costs (16%); labor shortages (8%); lack of financing (8%); low demand for the product (8%); lack of technical assistance (8%) and low sale price of the saca/quintal of the grass (4%).

In addition, it was found that rice farmers were concerned about the high cost of inputs, the restricted movement between cantons due to the COVID-19 pandemic, the smuggling of the product from Peru, and the low price of the grass, all of which affect producers' ability to cover their loans. In addition, respondents stated that the economic situation of farmers is normal (65%), bad (18%) and good (17%).

2.2.2. Hard winter corn.

The study of independent producers, related companies and business officials, linked to the cultivation of hard winter corn, was carried out in the provinces of Manabí, Guayas, Los Ríos, Loja and El Oro. The results of this study were as follows.

The area cultivated during the winter season of 2020, with respect to the same period of 2019, was greater for 22%, 50% considered it as equal, while 28% stated that it was less. The yield per hectare was considered higher, according to 16% of those interviewed, equal, 43% and lower, 41%. Consequently, the production volume would show the same trends: lower for 25%, equal for 62% and higher for 13%.

Analyzing at the provincial and cantonal level, it can be mentioned that in Manabí (cantons Junín, Bolívar and Portoviejo), the area planted was greater by 10%, although the yields and the volume of production were lower, decreasing by 20% in Junín and Bolívar and 30% in Portoviejo. The reason for these decreases is related to the health crisis generated by COVID-19.

In the cantons of Flavio Alfaro and Paján, the corn sector did not change, so the variables of cultivation area, production per hectare and volume remained similar to those of 2019. On the other hand, in the cantons of Tosagua and Santa Ana the situation was not encouraging, since the production experienced a decrease of 20% and 30%, respectively. In Chone, the agricultural sector also suffered the consequences of the pandemic, as the area planted fell by 30%, explained by the shortage of agricultural inputs.

In the province of Guayas, in the canton of El Empalme, sowing took place from mid-December to January (normal dates). The area sown was 10% greater, due to the fact that the sale price of the quintal remained at USD 14.50. This determined that both yields and production volume were higher.

In Colimes and Balzar, the farmers maintained the same planting areas: between 2 and 5 hectares. Under these conditions, the evolution of the other variables (yields and production volume) in the canton would not vary. On the other hand, in the canton of Colimes, the outlook for the corn sector was not encouraging, since yields fell by approximately 20% and their volume by 10%, as a result of a pest attack.

In the province of Los Ríos (cantons of Vinces, Pueblo Viejo and Urdaneta), corn activity remained stable. The cultivated areas remained the same, which means that the production and volume yields did not change either.

In Mocache, San Carlos and Valencia, however, the panorama was not the best. The area planted decreased by 20%, 15% and 70%, respectively. However, in the opinion of those surveyed, the results in relation to yield were diverse: Mocache would decrease by 20%; in San Carlos and Valencia it would grow by 15% and 30%, each. On the other hand, the volume of production would decrease in San Carlos and Valencia, by 15% and 70%, respectively; mainly due to the attack of diseases and pests that would restrict production.

With regard to the market situation, the study revealed the low sales price of the quintal, which fell to USD 9, since the agricultural trading houses and intermediaries do not respect the official price set at USD 14.60, directly affecting small farmers.

In the province of Loja (cantons Loja and Celica), the area planted remained unchanged. In the cantons of Zapotillo and Pindal, the cultivation area was greater, growing by 10%; in Macará and Puyango it grew by 20% and in Calvas, by 30%. On the contrary, in Catamayo and Gonzanamá, the sowing surface decreased by 30% and 40%, respectively.

The study revealed that in terms of yield and production volume the results would be favorable in most of these productive areas. Thus, in Calvas, Macará, Pindal, Celica and Puyango, these variables will have positive results. On the other hand, in Loja, Gonzanamá and Zapotillo, the variables would remain the same with respect to a similar period in 2019. Finally, in Catamayo, both yields and production would be 30% lower.

In addition, in these border counties, the main problem of the corn farmer was mentioned, the low selling price of the cereal, due to the contraband that arrives from Peru, which generates damage in the economy of the local producers. In addition, the low supply of labor, the scarce rainfall, the increase in pests, the excessive cost of seeds and fertilizers, the lack of markets during the production season and the high cost of leasing the land for cultivation.

With regard to foreign trade, according to economic information from the ECB, corn exports fell in almost all varieties in the period under review this year, 2020. (Table 3).

Table 3: Foreign trade statistics of goods

Period: Quarterly. Years: 2020, 2019: January, February, March			Tm and values in thousands of dollars			
			2020		2019	
Subheading code	Sub-item	Destination country	Total Weight	FOB	Total Weight	FOB
TOTAL			0.7	1.0	8.1	34.7
1005901100	Yellow	PANAMA	0,0	0,0	0,2	0,0
1005901100	Yellow	EE.UU.	0,0	0,0	4,0	30,2
1005901200	White	EE.UU.	0,7	0,0	0,0	0,0
1005909000	the rest	ITALy	0,0	0,0	3,0	2,8
1005909000	the rest	HOLANDA	0,0	0,0	0,0	0,0

1005909000	the rest	EE.UU.	0,0	0,0	0,9	1,7

Source: (Ecuador, Central Bank, July 2020, p. 27)

According to the study, "foreign sales in the first quarter [of 2020] increased from 8.1 MT in 2019 to only 0.7 MT. (…). Similarly, their value was lower and they barely received foreign exchange for USD 1.0 (thousands), a level lower than the USD 34.7 (thousands) reached in a similar period last year. (Ecuador, Central Bank, July 2020, p. 27).

To summarize, the factors that affected the cultivation of winter hard corn were: unfavorable climate due to drought (30%); lack of technical assistance (16%); labor shortages (16%); high labor costs (15%); lack of communication channels (15%); presence of diseases -worm and locusts- (4%); lack of financing (2%) and high interest rates (2%).

In addition, there are other disadvantages such as: the lack of transportation for the mobilization of agricultural inputs, given the health emergency; the high price of agricultural kits; as well as the lack of respect for the official price of hard corn by intermediaries and marketing companies. The economic situation of hardcorn farmers in the first quarter of 2020 was rated as follows: normal (67%), bad (17%) and good (16%). (Ecuador, Central Bank, July 2020, page 28).

2.2.3. Sweet corn

The information and data used for the analysis of this crop come from interviews conducted in the provinces of Tungurahua, Bolivar, Chimborazo, Imbabura and Carchi. The area cultivated during the analysis period was less for 25% of those consulted, was the same for 59% and greater for 16%. In relation to the yield per hectare, this was maintained in the same conditions, according to 100% of those consulted, for which reason the variable volume of production would be similar to that of the sown area.

At the provincial level, in Tungurahua, the canton of Ambato indicated that the area sown fell by 30% . The Patate canton, however, became the largest producer of sweet corn, especially corn, since the demand for this product is higher. No substantial improvements were found in corn plantations because demand for credit decreased.

On the other hand, in the province of Bolivar, the planting of sweet corn had similar characteristics; however, due to a circumstantial improvement in the climate there was an increase in the yield of this product (10%). In any case, it is expected that for the next sowing period the cultivated area

will increase, since the price has suffered an improvement in these last months due to the increase in the demand of dry corn, especially for flour. Although maize experienced higher productivity, it was determined that the pests present affect the production of this cereal.

In the province of Chimborazo (Colta canton), the planting and production of sweet corn has remained unchanged (similar to the last 3 years). A greater price in the market has determined that works are being carried out, for example of irrigation, to have more water and thus to improve the culture and maturation of the product. Colta farmers are optimistic, since "most have sold their production in corn, although there is also a percentage that [allows] the cereal to dry on their plantation, and then sell it as soft corn, a product for making flour, toast, mote and chicha, among others. (Ecuador, Central Bank, July 2020, p. 30). In other cantons, such as Guamote, it was determined that sweet corn is not sown for commercialization, but only for self-consumption.

In the Guano canton, the parish that produces sweet corn is Chazo. Most of the corn produced in this area is harvested dry. Additionally, they offer soft corn for seed, due to its higher price. In this regard, it should be noted that the sale price of a bag of seed is higher than the price of a quintal of corn on the market (in 2019 it was USD 300), which is a magnificent price, taking into consideration that the cost of growing a hectare of corn is around USD 1,000.

In the canton of Alausí, "the cultivation of corn in producing areas remains unchanged, since corn growers sow the same area, whether for family consumption or to meet local market demand" (Ecuador, Central Bank, July 2020, p. 31). For example, in the parish of Tixán, it was reported that corn is planted basically to supply local markets. In these markets, corn is sold in units or packages: 6 or 7 ears of corn in one dollar or one package, with around 100 ears of corn, between USD 12.0 and USD 14.0.

In the province of Imbabura, in the canton of Ibarra, sweet corn producers sow this grass mainly for their own consumption. However, the surpluses are usually commercialized. This may be the reason for the low level of investment in its cultivation.

In Cotacachi, the study determined that sweet corn is again planted only for family consumption and even as a supplement for feeding domestic animals (guinea pigs, pigs and cattle); in other words, the planting of this product does not have marketing as its main objective.

In the canton of Pimampiro, on the other hand, the area planted with sweet corn remained unchanged. This would imply that production is maintained, the same as that directed basically to

self-consumption. In this area almost all production is sold in corn, which means that the field is vacated in advance, facilitating the planting of other short-cycle products such as potatoes, peas or beans.

In the province of Carchi, canton Mira, it was determined that "the soft corn sold at the farm level experienced a drop in price, from USD 3,000 to USD 500 per Ha. (Ecuador, Central Bank, July 2020, p. 32). This is due to the drop in demand for corn as a result of the crisis in the country. For this reason, some experts point out that crops should be diversified to avoid investment losses. For example, maize could be planted with beans, barley or peas. If there are difficulties with one product, one can win in another.

In the same province of Carchi, in the Bolivar canton, soft corn is not considered a higher production product either. For this reason, most of what is produced is destined for distribution in the local market and for self-consumption by households.

One thing the study was able to determine was the concern of sweetcorn farmers about the low prices of this product. While it is true that the price is anchored to demand, oversupply also contributes to this phenomenon. According to the respondents, models should be considered to predict price fluctuations in the market and thus be prevented. This would be precisely the consequence of an industrialization of products such as corn and beans. Public institutions must necessarily be involved in this task.

As a result of this study, it can be stated that the main problems that harmed the planting of soft corn were: "the unfavorable climate (23%); lack of roads (18%); high labor costs (18%); lack of technical assistance (17%); low demand for the product (12%); and, various problems such as lack of transportation, low prices, lack of collection centers and irrigation programs (12%). (Ecuador, Central Bank, July 2020, p. 33).

For their part, the farmers interviewed mentioned that their economic situation was normal (57%) and good (43%).

Conclusions and recommendations

The first quarter of 2020 saw the emergence of the health emergency in Ecuador due to the COVID-19 pandemic. This resulted in the impediment of free movement and association throughout Ecuadorian territory, with subsequent effects on the country's economy.

At the agricultural level, several factors were affected: from the closure of markets, both national and international, where agricultural products are traditionally sold, the difficulty of mobilization with the consequent lack of labor in the countryside and the scarcity of agricultural inputs, the reduced circulation of money and its recessionary effects, to the fear of contracting the disease.

Add to this the traditional climatic fluctuations that directly influence sowing and harvesting times. Also, the pests and diseases that affect crops and determine their yield and volume of production. Finally, the fluctuations in sales prices that are directly linked to government policies and the demand for the products.

All of these factors mean that the farmer is in a constant state of tricotomy every planting period: decreasing the area under cultivation, maintaining it or increasing it. In the first quarter of 2020, this aspect probably occurred with greater recidivism. However, the study revealed that, despite all the circumstances that affect agricultural activity, the countryside continues to work because agricultural production cannot stop, because it is the food provider of Ecuadorian society.

Thus, with regard to the planting of winter rice, the main problems affecting the crop were unfavorable weather (48%), mainly flooding; high labor costs (16%); lack of labor (8%); lack of financing (8%); low demand for the product (8%); lack of technical assistance (8%); and the low sale price of this grass (4%).

In addition, the study found that rice farmers were concerned about the high cost of inputs, limited mobilization due to the COVID-19 pandemic, and the smuggling of the product from Peru. However, a majority of respondents said their economic situation was normal (65%), as opposed to those who said it was bad (18%) and good (17%).

With respect to winter hard corn, the study revealed that the main elements that affected this winter crop were: unfavorable climate (30%); absence of technical assistance (16%); lack of labor (16%); high labor costs (15%); absence of communication channels (15%); presence of diseases (4%); lack of credit for financing (2%) and high interest rates (2%).

Due to the health emergency caused by the COVID-19 pandemic, in addition to the above, there is a lack of transportation for the mobilization of agricultural inputs and their high price, and disrespect for the official price of hard corn. However, it was revealed that a majority of respondents thought their economic situation was normal (67%), in contrast to those who thought it was bad (17%) and good (16%).

The study revealed that the main problems that harmed the cultivation of soft corn were related to the unfavorable climate (23%); the lack of communication channels (18%); the high cost of labor (18%); the lack of technical assistance (17%); the low demand for the product (12%); and others (12%). With respect to the economic situation of the interviewees, they were able to mention that it was normal (57%) and good (43%).

An important aspect to consider is the concern about the low prices of sweet corn, fundamentally due to the lack of economic organization for this product that leads to its industrialization. Farmers who grow sweet corn do so at the same time, creating an oversupply that drives down the selling price. For the interviewees, government organizations and farming communities should get involved to create production models that establish technical criteria for cultivation, yield and production volume.

A general overview of agricultural activity would show, at least as far as these short-cycle products are concerned, that until the first quarter of 2020 there was no significant state policy applied to this activity. As is often mentioned, there is an abandonment of the countryside by the central government and the sectional governments. The majority of farmers support agricultural production by tradition, rather than by economic returns that stimulate their work.

As previously mentioned, peasant producers are demanding greater involvement of state entities in agricultural production activities, as mandated by the Constitution of the Republic of Ecuador, so that this economic activity can be developed and, why not, industrialized. However, this is not fully achieved. Most of the people interviewed for this study were concerned about the lack of appropriate technology for their activity, the absence of communication routes, the uncertainty related to the variable climate, which can be mitigated by building appropriate infrastructure, and the impossibility of accessing appropriate credit.

There is also a recurring concern among agricultural producers about the lack of labor and the high value of it. The direct relationship between rural poverty and the agricultural sector in the country is well known. The consequence of this reality is the gradual abandonment of its inhabitants to the large urban centers in search of employment that can satisfy their needs. Thus, the rural sector loses its labor force and it becomes more expensive.

The study established that, mainly in the border areas with Peru, the need for labor was met by Peruvian workers who, because of the closure of the borders by COVID-19, were unable to enter

Ecuadorian territory. The solution to this problem will always be structural and must originate from the central government with policies aimed at developing rural areas and promoting agricultural activities. As mentioned earlier, it is urgent for State agencies to invest in rural infrastructure, in the modernization of agricultural equipment and in significant subsidies for agricultural products so as to increase producers' incomes. In this way, the countryside will not be abandoned, the products that come out of it will be more competitive and poverty will decrease.

As stated earlier, productivity depends on efficient investment of capital, the use of a qualified labor force and the application of technologies that simplify processes. This is not the case in Ecuador's agricultural sector, since there are no objectives or strategies aimed at improving the activity in the coming years. In this sense, we will have for Ecuador in the future the same panorama of limited productivity that results in poor quality, high costs, slow response cycles and inefficiency in investments.

As a direct reference to competitiveness, it is practically absent in the agricultural sector, particularly among the parameters studied in this analysis. This is demonstrated by the indicators that establish the lack of willingness to invest in increasing cultivated areas and the yields and production volumes that are maintained or that are declining. Also the practice of planting only for domestic consumption, without the objective of marketing the product.

This means that in the agricultural sector there is no intention to design, produce and sell products that have the attribute, in terms of price, innovation, environmental sustainability, satisfaction of needs and demands, of being more attractive than similar products offered by the competition. Again, changing this reality is the responsibility of the competent state entities, which must propose concrete actions that will lead to the industrialization of the agricultural sector. However, with the exception of certain products that are export-oriented, those aimed at the domestic market do not have such characteristics.

As a final conclusion, it must be said that this year, 2020, given the health crisis due to the COVID-19 pandemic, amply revealed the limitations in which agricultural activity is carried out; however, it also showed that the countryside is Ecuador's food support and, therefore, must be given more attention.

Referencias

1. Ariaz Velez, N., Praddos Fraser, T., & Ramírez Aranda, F. (2006). Marketing Strategy for Panelera Agroindustry Products in Spain (Thesis). Bogotá: University of La Sabana.
2. Carro Paz, R., & González Gómez, D. (2006). Productivity and Competitiveness. Buenos Aires: National University of Mar del Plata.
3. Ecuador, Constitutional Assembly. (2008). Political Constitution of the Republic of Ecuador. Montecristi, Manabí, Ecuador.
4. Ecuador, Central Bank. (July 2020). Situation report: agricultural sector. Quito: BCE. Retrieved from https://www.bce.fin.ec/index.php/c-exterior
5. Ecuador. Central Bank. (October 2020). Countura report: agricultural sector. Quito: BCE. Retrieved from https://www.bce.fin.ec/index.php/c-exterior
6. The Trade. (March 23rd, 2020). Problems of food distribution. Actualidad. Retrieved from https://www.elcomercio.com/actualidad/problemas-distribucion-alimentos-coronavirus-mercados.html
7. Kjöllerström, M. (2004). Competitiveness of the agricultural sector and rural poverty. Santiago de Chile: ECLAC - Agricultural Development Network. Retrieved from https://repositorio.cepal.org/bitstream/handle/11362/4544/1/S045361_es.pdf
8. Monje Álvarez, C. A. (2011). Qualitative and Quantitative Research Methodology. Didactic Guide. Neiva: Universidad del Surcolombiana.
9. Salcedo Baca, S. (2007). Competitiveness of Agriculture in Latin America and the Caribbean. Santiago de Chile: FAO Regional Office for Latin America and the Caribbean.
10. Tancata Q., C. (2006). Documentary research. In C. Bernal Torres, Metodología de la Ivestigación para Administración, Economía, Humanidades y Ciencias Sociales (pages 81-106). Mexico: Pearson Education.
11. Villalba Avilés, C. (2003). Metodología de la investigación científica. Quito: Sur Editores.