

**CHALLENGES FOR  
FAMILY FARMING  
IN THE CONTEXT OF COVID-19:**  
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**Follow-up after 6 months of crisis**






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# CHALLENGES FOR FAMILY FARMING IN THE CONTEXT OF COVID-19:

## Follow-up after 6 months of crisis

### 1. Introduction

Almost a year ago, the first case of COVID-19 was reported in Latin America and the Caribbean (LAC). During this period, the region has been one of the most seriously affected, with more than 70 million reported cases and more than 1.5 million deaths. According to the Food and Agriculture Organization of the United Nations (FAO), in the agricultural sector, a high risk of a global food emergency prevails; in some cases, due to a drop in income and remittances, and in other cases due to the rise in food prices (HLPE, 2020). Likewise, at the beginning of the pandemic, some red alerts were raised regarding the continuity of the agricultural cycle of smallholders in Latin America and the Caribbean, due to liquidity, transportation, and lower demand problems (Salazar et al, 2020). Problems faced by these farmers are particularly important, considering that 80% (16.5 million) of the productive units in the region are small family farms (Leporati, 2014).

To obtain a more complete and up-to-date diagnosis of the problems faced by family farming in LAC, after months of the public health and economic crisis, this analysis presents the results of a follow-up survey that has been implemented to the same participants of the study “Challenges for Family Farming in the context of COVID-19: Evidence from Farmers in LAC” (Salazar et al., 2020). The results of this initial study (Phase 1) were collected for the period between February and May 2020; that is, during the first stage of the pandemic. The results of this study (Phase 2) provide information regarding the same sample, for the period between August and November 2020. Therefore, this study presents a broader picture of the new and continuous challenges faced by family farming in Latin America and the Caribbean (LAC).

The questionnaire used for Phase 2 included the same questions as Phase 1, related to the current and future planting and harvest, as well as the main problems identified in the supply chain; and it was designed with the aim to obtain the perspective of agricultural producers. Additionally, a section related to food security of rural households was included.

Due to the context of the pandemic, the surveys were conducted via telephone in the two phases of the study. Farmers from various countries of the region were contacted and included countries such as: Argentina, Bolivia, Paraguay, Peru, and the Dominican Republic. Surveyed farmers were those interviewed in Phase 1.

In general, the results of this analysis show that most of the problems found in Phase 1 persist. The most notable exception is related to the transportation, although this problem was identified as one of the main challenges in Phase 1, in Phase 2, it seems that the lifting and / or relaxation of the mobility restrictions established by Governments during the second half of 2020, have reduced to some extent the persistence of this problem. The rest of the problems noted in the previous report remain, and most of them have been accentuated.

On another note, the analysis of Phase 2 shows that difficulties in obtaining inputs and labor, as well as liquidity problems, have worsened. Specifically, 81% of the surveyed farmers stated that they had to use savings, applied for loans and / or sell assets in the last three months to cope with the crisis. In addition, the surveyed farmers indicated that the quantity harvested, sales, and sales prices have decreased, which would probably generate a greater drop in their income. In spite that Government aid remained stable between the two rounds, it has not expanded, and seems to be insufficient to mitigate these issues.

All this may affect the continuity of production and thus aggravate the situation of food insecurity in the long term, which is already critical. In fact, the results of Phase 2 indicate that 64.9% of households are at certain level of the food insecurity scale (i.e., mild, moderate, or severe), which highlights the need to implement public policies that alleviate this situation.

## **2. Description of phase 2 data**

Table 1 summarizes the characteristics of farmers who responded to the survey of this second phase analysis (77 farmers). Although the analyzed information in the Phase 1 survey corresponded to a bigger sample (105 farmers), 28 of these were unreachable or did not want to answer the Phase 2 survey. This corresponds to an attrition of 27% (31% in Argentina, 27% in Bolivia, 16% in Paraguay, 36% in Peru and 25% in the Dominican Republic). Therefore, it is important to note that the differences in the results may also be due to that difference in the samples. The sample analyzed here corresponds to smallholders, with an average farm size of 58.4 hectares, although there is a significant heterogeneity between countries. The farmers with the largest size of productive land reside in Argentina, with the average farm size being 363 hectares. Then there is the Dominican Republic, with an average of 18 hectares, followed by Bolivia, Paraguay, and Peru with an average land size between 3 and 4 hectares.

In regard to production, in the last 3 months only 47% of all interviewed farmers had harvested a product. Likewise, at the time of the survey, 70% of the sample reported having planted crops. Although the planting percentage is the same as in Phase 1, the percentage of farmers who had harvested a product in the last 3 months in Phase 1 was higher (63%). This difference may simply be result of variations in agricultural cycles between different countries and products.

It should be noted that only 6% of the farmers have exported in the last period. Argentina leads the percentage of farmers with exports; where 27% of those surveyed sold at least some part of their production overseas, followed by the Dominican Republic with 7% and Paraguay with 5%. Contrarily, none of the surveyed farmers in Bolivia or Peru carried out export activities.



Table 1: Phase 2 sample description

	Argentina	Bolivia	Paraguay	Peru	The Dominican Republic	Total
Average size of productive land (ha)	363.30	3.23	3.15	4.14	18.19	58.39
% Livestock*	27	0	14	0	0	6
% Women	9	75	62	0	0	23
% of Farmers who have harvested in the last 3 months	20	38	47	64	60	47
Most frequent agricultural items	Onion Lemon Plantain	Potato Peas Onion	Corn Onion Lemon Plantain	Potato Corn Onion Lemon Plantain	Tomato Plantain Lemon	
% Farmers with exports	27	0	5	0	7	6
% Farmers with current planted crops	64	81	57	64	87	70
Observations	11	16	21	14	15	77

\*It is important to note that this sample does not intended to be representative of the average farmer in each country.



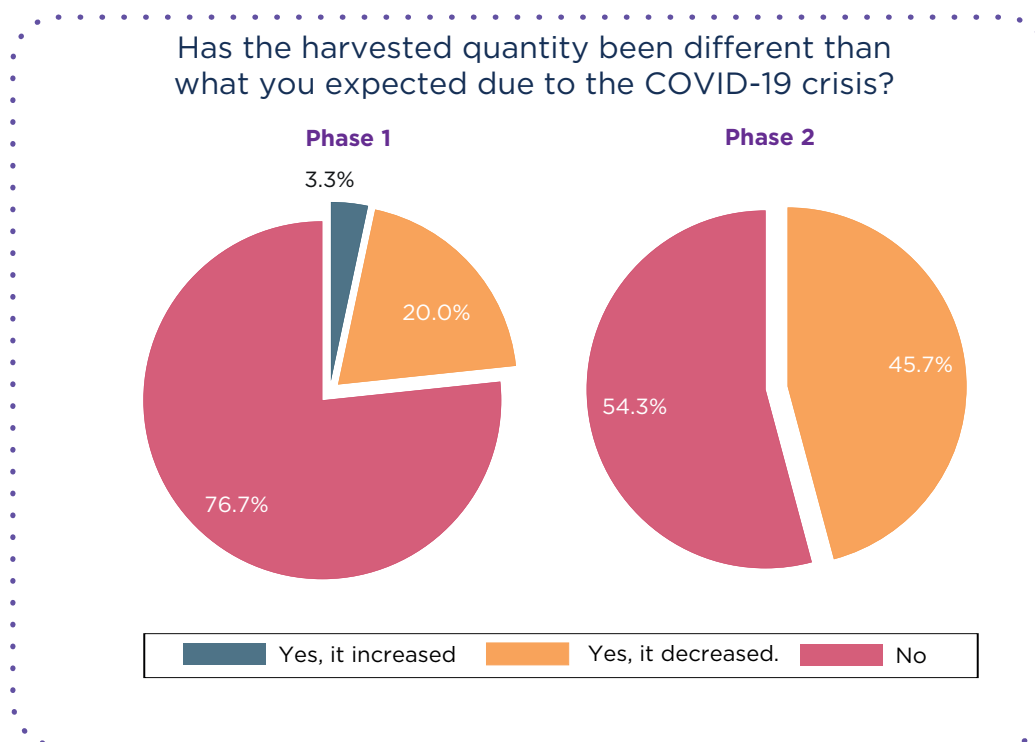
### 3. Analysis of results

#### 3.1 Harvest and current sales (Last three months)

In this section we analyze the farmers who harvested agricultural products in the last three months, corresponding to 47% of the sample. It is important to note that because of the heterogeneity of farmers, differences in agricultural cycles, and differences in survey dates, not all farmers have harvested during this period<sup>1</sup>.

Analyzing the sample, we found that 46% of the farmers who harvested during Phase 2 perceived a decrease in the harvested quantities due to the COVID-19. Figure 1 shows these results for both phases. This response contrasts with what was observed in Phase 1, where only 20% indicated that their production had been affected by this same cause. This difference may be due to the harvest reported in Phase 1, that preceded or coincided with the start of the quarantine, thus minimizing the direct impact on that production cycle. Contrarily, in this second Phase, production activities took place during the pandemic, and were therefore further affected by it.

Figure 1



<sup>1</sup>It should be noted that no livestock production was recorded during this period.

In terms of sales, in Phase 2 there is still a high percentage (57%) that considers that sales have decreased because of the COVID-19 crisis (Figure2). However, the percentage of farmers that indicated an improvement in sales due to the crisis increased between the two phases, from 4.6% to 17.1% (Figure 2). Also, in Phase 2 2.26% believes that sales were not compromised in any way. On the other hand, regarding the sale price, a large percentage of the sample (74%) indicates that the sale price is lower than expected due to the crisis (Figure3).

These results suggest that the COVID-19 crisis could have affected the farmers income, mainly through a decrease in prices.

Figure 2

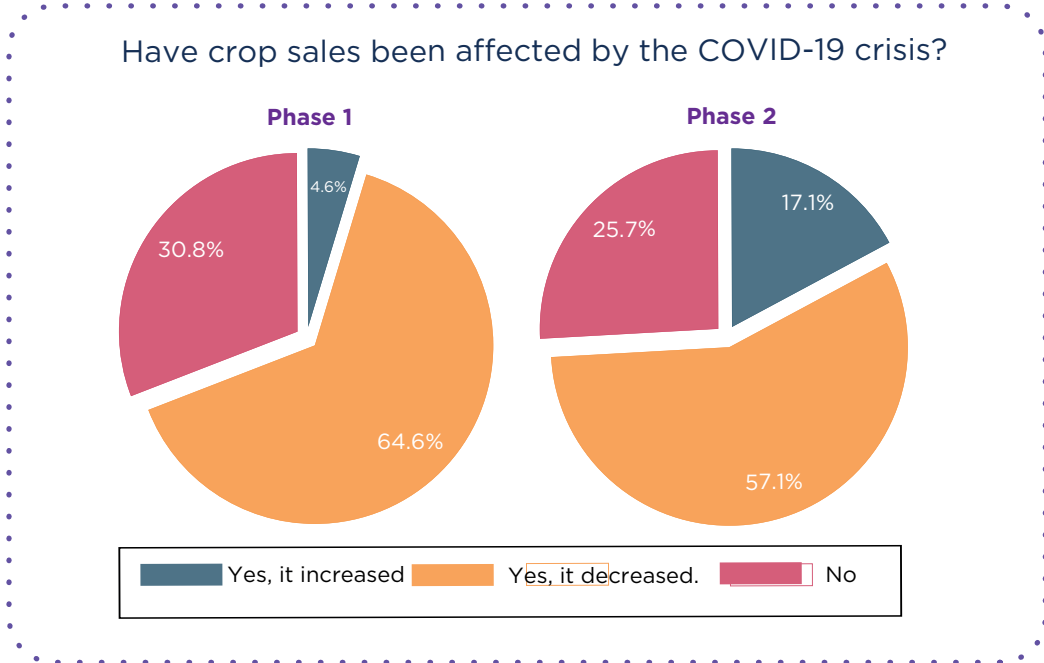
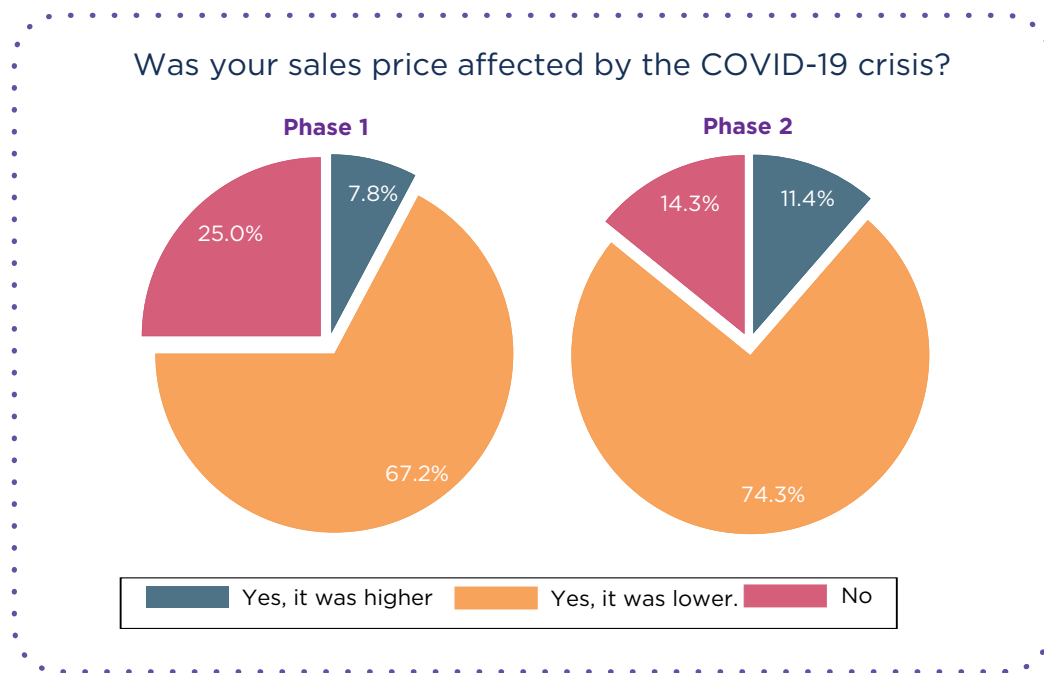


Figure 3



### 3.2 Current and Future Planting

Regarding to farmers who had crops planted at the time of the survey or who will plant in the next agricultural cycle, the perspectives are quite similar in both phases (Figure 4). In Phase 2, the majority (60%) do not expect the harvest of the crops currently planted to be affected by the COVID-19 crisis, a similar percentage compared to the 57% of Phase 1.

However, regarding future harvests the percentage of farmers expecting affectations is still high 38% in Phase 2, remaining similar to Phase 1 (39%). Concerning the expected changes in sales, Figure 5 shows a change in perspective between the two phases. In Phase 1, due to the COVID-19 crisis, 76% of the farmers expected sales to decline, but in Phase 2, only 64% of the sample expects a change in their sales.

Figure 4

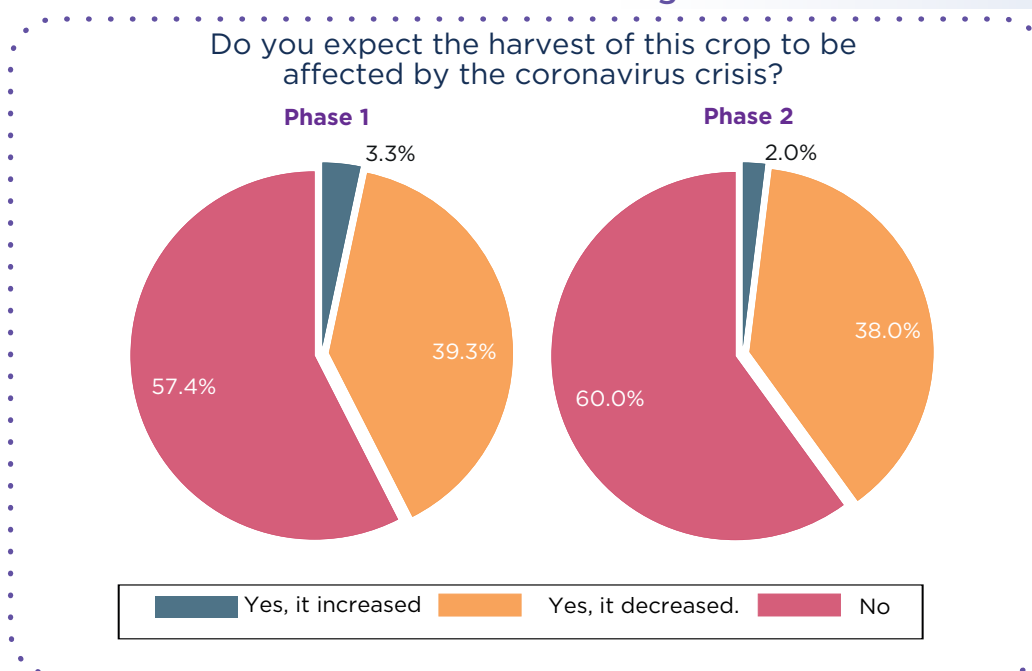
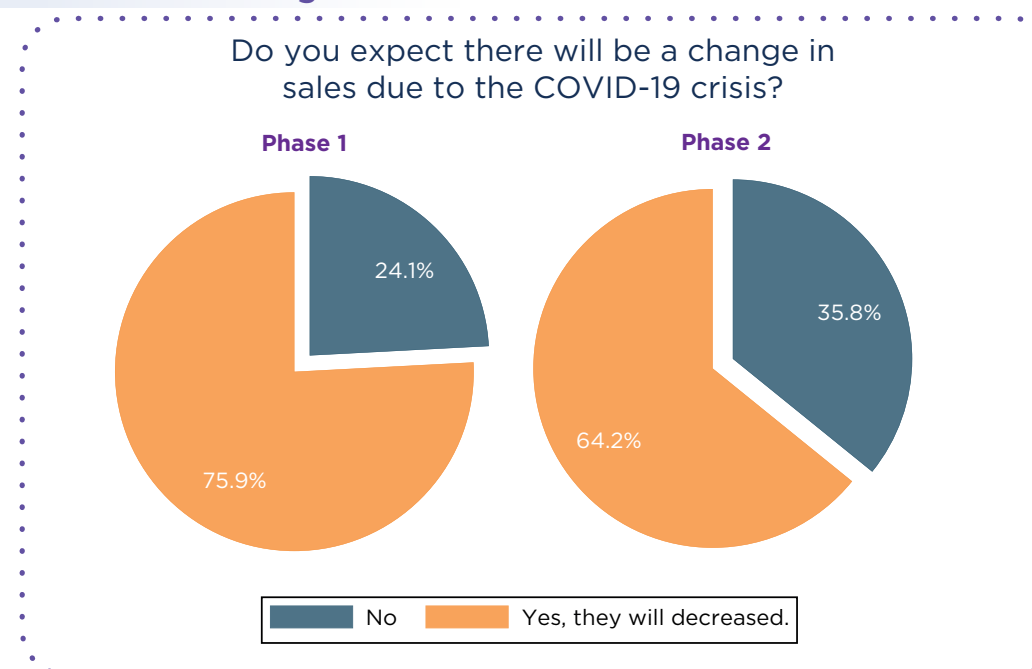
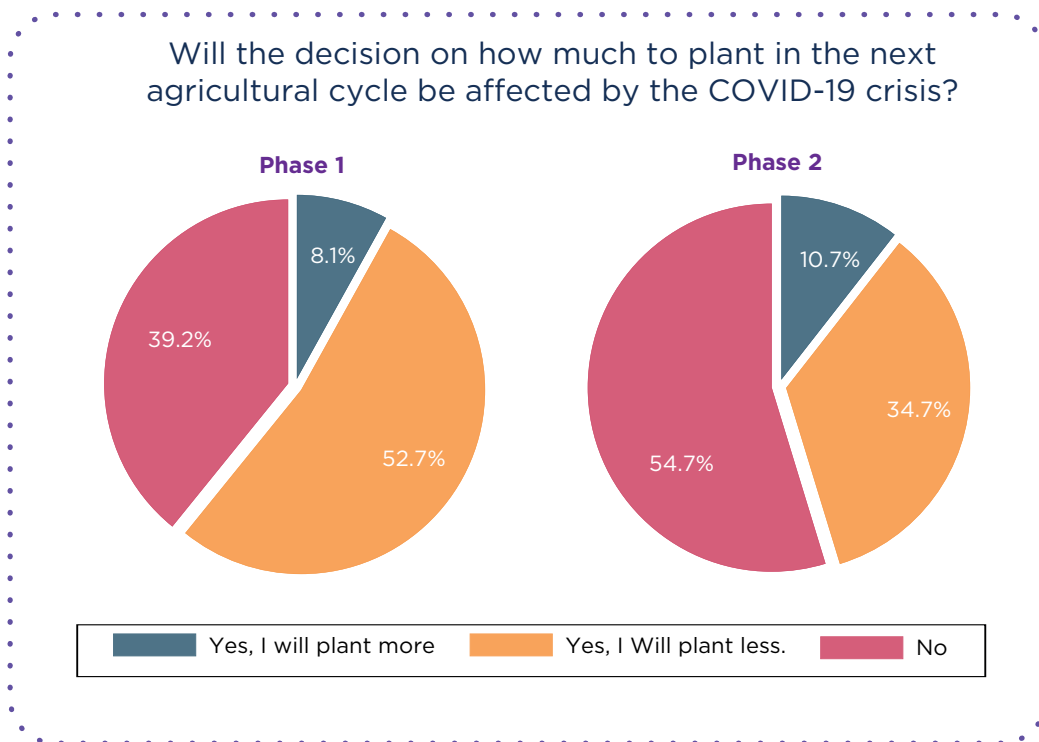


Figure 5



Likewise, regarding the effects of the crisis on future planting decisions, Figure 6 also shows a change in perspective between the two phases. As noted, if 53% of the farmers expected to plant less in Phase 1, now (Phase 2) only 35% of them expect to plant less in the next agricultural cycle. This seems to be an improvement in expectations with respect to the onset of the crisis, probably due to the relaxation of quarantine measures.

Figure 6





## 4. General Problems

This section shows the general problems faced by the surveyed farmers from August to November 2020, regardless of whether their production or sales were affected. In general, the most recurrent problems were accessing to agricultural inputs, the access to labor, and the lack of transportation.

Figure 7 shows that there has been no improvement in the ease of accessing inputs compared to Phase 1. In fact, while in Phase 1, 52% of farmers reported problems obtaining inputs, now this percentage is 61%. In addition, 37% mentioned that this is due to a transportation problem, although this is a lower percentage than reported in Phase 1 (47%), as shown in Figure 8.

Figure 7

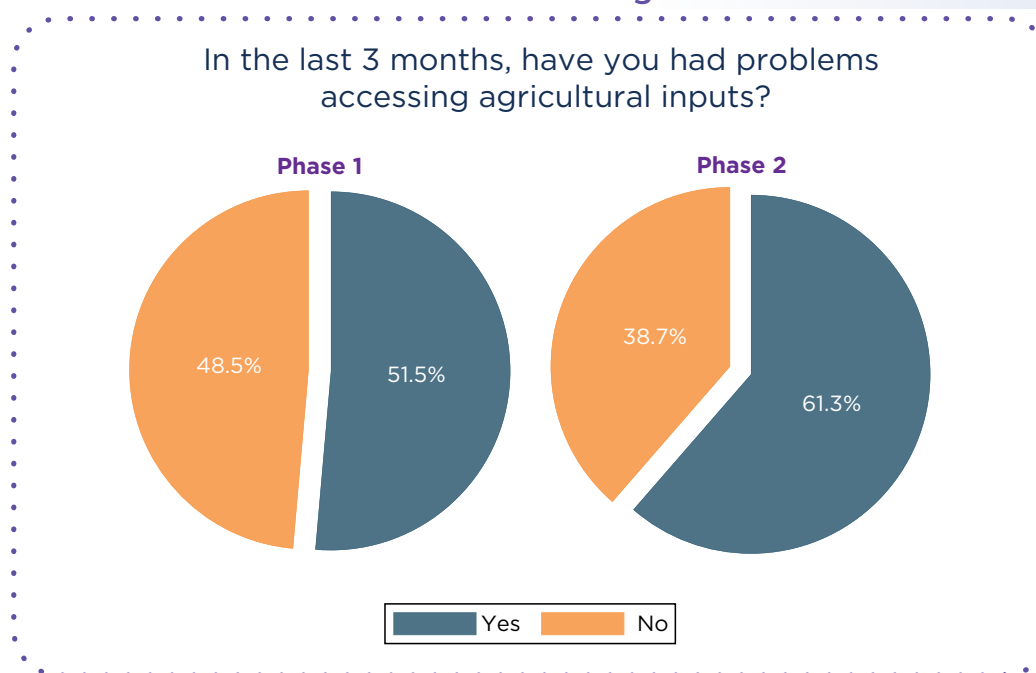
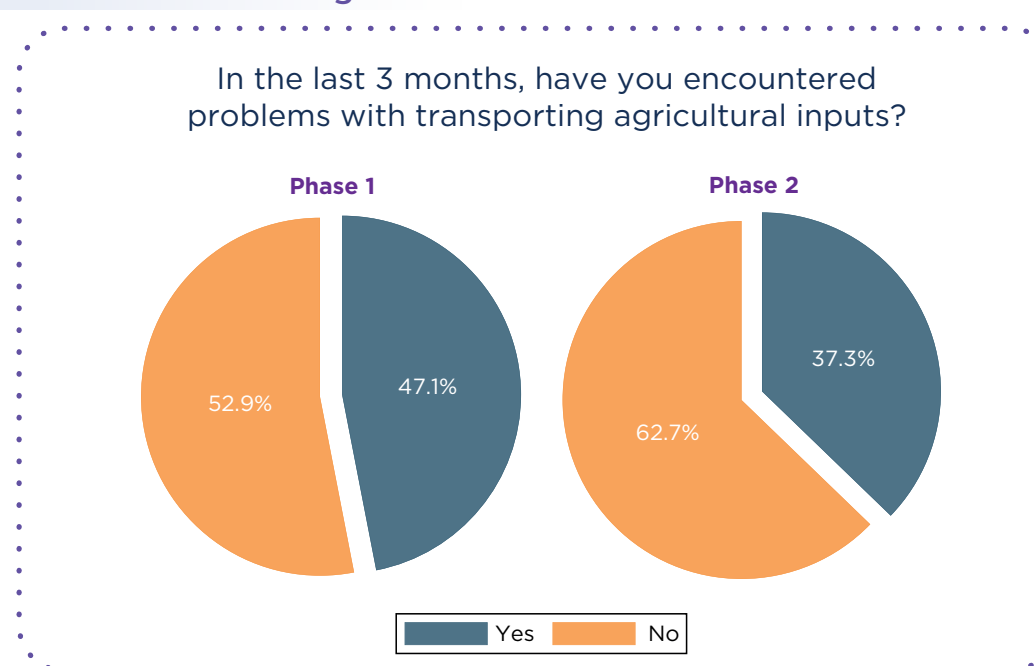


Figure 8





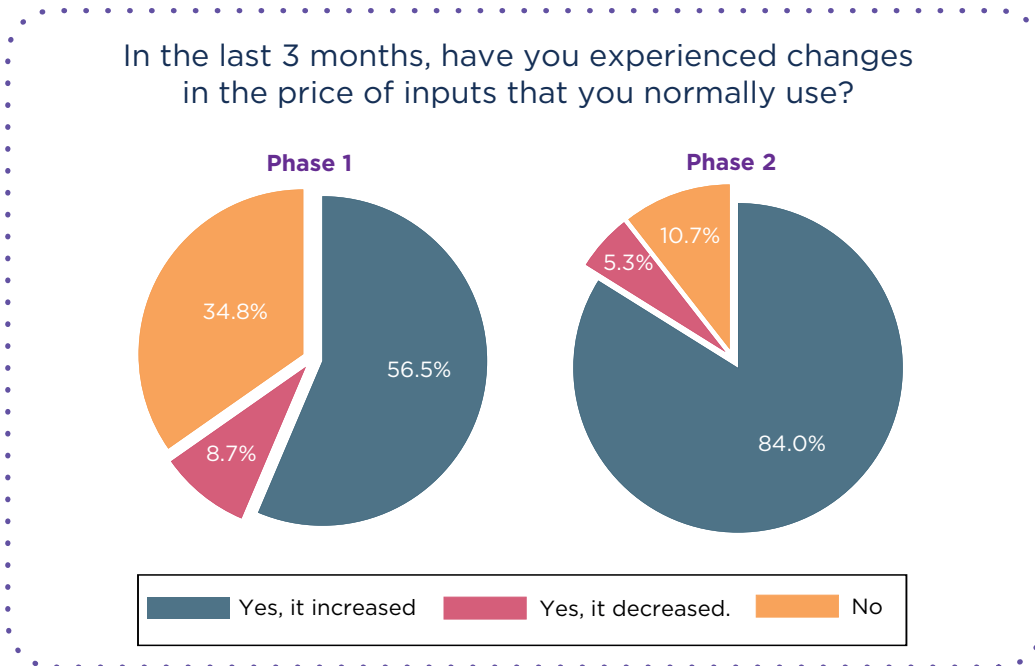


The main agricultural problems identified were the difficulty in obtaining inputs, the access to labor and, to a lesser extent, the transportation of production.



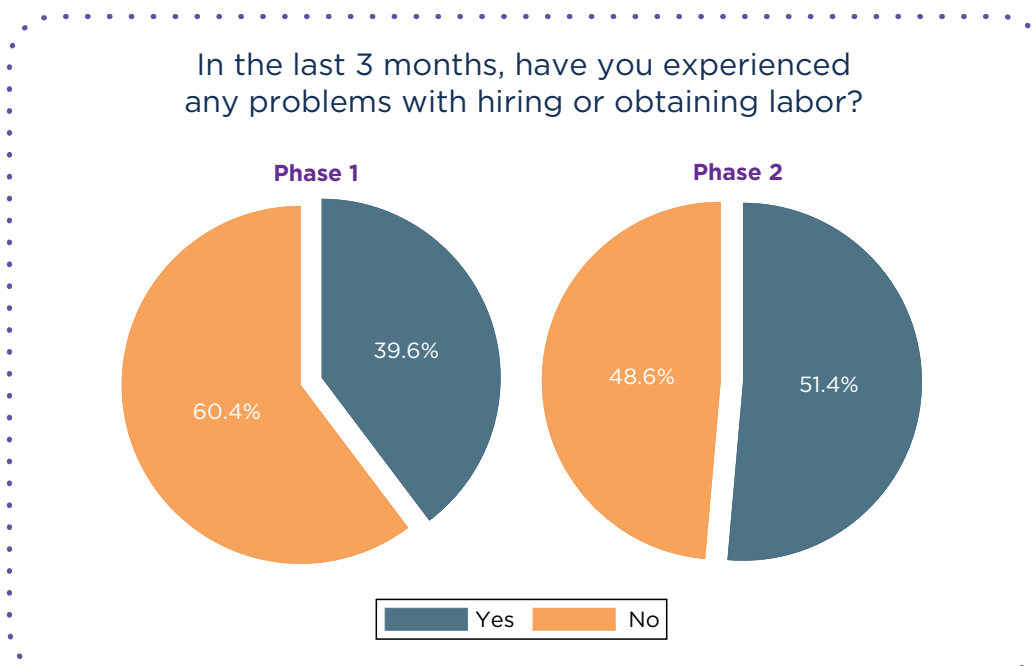
Figure 9 indicates that 84% of the recent sample reported an increase in the price of inputs, representing a significant rise compared to the previous phase (57%). Additionally, only 11% of farmers believe that no price changes were made compared to 35% in Phase 1.

Figure 9



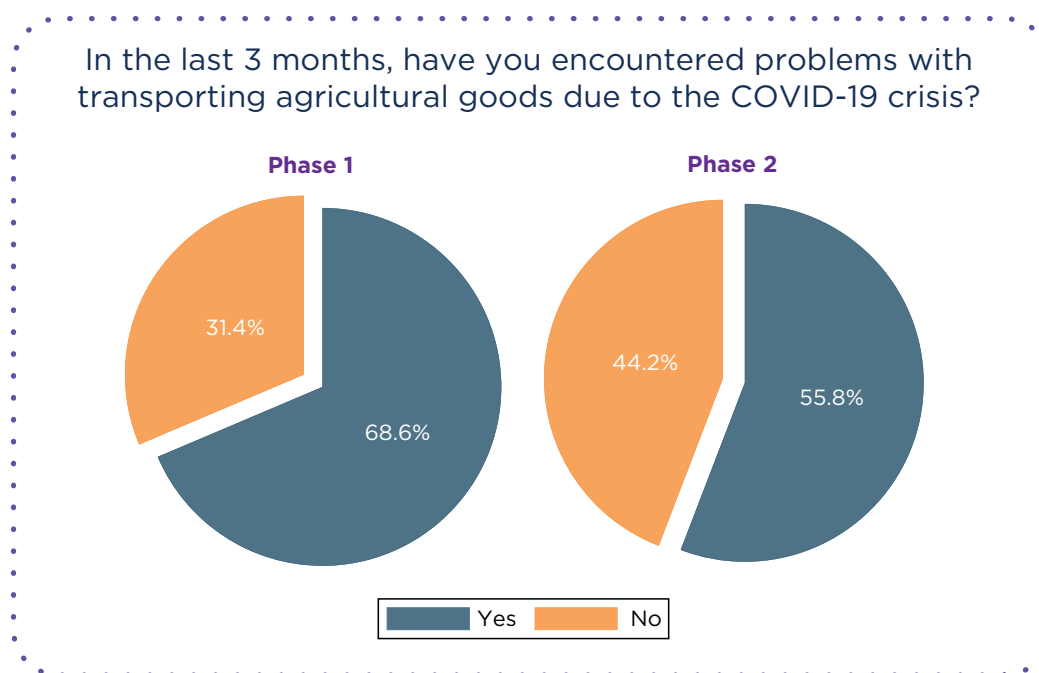
In respect to the ability to hire or obtain labor, Figure 10 indicates that 51% of the sample reported problems regarding this matter, which contrasts with 40% of the Phase 1 survey. This suggests that this difficulty may have increased during the pandemic.

Figure 10



Finally, in relation to transportation problems, Figure 11 suggests some improvement in this aspect. In fact, while in Phase 1, 69% of the sample indicated having problems of this nature, in Phase 2 this percentage decreased to 56%. This does not imply that transportation is no longer a problem, but there does seem to be some progress in this regard, which is surely related to the lifting and relaxation of the isolation restrictions imposed by the governments of the countries surveyed.

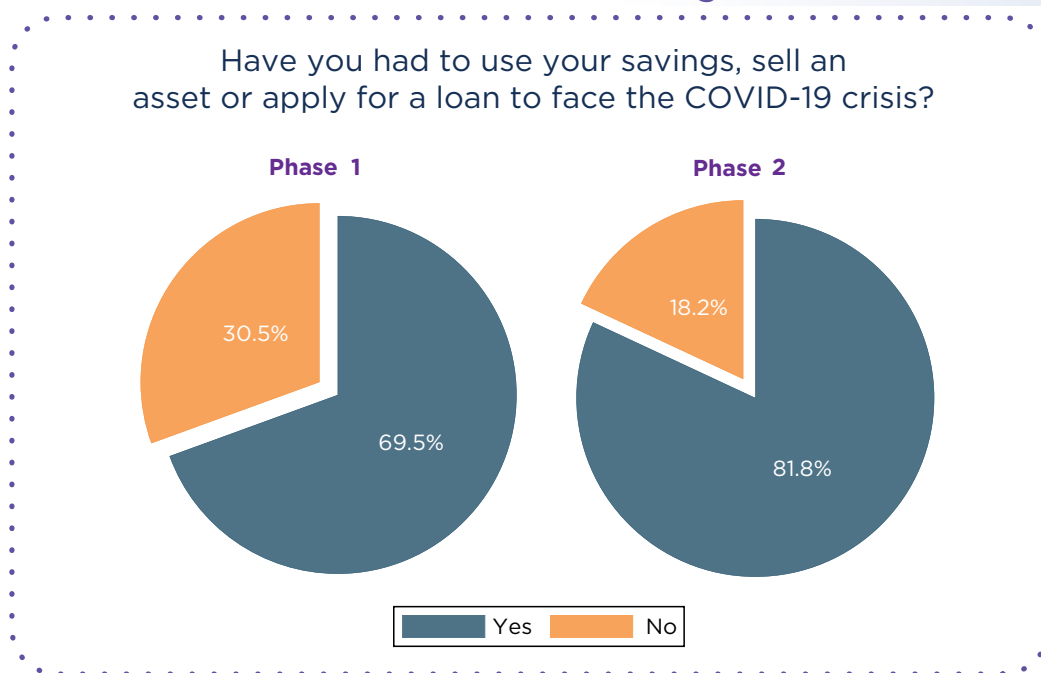
Figure 11



## 5. Savings, Loans and Government Aid

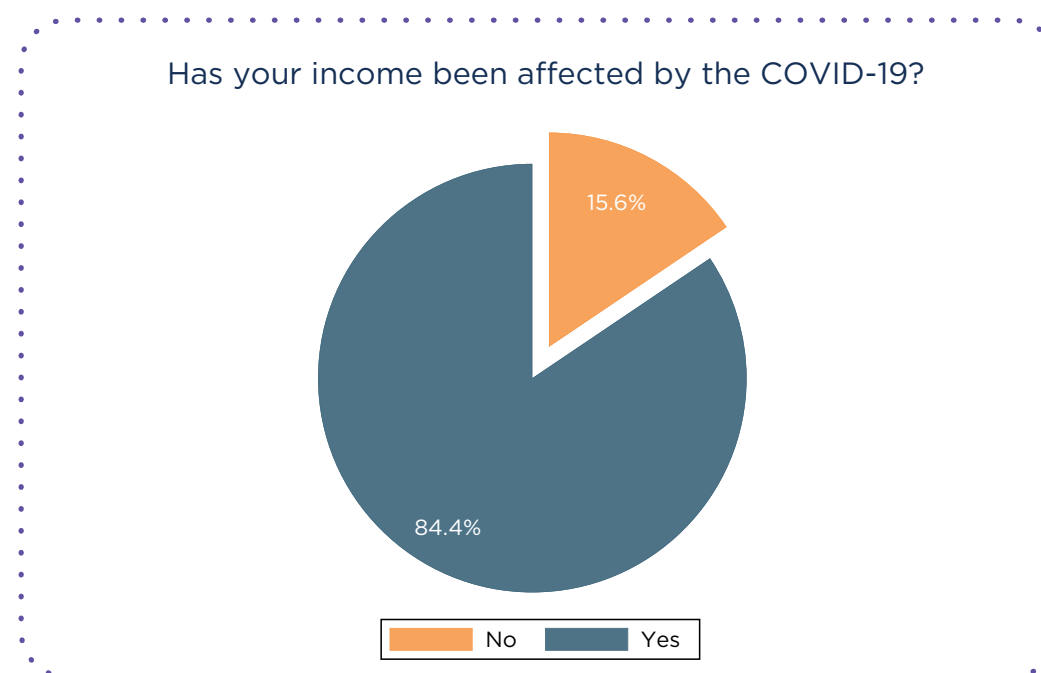
As mentioned in the first phase of the analysis, a measure to observe the impacts of the COVID-19 crisis in the short term is through its effect on liquidity constraints that farmers have faced. The second phase of this analysis shows that although liquidity problems already existed at the beginning of the pandemic, they have worsened. While in Phase 1, 70% of the respondents stated that they had to use their savings, applied for loans, or sold assets to mitigate the effects of the crisis, Phase 2 shows that 82% resorted to any of these shock mitigation strategies (Figure 12).

**Figure 12**



Additionally, 84% of farmers mentioned that their income has been affected by the COVID-19 crisis during Phase 2 (Figure 13). These results are consistent with the fact that most of the surveyed farmers reported having lower sales and obtaining lower prices because of the crisis<sup>2</sup>.

**Figure 13**

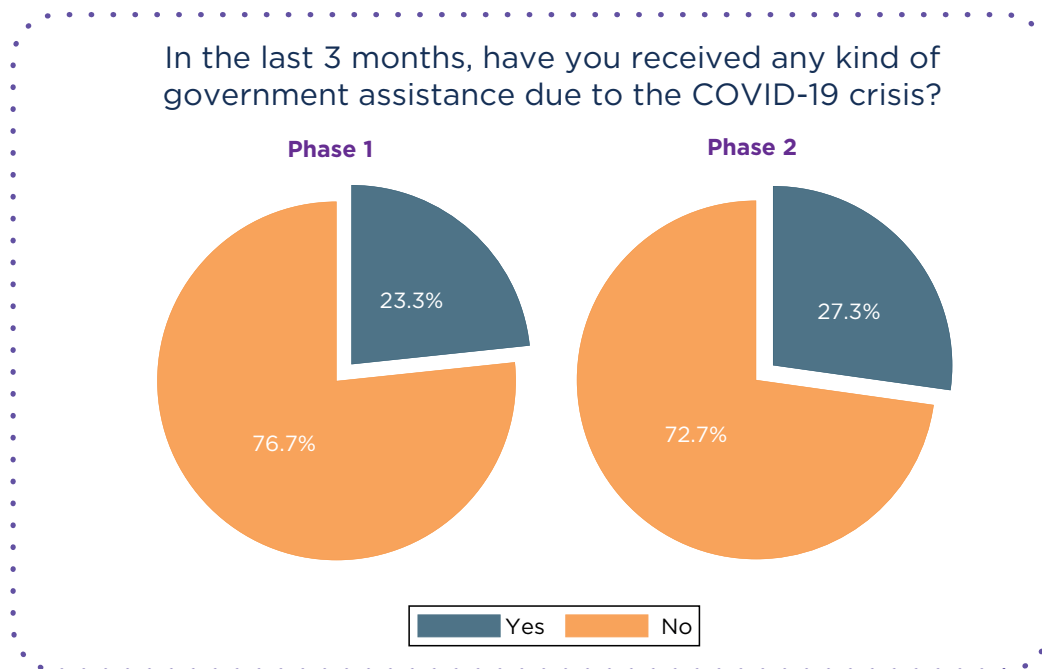


<sup>2</sup>This question has been added only for Phase 2 of the survey, thus a comparison of results with Phase 1 is not possible.



While the negative impact on family farmers' income could have been lessened by the government aid or other entities, this does not seem to be the case. Only 27% of farmers reported having received some government assistance during Phase 2 (Figure 14), which does not mean a major improvement compared with Phase 1 (23%). This suggests that there has not been significant expansion of public policies focused on providing direct support to family farming during the 6 months after the start of the crisis.

**Figure 14**



## 6. Food Security

In addition, with the aim to understand the state of food insecurity in which the households of the surveyed farmers are, a new food security module was included in Phase 2.

The results in terms of food security confirm the severity of the situation. As shown in Figure 15, 39% of the surveyed farmers considered that household income is insufficient to buy food and meals for the household. If we disaggregate the responses by country (Figure 16), we can see that Paraguay is the country with the highest rate of negative responses (66%), followed by the Dominican Republic (47%) and Peru (35%).



The outcomes suggest that the crisis may have critically affected the agricultural production of smallholders, turning into a vicious cycle of low production, low income, and high food insecurity.

Figure 15

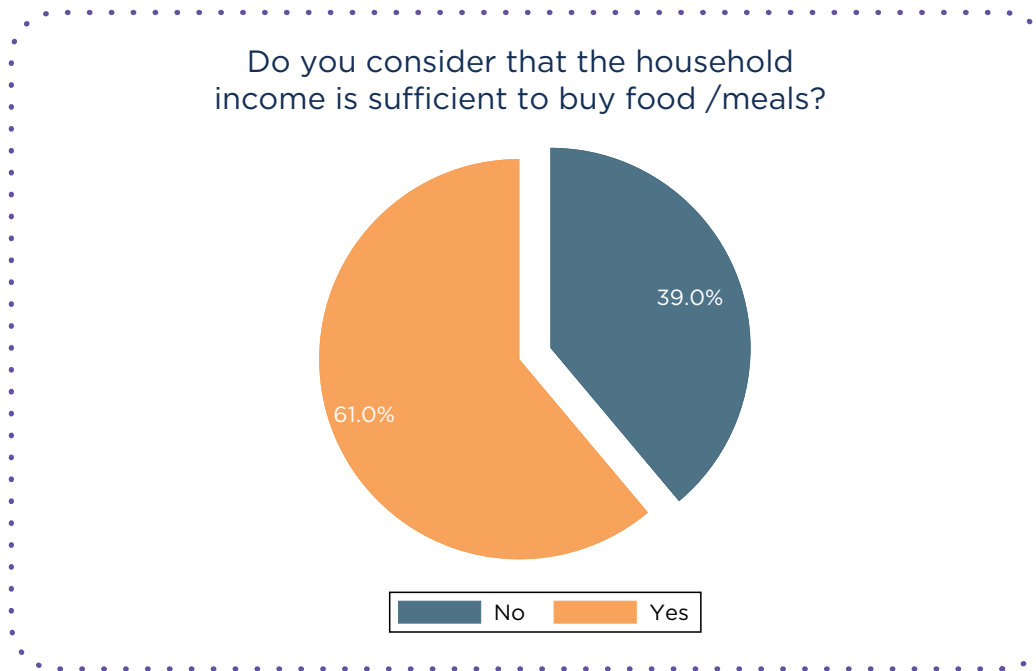
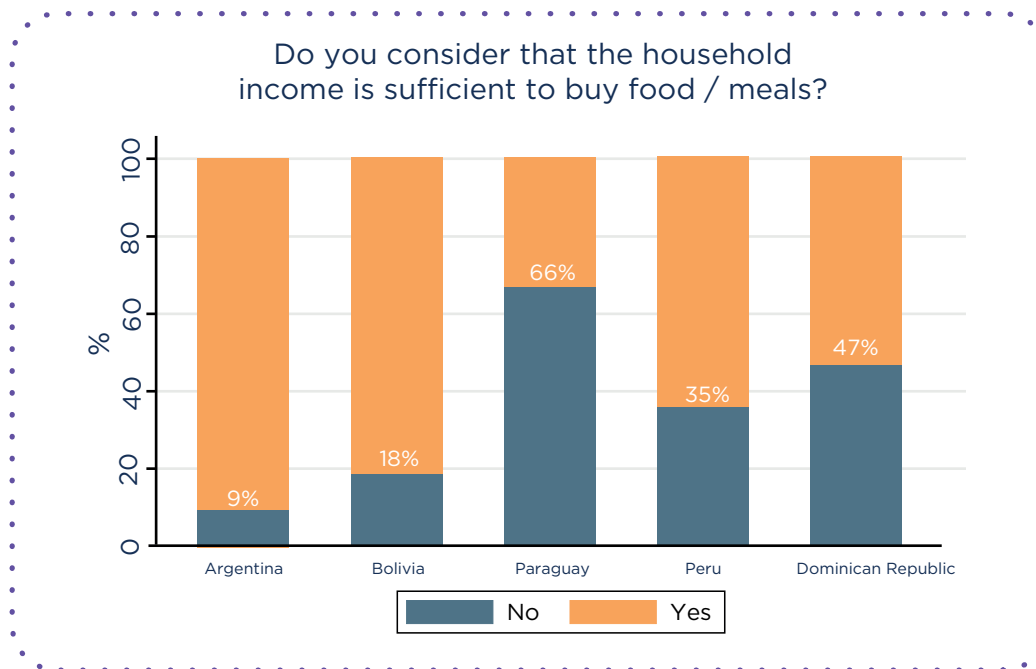


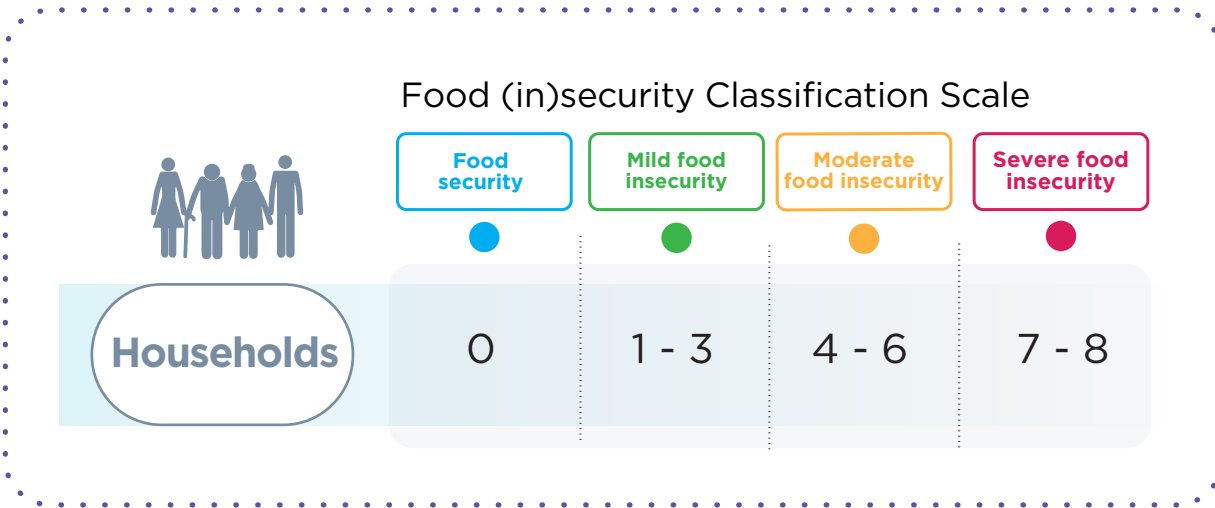
Figure 16



FAO defines food security as “the situation that exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food to satisfy their nutritional needs to develop an active and healthy life” (FAO, 2006). This implies that food security has a multisectoral approach and is composed of four dimensions: food availability, access, use, and stability, as explained by Salazar and Muñoz (2019).

To calculate the level of food insecurity in the household, the Food Security Index proposed by FAO was used, which is based on the Latin American and Caribbean Food Security Scale (ELCSA for its acronym in Spanish)<sup>3</sup>. This indicator classifies households into four categories: (i) food security; (ii) mild food insecurity; (iii) moderate food insecurity; (iv) severe food insecurity. To classify the farmers according to these categories, an index composed by 8 questions was created. This index is estimated by the sum of all the affirmative answers to these questions, and the classification of the households in each of the categories is carried out following the cutoff points established by the ELCSA, as shown in Table 2.

Table 2: Cut-off points established by the ELCSA



<sup>3</sup> <http://www.fao.org/3/i3065s/i3065s.pdf>



The results for these eight questions are detailed in Table 3. It is shown that in the last month 56% of respondents were worried that their household ran out of food. In addition, 8% of households had an adult who only ate once or did not eat at all for a whole day in the last month.

On the other hand, almost half of the respondents (48%) mentioned that they stopped having a healthy and nutritious diet and started to have a diet based on a limited variety of foods. In general, these results show that the impact of the pandemic on food insecurity has been generated mainly through two ways. The first is through a cut in food access since households have fewer economic resources. This circumstance causes them to worry about shortages (56%), in some cases it even leads to skip meals (16%), or to reduce food intake (25%).

The second way is through deterioration in the food use. In fact, the analysis shows that a large part of the households sacrificed healthy foods (48%) and dietary diversity (44%).

**Table 3: Detail of the questions Included in the Food Security Index**




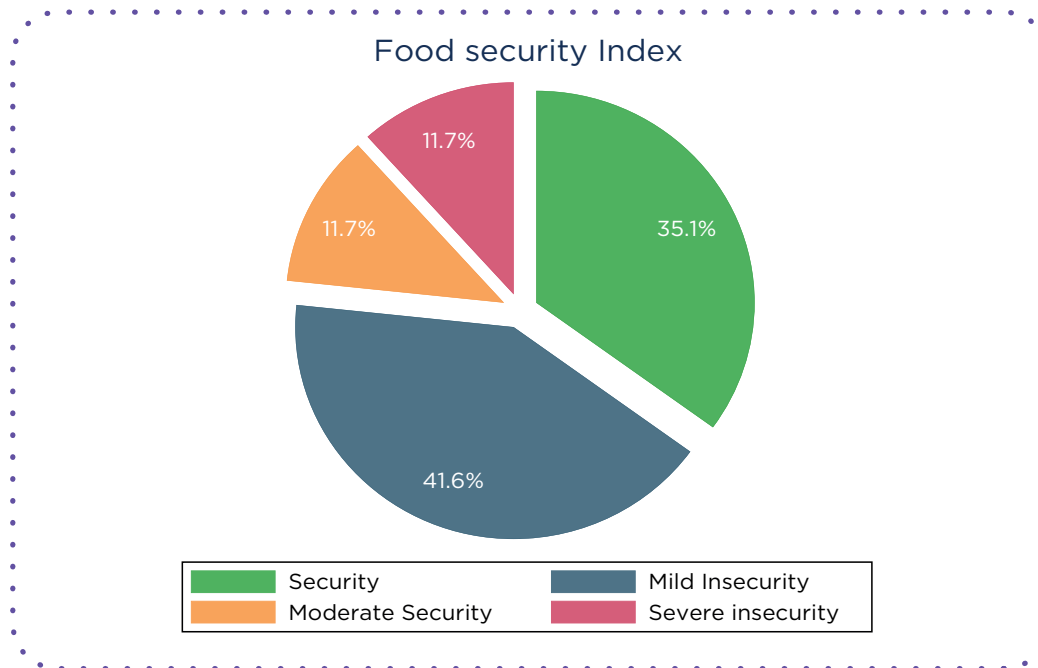
During the last month, due to lack of “food “or other resources		YES	NO
Have you ever...			
	Have you ever worried about running out of food in your household?	56%	44%
	Have you ever run out of food in your household at any time?	18%	82%
	Have you or some adult in your household ever stopped having a healthy diet (composed by meat, fish, vegetables, fruits, and cereals)?	48%	52%
	Have you or some adult in your household ever had to eat a diet based on a small variety of foods (you always have the same foods every day)?	44%	56%
	Have you or any adult in your household ever skipped a meal (breakfast, lunch and/or dinner)?	16%	84%
	Have you or any adult in your household ever eaten less than they should?	25%	75%
	Have you or an adult in your household ever felt hungry but abstained to eat?	18%	82%
	Have you or an adult in your household ever eaten only once during the day or stopped eating for a whole day?	8%	92%



Figure 17 shows the Food Security Index, based on the questions in Table 3. It is observed that 64.9% of households are in certain state of food insecurity (i.e. mild, moderate or severe). Specifically, 12% of households are at the severe food insecurity level, 12% are at the moderate food insecurity level, and 42% of households are at the mild food insecurity level.

Figure 17



As we have seen, farmers are facing problems in planting and harvesting food, and their income has been affected by the decline of sales and prices. In turn, this may lead into a food insecurity situation mainly due to the lack of resources to obtain an adequate quantity of food to ensure a healthy and diverse diet.





It is necessary to make greater efforts with public policies aimed at the reduction of liquidity problems and the improvement of food security for family farmers in the region.





## 7. Conclusions and Recommendations

This follow-up study complements the results obtained in the study: “Challenges for Family Farming in the context of COVID-19: Evidence from Farmers in Latin America the Caribbean (LAC)”. Specifically, this second phase of the analysis seeks to identify the problems that have persisted or have accentuated after more than six months of the COVID-19 crisis, as well as measuring the level of food insecurity in smallholders. The results of this study show that several of the problems found in the first phase of the survey persist six months after the onset of the pandemic.

However, the negative effects on agricultural production and income of the respondents seem to have increased with the continued exposure to the crisis. Unlike the Phase 1 of the study, farmers mention that their agricultural harvesting has decreased. Besides, both the sold quantity and the sales price have been impacted, which is reflected in the fact that almost 84% of the farmers in the study have perceived a decrease in their income. At the same time, an increase in the percentage of farmers experiencing liquidity problems has been presented, having to resort to savings and loans to cope with the crisis (82%). In turn, the future picture also seems precarious, as most farmers continue expecting that sales of their future harvests will be negatively affected (81%).

The main agricultural problems identified are the difficulty in obtaining the necessary inputs, the access to labor and, to a lesser extent, the transportation of production. The problems to obtain inputs affect 61% of the farmers in Phase 2, with a difference of ten percentage points more than Phase 1. Also, during Phase 2, 84% of the sample reports an increase in the inputs` price, contrasting with 57% of farmers who reported this problem in Phase 1. Regarding access to labor, 51% of respondents reported that they have experienced problems obtaining this resource, an increase of 11 percentage points compared to Phase 1. However, due to the lifting of strict mobility restrictions, transportation problems seem to decrease, affecting 69% of farmers in Phase 1 and 56% in Phase 2. Though, this improvement in transportation, does not imply that this is no longer a major problem for more than half of the respondents.

Our results indicate that the crisis may have critically affected the agricultural production of smallholders, creating a low production vicious cycle, wherein reduced agricultural production causes low income, which leads to high food insecurity. Compared with the onset of the pandemic, smallholders are today in a more difficult position, mainly due to long



exposure to high prices for agricultural inputs, and lower sale prices for their products. Although these results are observed only in the short term, in the medium and long term it is likely that the multiple challenges identified will continue affecting the sector dynamics and the food security of this farmers' population.

Furthermore, as has been highlighted, the majority of the sample is found in a situation of food insecurity (12% with severe insecurity, 12% with moderate insecurity and 42% with mild insecurity). Therefore, it is a highly vulnerable group. Since we know that the crisis affects these farmers' production and income, the extension of this might aggravate the situation even more.

To prevent this from happening, it is necessary to make greater efforts with public policies aimed at reducing liquidity problems and improving food security for family farmers in the region. Although the current analysis does not reveal whether the measures taken by the governments have lessened the harmful effects of the restrictions, it is necessary to make a greater effort to prevent a greater negative impact on the living conditions of smallholders.

In the future, during an eventual recovery phase from this crisis, public policies that provide support to the most vulnerable groups and ensure steady food production for local markets will play a key role. Policies that aim to increase the liquidity of the farmers could help them to continue with their productive activities, avoiding a possible breakdown in agricultural production and helping them to overcome food insecurity. Furthermore, it is necessary to implement policies that facilitate the access to transportation, as well as the necessary inputs for agricultural production.

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