



COVID-19 and perception of Brazilian agribusiness workers COVID-19 e a percepção dos trabalhadores do agronegócio brasileiro

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Abstract

In 2020, the world has lived a sad moment of history. The pandemic of COVID-19 has change way of society live. In response, science has not stop and many studies have been published looking for the cure to virus, analyzing the economic impacts, studying about people behavior and much other subject related. Thus, this study emerged from the researchers' observation about behavior of people who works at agribusiness. It is notice that workers do not fear to be contaminated by Novel Coronavirus Pneumonia. In view of this, it was questioned: are the agribusiness workers worried about COVID-19? The objectives were discovery if this workers have afraid to be contaminated by COVID-19; if they fear the virus, which worries them; if their activity be affected (stop), they will have money to maintain themselves for how much time; which options they would have to support themselves if they stop to work. To collect data, a questionnaire was sent to agribusiness workers, using a Snowball Sampling Technique adaptation to social media. It had gotten 413 valid questionnaires of workers from all Brazilian States. Aiming found results were Brazilian agribusiness workers have afraid to be infected by COVID-19, however they cannot stop their activities for have not financial resources to stay a long time without receive.

Keywords: Coronavirus; pandemic; agriculture; livestock, Brazil.

Resumo

Em 2020, o mundo tem vivido um triste momento de sua história. A pandemia da COVID-19 tem mudado o modo de viver da sociedade contemporânea. Como resposta, diariamente, muitos estudos têm sido publicados: alguns buscam pela cura da doença, outros analisam os impactos econômicos, outros estudam o comportamento das pessoas durante a pandemia. Do mesmo modo, o presente estudo emergiu da observação dos pesquisadores acerca do comportamento dos trabalhadores do agronegócio brasileiro, a partir de relatos empíricos de que tais não teriam medo de contrair a doença. Frente a isso, questionou-se: os trabalhadores do agronegócio brasileiro têm receio acerca da COVID-19? Os objetivos foram os seguintes: descobrir se tais trabalhadores sentiam medo de serem contaminados pela COVID-19; se suas atividades fossem afetadas e necessitassem ser paralisadas, teriam condições de manutenção sem recebimentos por quanto tempo. Para coletar os dados, elaborou-se um questionário, o qual, considerando a Técnica de Amostragem Bola de Neve adaptada para redes sociais, foi enviado a trabalhadores do agronegócio brasileiro. Com respostas válidas, obteve-se 413 questionário, incluindo respondentes de todos os estados brasileiros. Os principais resultados foram: os trabalhadores do agronegócio brasileiro têm medo de contrair a COVID-19, todavia não possuem recursos financeiros de sustento, caso suas atividades fossem paralisadas.

Palavras-chave: Coronavírus; pandemia; agricultura; pecuária; Brasil.

1 Introduction

In December 2019, a Novel Coronavirus Pneumonia (COVID-19) identified as the pathogen causing outbreaks of SARS-like illness in the Chinese city of Wuhan. From the beginning, clusters of cases of novel COVID-19 infection were reported that were

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epidemiologically linked to the Huanan Seafood Wholesale Market. Then, evidence that human-to-human transmission was further confirmed by the infection of 15 healthcare practitioners after close contact with one infected patient in a Wuhan hospital (HAN *et al.*, 2020; YUAN *et al.*, 2020).

Nevertheless, this was just the begging. On 30 January 2020, the pandemic of COVID-19 was declared as a Public Health Emergency of International Concern by World Health Organization – WHO (2020). The number of cases has accelerated over the world, however, the publications of the COVID-19's potential transmission and effectiveness of government interventions are limited (FANG; NIE; PENNY, 2020). To counter the pandemic, it is recommended quarantine, but its protocols can be hard to enforce (YANG *et al.*, 2020).

After few months, COVID-19 was already present on all continents, except Antarctica, because the mainly characteristic of this virus is its fast transmission human-to-human. Now, it is difficult say how many persons are infected, since the number increase minute by minute.

In response, science is not stop. Everyday many studies have been published, and much other are being elaborated in all parts of the world. Some scientists looking for the cure to virus, others analysing the economic impacts, others studying about people behaviour. It is possible to say the scientists are intending to get information of all kind of subjects, taking advantage of this so sad and unusual moment to study unthinkable themes a few months ago.

For these researchers, it has been no different. The study emerged from the researchers' observation about behaviour of people who works at agribusiness. Empirical observations revealed mentions about the fearlessness of Brazilian agribusiness workers in relation to the be infected. In addition, they have been so concerned to maintain their professional activity.

In view of this, it was questioned: were the Brazilian agribusiness workers worried about COVID-19? The objectives were discovery if this workers had afraid to be contaminated by COVID-19; if they feared the virus; which worried them; if their activity were affected (stop), they would have money to maintain themselves for how much time; which options they would have to support themselves if they stopped to work.

The study justifies because Brazil is a great producer of food, being agribusiness responsible for 25,9% do Gross National Product (GDP) and this sector has 93,4 million people work in different stages of the agribusiness processes – inputs, primary sectors, industry and services (CEPEA/ESALQ/USP, 2020). In other hand, it has been necessary to maintain supply of cities, because lack of food would transform this sad time in a chaos yet worse.

To get data to this study, it was elaborated a quite simple questionnaire to be send by messaging application, or social networks, to people who work for agribusiness in Brazil. Simple questions had been necessary, because the aimed to achieve including workers without formal professional qualification likewise.

It is worth mentioning too this research has considered people of primary and support activity of agribusiness. Therefore, the intension was including workers by different activities, just because the objective was to really know what the opinion and reality of Brazilian agribusiness workers, without distinction of activity or segment.

2 Literature Review

From the psychological point of view, fear can be observed from various ways in which the human being develops this feeling. Its multiple defence mechanisms can be a driver capable of providing some type of learning to worker, modifying his actions, or reactions, within his environment of work (PEREIRA, 2006; CICERI, 2004; MIRA Y LOPEZ, 2002).

Maslow also theorized that a person could not recognize or pursue the next higher need in the hierarchy until currently recognized need was completely satisfied. Maslow's hierarchy



of needs is shown is often illustrated as a pyramid with the survival need at the based bottom and the self-actualization need at the narrow top (FALLATAH; SYED, 2018; JEROME, 2013; LESTER, 2013; GAWEL, 1996).

In front of this, it is possible to mention that fear of workers has causally related to Maslow's hierarchy of needs illustrated in Figure 1. Published in 1954, this theory introduced about how people satisfy personal needs in the context of their work (HOPPER, 2019; JEROME; 2013; GAWEL, 1996; MASLOW, 1981).

Figure 1 - Maslow's hierarchy of needs



Source: adapted form Maslow (1981).

Looking at Figure 1, it is clear to understand how Maslow structured his theory using a logic of necessities: first basics and so on more sophisticated. Basic needs are simply physiological needs such air, water, and food. The second needs are composed of safety needs that are provided by health and employment, for example. To the third needs, it is related love and belonging, like sense of connection with some group, place, or activity. The fourth needs are concerning to esteem and respect that can be from others or own individual. To finish, the last needs are connected to self-realization and satisfaction (BRIDGMAN; CUMMINGS; BALLARD, 2019 ABULOF, 2017; KENRICK, 2010).

3 Methodological procedures

This study used Snowball sampling technique adaptation to social medias. Snowball sampling is a recruitment strategy that is particularly effective in reaching hard-to-reach groups (SADLER *et al.*, 2010) because is defined like a procedure using a random sample of individuals (named seeds) from a population. Everyone in sample is asked to name other individuals in the population, after those individuals named for the firsts must name others and so on. (COLEMAN, 1958; GOODMAN, 1961; BIERNACKI; WALDORF, 1981; LI; LUO; PIN, 2017). The collection ends when the planned parameters are reach (GLASER; STRAUSS, 2006).

To this study, the parameters defined were the following: minimum of 385 valid respondents and that all Brazilian States had at least one participant. The first parameter is justified for Brazilian agribusiness keeps 93,4 million people involved, so it was calculated sample size using 5% to margin of error and 95% to reliability, resulting 385 people. The second parameter was defined because it objectified the research arrived in the most distant location getting diverse realities. It is important to mention, the second parameter was also thought because it could show if there is regional standard of Brazilian agribusiness worker about COVID-19.



About using the World Wide Web to get respondents is what enable this kind of research because, there is nowadays reach of Internet even in rural areas. Costa (2018) approach Snowball sampling technique through Internet has demonstrated proper to this kind of studies as it has been possible to catch up unknowing individuals, from very distant geographic places, but included in studied population.

As the first step in applying the questionnaire, it had invited five individuals who are farmers but also PhD students at Centro de Estudos e Pesquisas em Agronegócios of Universidade Federal do Rio Grande do Sul aiming contributions and data validation of research instrument. After, it started looking for “seeds”.

To start, a survey presentation message was sent to agribusiness workers whose were known to the authors – seeds – through a popular message application in Brazil – Whatsapp. The message contained information about study, such as: authors, institution of them, objectives of study and estimated time to answer questionnaire. At the end of message, there was a link to access the questionnaire online. It was requested to this “seeds” to forward the same message to their contacts who need be agribusiness stakeholders as well.

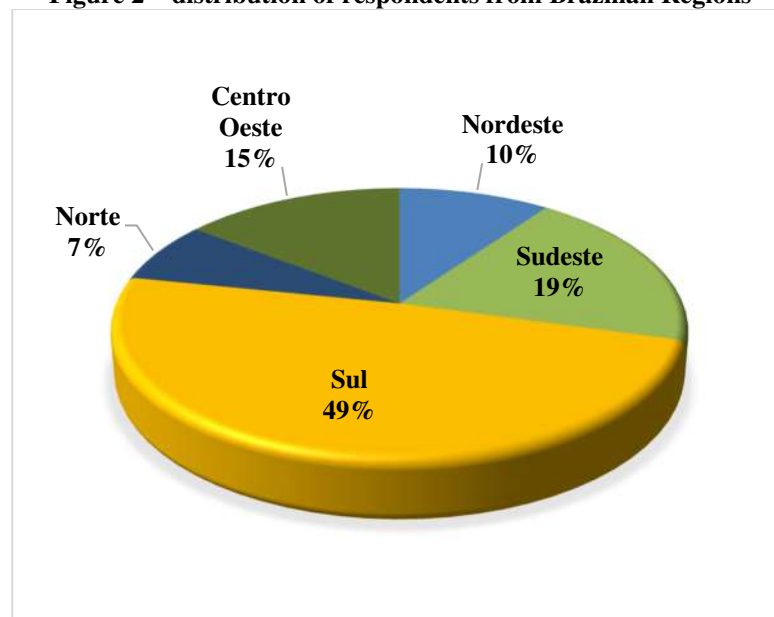
In view of majority of these first “seeds” are people who living in South Region of Brazil, set out to search for “seeds” who met the second established parameter – agribusiness stakeholders from other Brazilian states. To get this, it was used Facebook, Instagram, LinkedIn, and Telegram to find people connect to agribusiness. So, it had sent same message of the first “seed” group (agribusiness workers known of the authors) requesting to forward to their contacts too.

Research application has finished getting 413 valid respondents from all Brazilian States; however, five people have not accepted theirs answers be published. So, research has finishes considering 413 respondents.

4 Results and discussion

According to explained in methodological procedures chapter, the study contemplated opinion of agribusiness workers from all 27 Brazilian States and it has compiled by regions due to similarities of results. Figure 2 shows distribution of the respondents from Brazilian Regions.

Figure 2 – distribution of respondents from Brazilian Regions



Source: elaborated by authors (2020).



The disparity in number of respondents by region, demonstrated at Figure 2, is justified for using Snowball sampling technique being agribusiness workers known of the authors like firsts respondents – in accordance to chosen methodology. However, answers to questions have not been so much otherwise – people from different regions have demonstrated similar opinions and fears about the subject studied.

About what respondents doing in agribusiness, it had been difficult to list every kind of activities. Firstly, Brazilian agribusiness is very diversified and second because research had looked for people of different levels of educations, including low level. Thereby, it required simple questionnaire using a great list of option could depart some people. Thus, it was requested their activities that after was disposed in Global Value Chain.

Table 1 – activities developed by respondents of questionnaire.

Activity	Percentage
Production of grains or cereals	24,82%
Beef cattle	18,25%
Other activity does not specify in questionnaire	16,30%
Agricultural assistance	7,30%
Fruit or vegetable production	6,81%
Production of milk	6,08%
Trade of inputs	4,38%
Transport of goods	3,16%
Production of poultry or eggs	2,43%
Equipment maintenance	2,19%
Veterinary assistance	1,95%
Hotel and animals training	1,95%
Equipment installation	1,46%
Pork production	1,22%
Sheep or goat production	0,97%
Wine production	0,73%

Source: elaborated by authors (2020).

Considering Snowball sample technique, beyond using seed to get respondents from all Brazilian states, there were seeds for different activities too. It can be perceived in Table 1 that beef cattle and production of grains and cereal have a great percentage of sample.

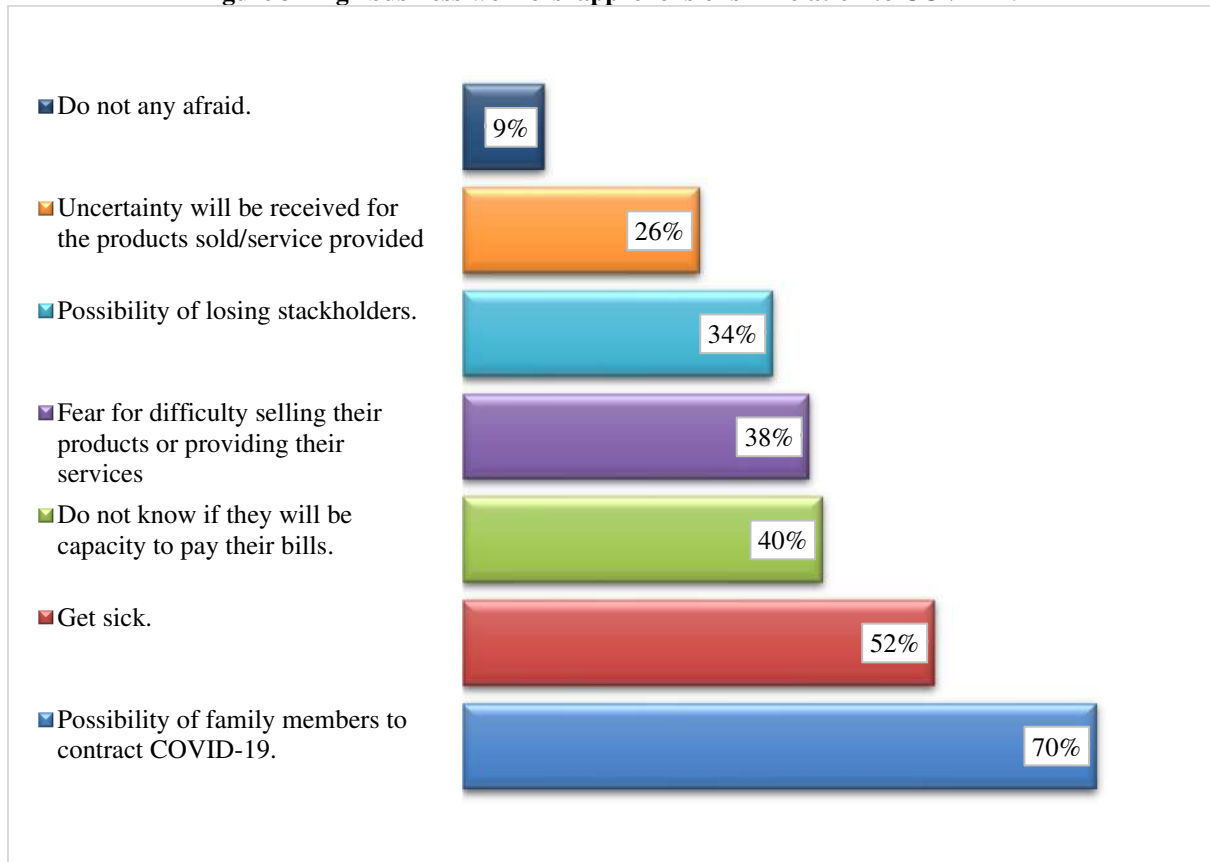
After the questions of classification of the region and activity developed, it had asked if agribusiness workers have afraid of being infected. It has discovered 68% are afraid while 32% say do not worried about.

Although, the high percentage of people fearful about COVID-19, only 18% reports they were or some collaborator of them were temporarily dismissed due to the possible effects of pandemic. This effect has supported by the fact Brazil had the first confirmation case at February, 26th (BRASIL, 2020) when it was harvest time in southern hemisphere, thus Brazilian agribusiness had kept almost like before, based on the importance of agribusiness to guarantee supply.

Aiming to extract feelings in a more profound way about the fears of Brazilian agribusiness workers, it was questioned which situations could bring concern. To this question only 9% percent say have not any afraid much. It represents a smaller number than was answered to question that directly asked if they were afraid of contracting a COVID-19. Others reveals are disposed in Figure 3.



Figure 3 - Agribusiness workers' apprehensions in relation to COVID-19



Source: elaborated by authors (2020).

Figure 3 can show about felling of Brazilian agribusiness worker, because question allowed respondents marking more than one felling. In relation to get sick, to this question, it had smaller percentage of people who had dreaded than question asked if they were afraid about contract COVID-19, however, just 9% said had not any afraid. It can be justified for people consider themselves healthy, so they would not have serious problems even get virus.

In the other hand, 70% had demonstrated worried about some familiar member to contract COVID-19, this percentage was geater than number of respondents who had said neither afraid to contracting COVID-19. It is possible to say then people tend to preserve their family more than themselves.

Other worried directly joint to disease was about losing stakeholders, such employees, co-workers, providers. To this felling only had a proportion little bit more than one third what can evidence Brazilian agribusiness yet has not a sense of unity and that if one of the links in the chain break, everyone will be affected.

In relation to the other three options that was about economic activity of business. It has doubt about receive for products sold or servicer provided, uncertainty about selling products or providing services and haziness about to have capacity to pay for all bills.

It is important mention Brazilian agribusiness workers had doubt about receive for products sold and services provided. This kind of situation yet happens in Brazil, where diverse sectors have no culture of sign contracts, including in work relations. About sold products without warranty, it has been happened since old times in markets like rice, beef and milk that is common deliver products without any guarantee, especially if they are small producers. In case of work relations, informality yet can be perceived along diverse chains. There are attempts



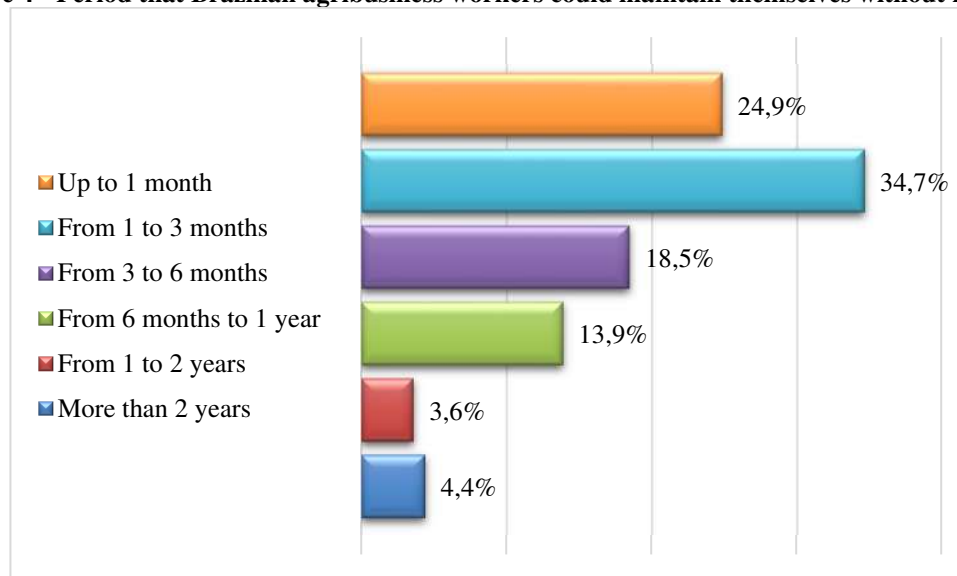
of government to clog informality whether in negotiations or work relations, but these kinds of measures need more incentive mainly regarding taxes involved.

To the second worry about economic aspects of agribusiness activities stands out fear for difficult to sell products or provide services. This statement involves so many conditions, such as demand as well as supply problems. To demand case consumers can lose capacity to consume either for lack of money or for change habit after pandemic. Already to supply, providers can need increase value of inputs in attempt to save their business, if it has also been affected. Another issue to be mentioned is the devaluation of Real against other currencies what reflect directly when purchasing inputs.

Like last observation about Figure 3 and fear of Brazilian Agribusiness workers, 40% of respondents reported that did not know if they would have capacity to pay for all their bills. It is inferred that a great slice of people involved in Brazilian agribusiness do not saving or do not assets greater than liabilities.

Already guessing precarious financial of people involved in Brazilian agribusiness, it was elaborated a question to discovery how much time they could maintain themselves if their activity were affected by reflex of pandemic. Results to this question are disposed in Figure 4.

Figure 4 - Period that Brazilian agribusiness workers could maintain themselves without receives



Source: elaborated by authors (2020).

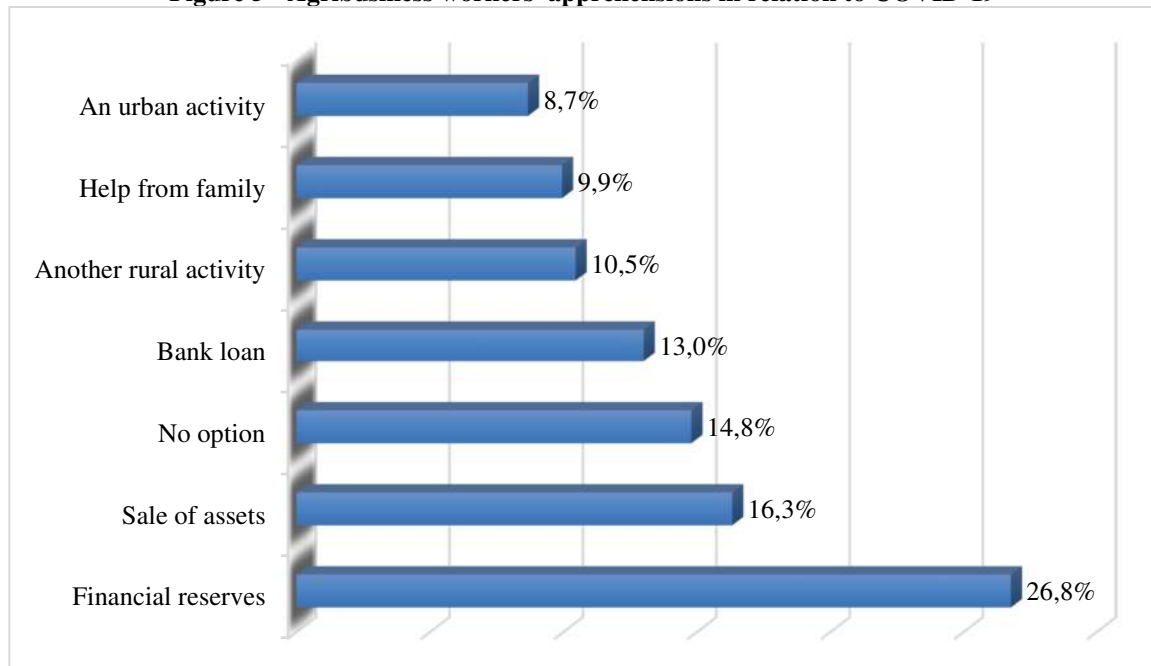
The answers to question about how period of time Brazilian agribusiness workers could survive without receive resources (Figure 4), brought up a worrisome scenario because it discovered that almost 80% did not conditions to survive for more de six months. It is important emphasized that much of agricultural crops need a year until next harvest.

Inside group that had resource to survive for at most six months, there were 34,7% that had answered having money to maintain themselves for three months and yet 24,9% that just had resources for one month. The results found bring to light the fragility of one among most important Brazilian economic sectors, the same one that is responsible for more than a quarter of gross national product.

Aiming to know more about Brazilian agribusiness workers economic situation, it was questioned which options they would have if their activity was affected. Results are showed in the Figure 5.



Figure 5 - Agribusiness workers' apprehensions in relation to COVID-19



Source: elaborated by authors (2020).

To this question, it perceived at Figure 5 a quite diverse options like first option to get resource if their activity were affected. It is important highlight that 14,8% say to had not any other option, a condition that reveals yet more fragility of those workers.

An urban activity was option of minority, but if those people move to an urban activity it could bring more concentration in large cities, where unemployment had been also in large scale. Moreover, migration of people who work producing food can result in other problems such if there are less people working in production and more consumers, in the first time, results a cascading increase in prices and after rising social inequality whereas some people will lose purchasing power.

5 Conclusions

This study has discovered Brazilian agribusiness workers, although felling afraid of contract COVID-19, do not stop their activities because they have not financial resources to stay much time without receive. This situation demonstrates the vulnerability of agribusiness sector, that is so important to Brazil, but it has a poor saving for moments of instability.

Agribusiness is an activity that has natural risks, specially, those related to weather conditions. This study used this atypical time to get information about vulnerability of Brazilian agribusiness sector, thought financial situation of workers it is not different of other times. Furthermore, the search was applied in April and May 2020 – beginning of pandemic in Brazil.

The study had limitation about reliability of sample, because Brazil has many kinds of activities related its agribusiness, besides its geographic distances and cultural quirks. Then, from results obtained with this research it is possible to start a second on it will get point information about a specific culture or region and an economic sustainability of that.



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