



Belize Agribusinesses COVID-19 Impact Survey

Report | May 2021

Demographics



47

Respondents



55|45%

Female|Male



48

Average age



Business Profiles

Size

Micro:	85%
Small:	7%
Medium:	4%
Large:	4%

Classes

Sole Prop:	84%
Partnership:	9%
Corporation:	7%

Introduction

Since the onset of COVID-19, Belize has recorded over 12,000 confirmed cases of the virus and over 300 deaths that were determined to be as a result of the infection. Similarly to other sectors of the nation, the food sector has had to maneuver through the required lifestyle changes the pandemic presents. Beyond the life and health ramifications, the pandemic has led to the largest economic contraction in Belize in recent decades. It is estimated that the economy has contracted by 15.5% in 2020, owing to a substantial decline in tourism, manufacturing, and distribution sectors. Job losses in these sectors have led to higher unemployment in 2020, which has carried over to 2021. As the pandemic progressed, the micro, small, and medium enterprises (MSMEs) have had to adjust to mitigate against the impacts of the pandemic. Particularly, the agribusinesses, with limited economies of scale, are being challenged to revamp their business models to overcome the effects of COVID-19. Similarly, the pandemic provides important opportunities and presents a case study for improved efficiencies within the sector.

In 2020, The Belize Marketing and Development Corporation (BMDC) launched an Agribusiness COVID-19 Impact Survey to gather data on the impacts of the pandemic to the agro-processors on topics such as operations, inputs, income, and market access.

This report provides information on the second round of data collection covering the period June 2020 to February 2021. Apart from being an update to the first round of the

survey, this report provides comparative information to identify the changes within the sector since May 2020. Data was collected from March 16 to 26, 2021

Summary of findings

- 71% of the respondents interviewed are recurrent from the first rounds of the study.
- 85% of the enterprises are micro, most of them owned by females.
- Lack of capital and income has become a major constraint for production.
- More of the enterprises are buying less agriculture inputs due to losses in income.
- Since June 2020 demand has shown slow improvement and the entrepreneurs have demonstrated resiliency to cope with the instability.
- There has been a considerable shift to direct retail by the micro enterprises
- Improved delivery services has been a proven ingredient for success.
- Estimated economic loss to the subsector for the period is at \$10.3M (BZD).
- While 53% of the respondents believe their businesses will be able to recover, more than 70% of these enterprises do not see this recovery happening before a period of 6 months.

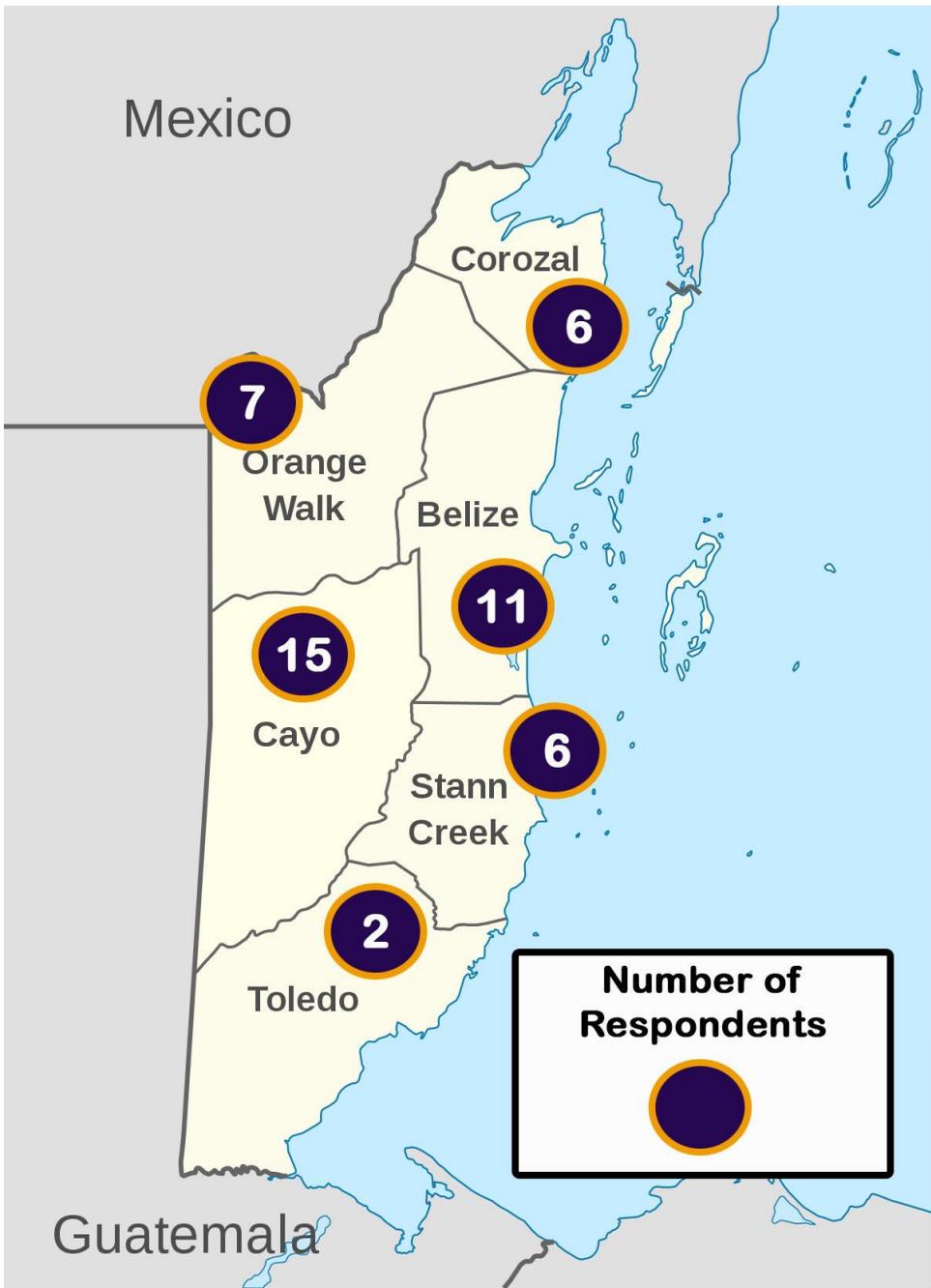


Figure 1

Business Profile

Business size and gender distribution

It was determined that 71% of respondents were recurrent from the 2020 survey. A total of 9% of the enterprises interviewed for this survey were new businesses having started their operations since June 2020. The survey was carried out amongst four enterprise categories, these include micro, small, medium, and large, of which 73% of the enterprises originated from rural communities. The majority of respondents were from micro businesses (85%) having both males and females operators; small enterprises represented 7% of all respondents. Medium and large enterprises represented a cumulative ratio of 8% of all enterprises investigated. These ratios are significantly different from those presented in last year's survey where the dominant enterprise size was small (56%).

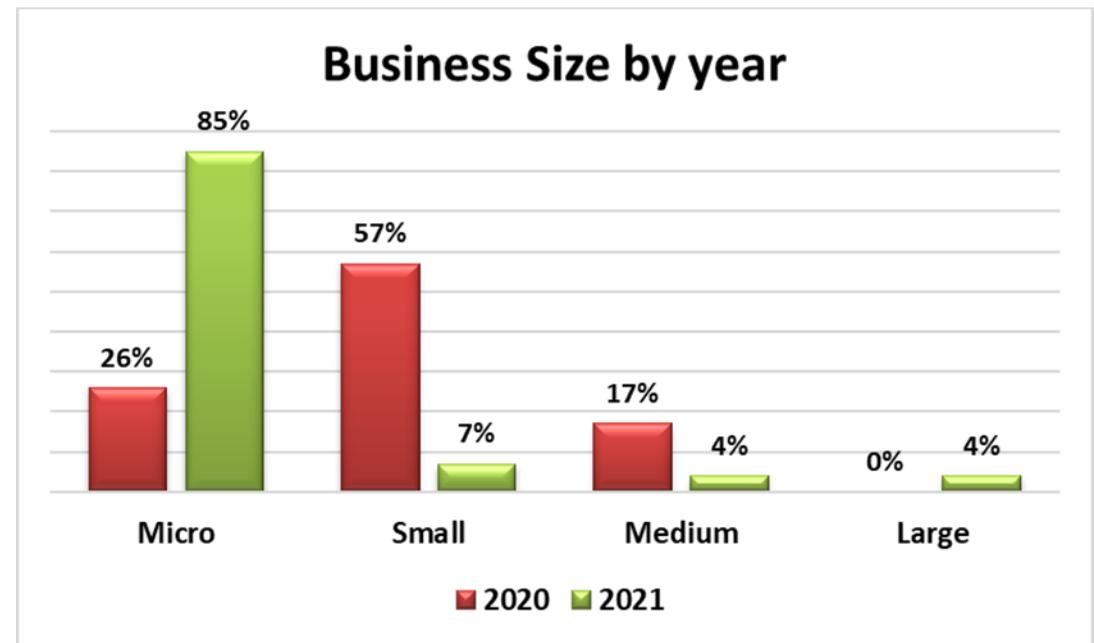


Figure 2

The businesses operate from 26 different locations including cities, towns, and villages from across the 6 districts of Belize. In respect to ownership models, 84% of the businesses are classified as sole proprietorships, 9% partnerships, and 7% corporations.

The interviewed enterprises produce 13 main product lines: dairy-based, condiments, spirits, seasoning, bakeries (pastries), meat shops, corn-based, non-alcoholic beverages, coconut-based, snacks, cocoa-based and medicinal. Two new lines of products investigated for this survey are medicinal and cosmetics.

Impact on operations

Employee statistics

From the period February to April 2020, only 33% of the enterprises indicated that they were required to totally or temporary layoff their staff. The results from this year's survey show similar ratios, with majority (69%) of enterprises keeping their staff throughout the period May 2020 to February 2021. These numbers are consistent with the results from the Statistical Institute of Belize (SIB) Impact of COVID-19 on Business Establishments Survey which recorded an employment drop of 35.8%.

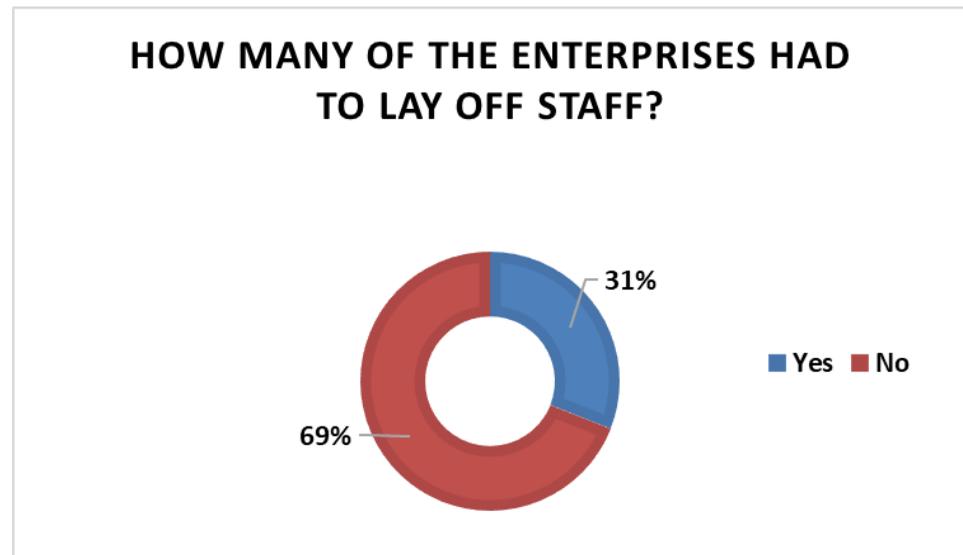


Figure 3

All categories of enterprises were faced with the need to lay-off staff, of these, 76% of them were micro, 15% small, and 9% medium enterprises. For the enterprises that indicated they had to relief staff as a result of the pandemic, 62% recorded that they decreased their staffing by 50% or more. These enterprises were primarily (75%) micro-size businesses.

Conforming to the results of last year's survey, majority of the enterprises that undertook staff reductions originated from rural communities. On average, these enterprises laid off 3 employees.

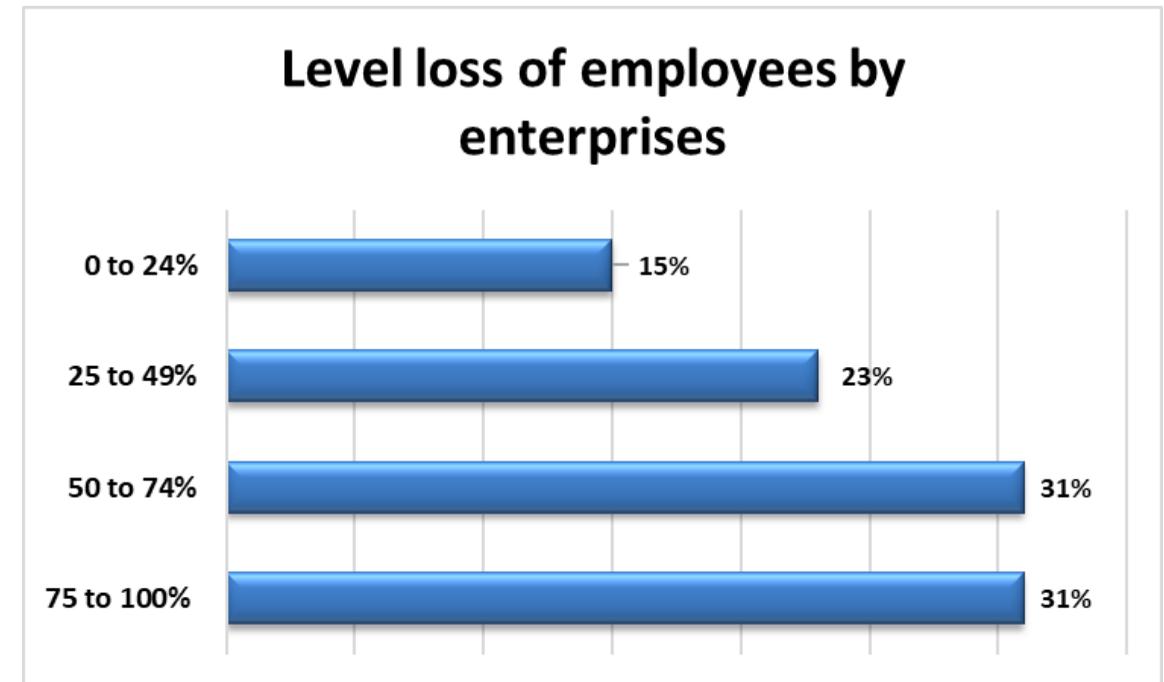


Figure 4

Facilities and production

The cost associated with facilities contribute significantly to overhead expenses, especially when these facilities incur rental payments along with other production costs.

Almost all (93%) of the respondents declared that the facility being used for producing their products is owned by the business owner.

When comparing the impact of COVID-19 on the enterprises' production and ability to continue to operate as normal, the results show a shift in concerns by respondents. While there were a few enterprises (13%) that expressed production increases and expansions, most of the businesses claimed that production was down. A comparison between the challenges presented in the first survey and this study highlight that the major production constraints shifted from lockdown/opening hours to the concerns relating to access to capital and income generation used to enable production.

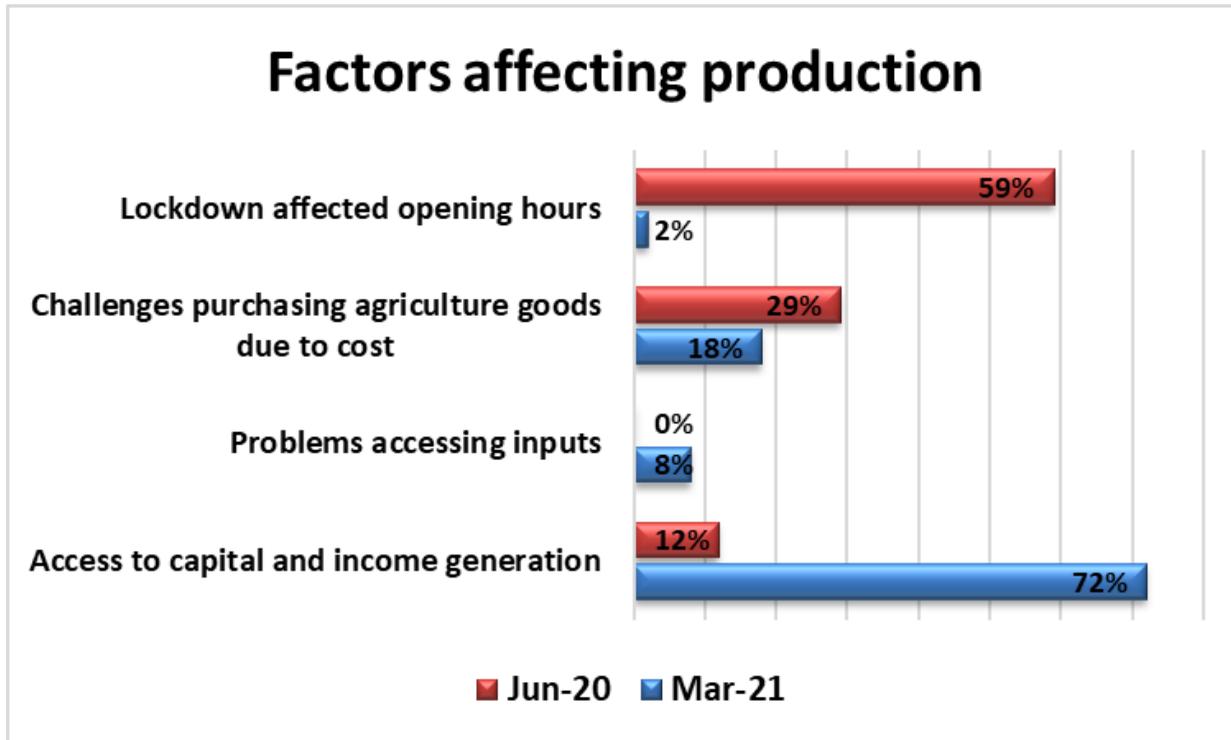


Figure 5

Impact on inputs

The performance of Agri-processing enterprises depends significantly on their access to affordable good quality inputs on a consistent basis. The main inputs are raw agricultural products whose supply chain system is dependent on producers and intermediaries for their distribution. Understanding how agribusinesses are affected by inputs provides a context for interventions needed to improve their performance.

Raw agricultural inputs

There was a total of 49 different agricultural products classified as key inputs for the processors. The majority (87%) of the agricultural inputs used by the processors are sourced locally. The main imported inputs are citric acid, milk, and carrots. All of these imported products are also produced locally, however the demand surpasses its supply throughout the year.

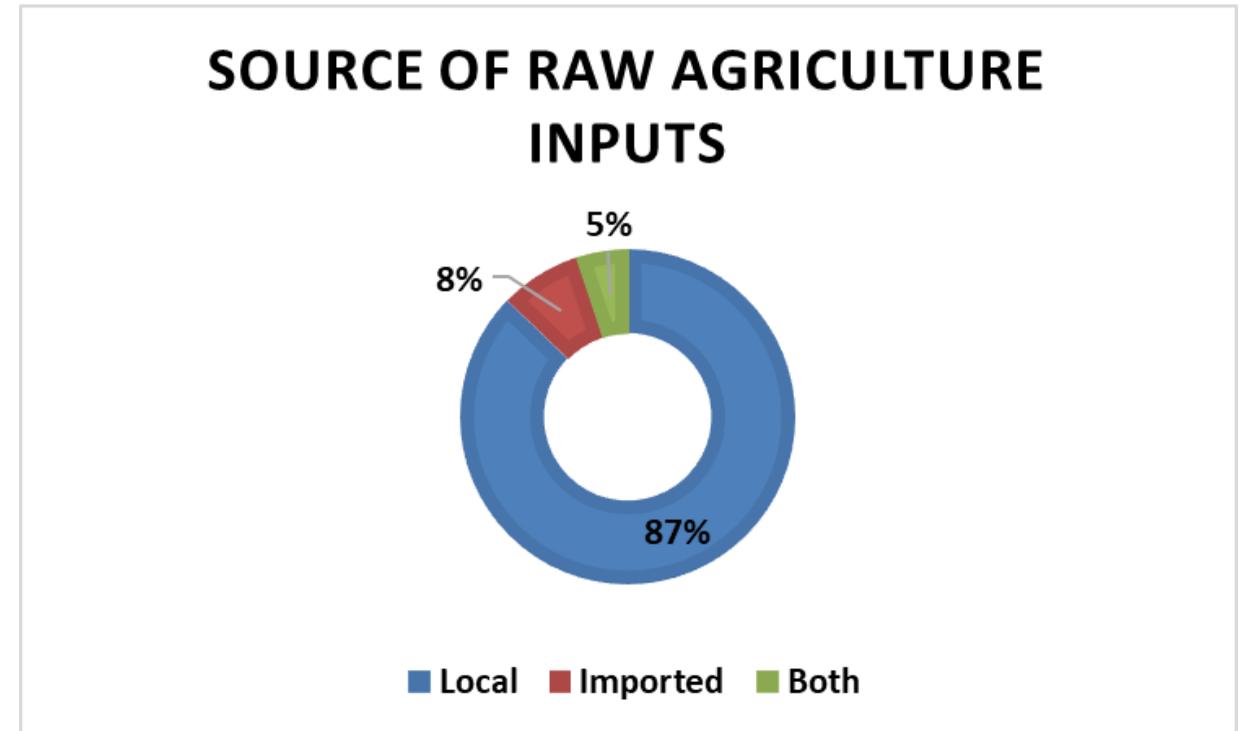


Figure 6

Of the 49 agricultural inputs, the majority (55%) are classified as fruits and vegetables.

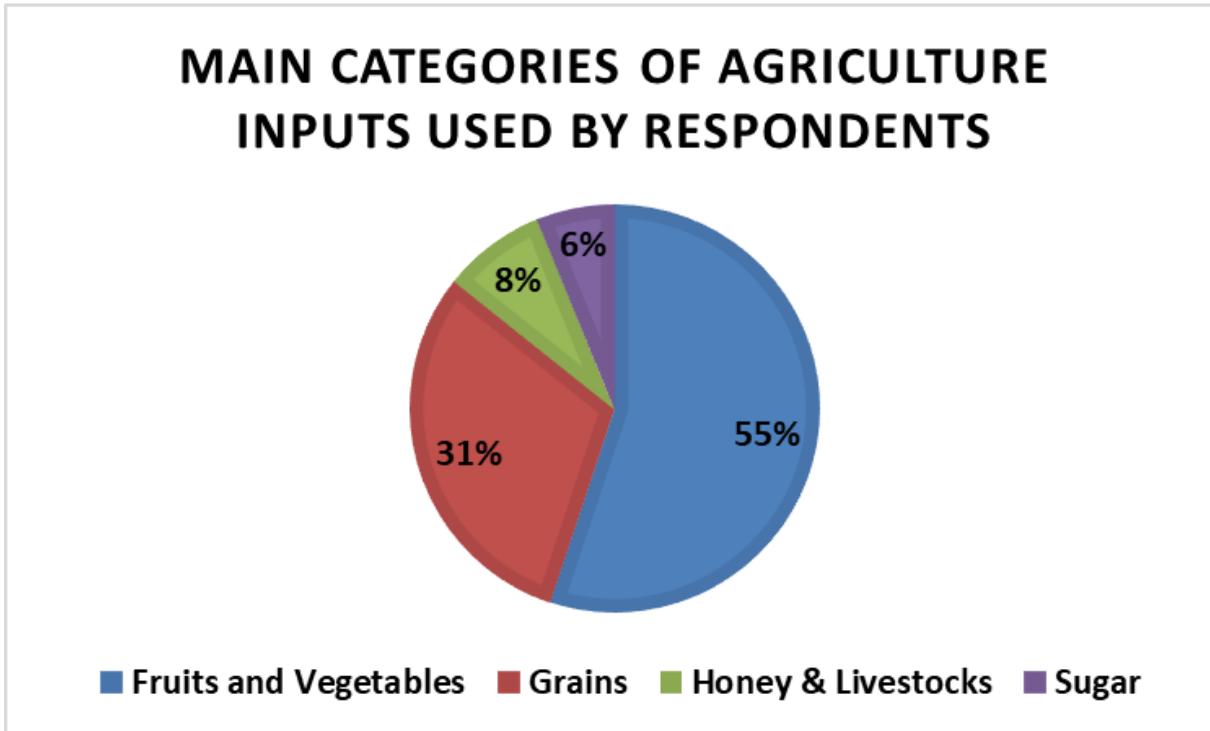


Figure 7

As a sub-sector, agribusinesses operate as a domestic consumer for the agriculture fresh produce products; where processors use the fresh products from farmers in their production to create value-added products. Here we examine the effects in this supply relationship as a result of the pandemic.

In the first issue of this survey, the data showed that while 51% of the agribusinesses expressed that they were buying less agriculture goods for their businesses, a significant number (46%) of these enterprises expressed that they did not experience any change in the amounts spent on agricultural inputs. This illustrated that the enterprises were still providing a relatively good form of income to farmers.

Since May 2020, it appears that the steady constraint of COVID-19, among other factors, has negatively affected the demand by the processors. As shown in Figure 7, an increased

number of processors (62%) are buying less agriculture goods. Further to that, it was also recorded that only 13% of these enterprises are now spending the same amount on agriculture commodities as they were before the onset of COVID-19.

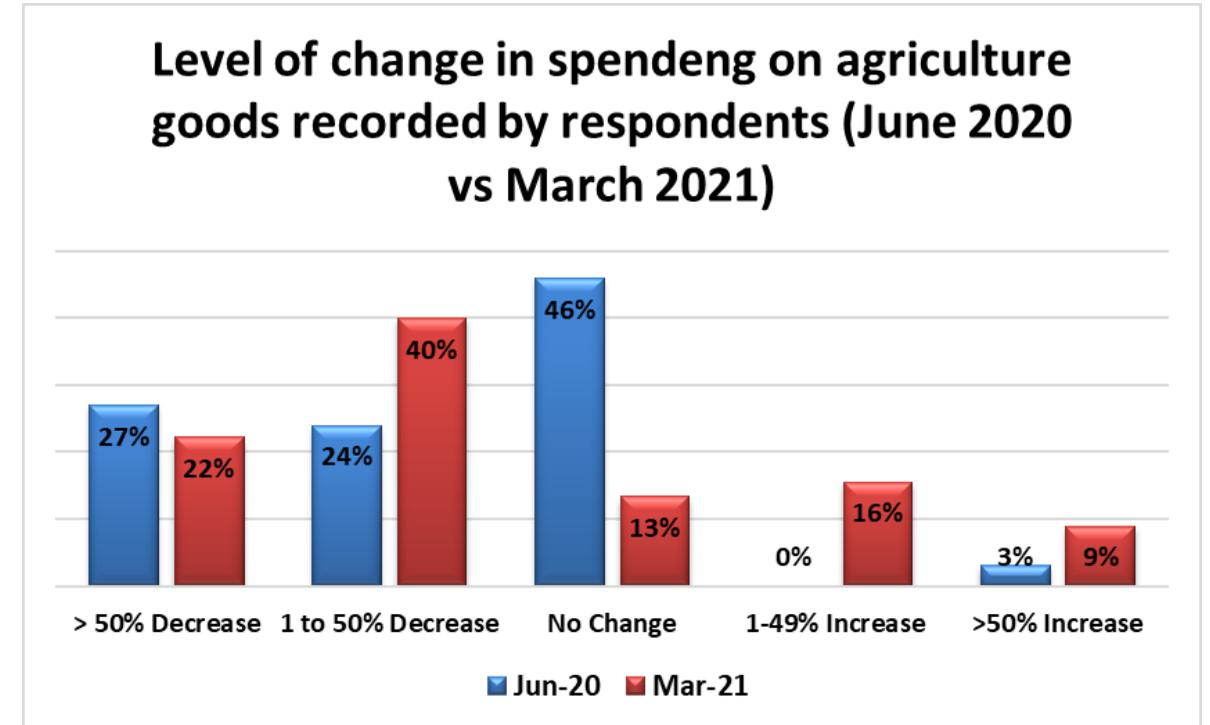


Figure 8

While the above-mentioned decrease spending on agriculture goods is alarming, some of the entities, primarily those that are new businesses or those that have ventured into new product-lines, expressed that they are now spending more on agriculture goods since COVID-19.

Many of the respondents explained that their purchasing patterns have changed since the advent of COVID-19. Majority of the entrepreneurs explained that their purchasing has been affected by two matters: loss in sales and the increased cost of the production inputs. Considering such, many of the respondents have been buying fresh produce sparingly and only on a needs basis.

It was also uncovered that more than half (58%) of the respondents experienced difficulties with access to fresh agriculture inputs. Some of the main agriculture commodities that were recorded as being limited in their availability are: milk, ginger, carrots, lime, and coconuts. Considering the higher cost and limited access of some of these products, there is clear understanding to the need for imports.

It should be noted that enterprises that used commodities such as coconuts illustrated a polarizing situation. In some cases, enterprises that were required to purchase coconuts expressed their difficulties in sourcing the commodity and challenges in keeping their production cost down due to higher cost of this input. Meanwhile, enterprises that produce their own raw agricultural inputs have showed signs of growth.

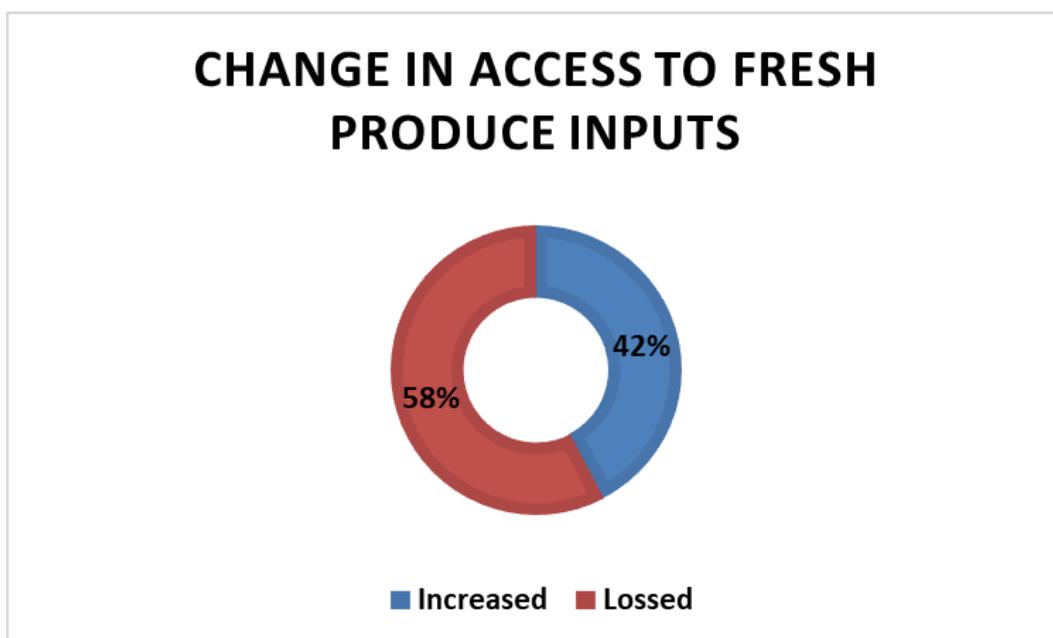


Figure 9

Key processes to agro-processors

To capture the key elements of the production system for the agro-processors, the respondents were asked to vote for the five (5) most important processing topics for their respective businesses. Agro-processors identified that end product distribution is the most

important factor for their business operations during this time. This agrees with the data from the first issue of this survey.

Additionally, the delivery of processing inputs was rated high again by the respondents. A key feedback that explained this concern is the current border closure which restricts some of these entrepreneurs to either import or travel to purchase their inputs.

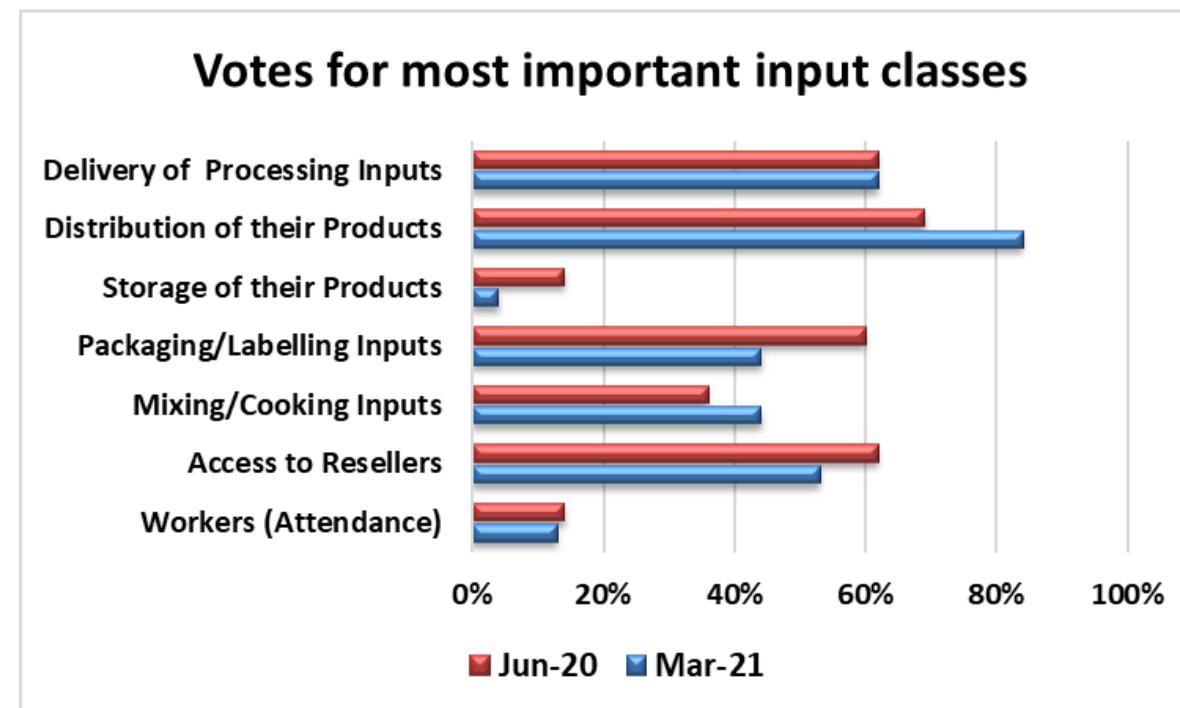


Figure 10

Impact on Income and Demand

Changes in sales

In the initial survey, the change in sales was analyzed by requesting that the respondents provide an estimate for their overall sales (value or units) for the periods February to April 2019 and February to April 2020. Since 2020 is the year in which the pandemic made its

most prominent impacts on the economy and the operations of businesses, this iteration of the survey investigated change in sales by comparing all of 2019 versus 2020 revenues.

In both cases, variance between the two periods being investigated was calculated to determine the range of change experienced by each business.

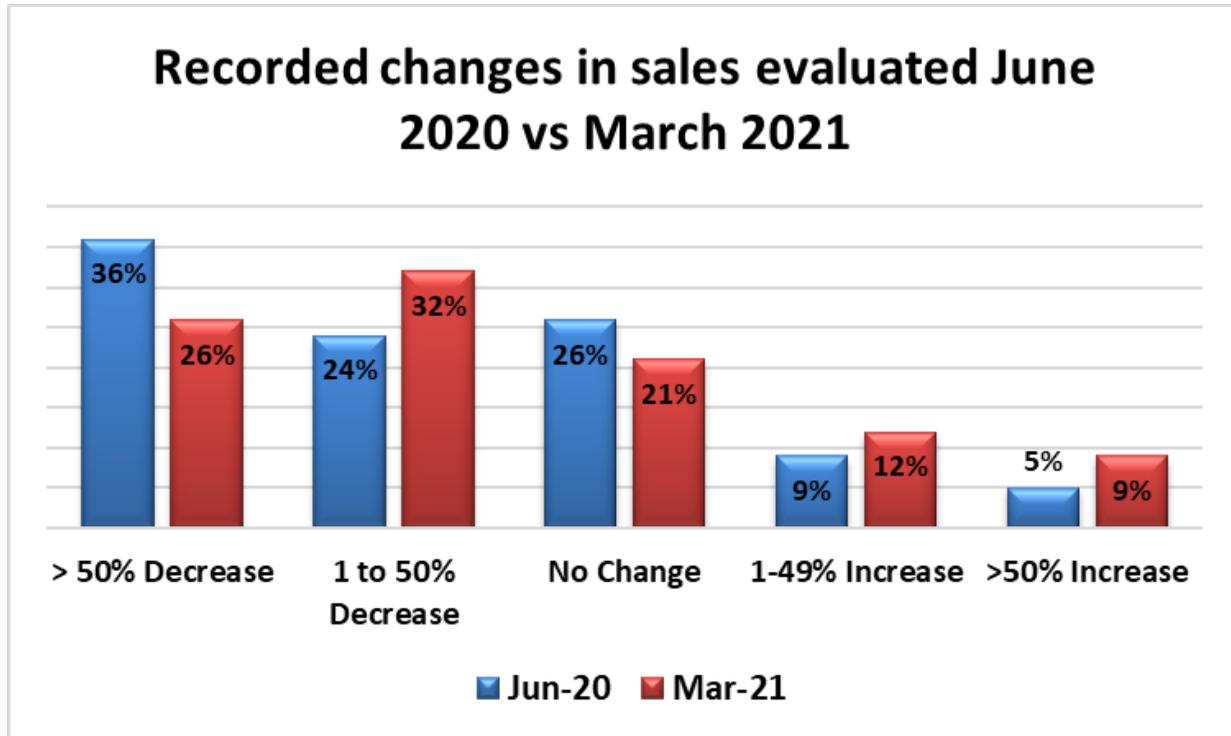


Figure 11

It can be said that the results describing the change in sales is fairly consistent between the two surveys, but the calculated average change in sales indicates some improvements since the first survey. This is improvement from an average 32% decrease calculated in June 2020 to now a 14% decrease. The March 2021 data showed 58% of the enterprises experiencing a fall in sales, while the data from June 2020 showed 60%. The recovery in sales is also observed where 10% less businesses have had a decrease above 50%, as these enterprises have started to recover and reflect a smaller comparative decrease in their

¹ Statistical Institute of Belize (2021) Impact of COVID-19 on Business Establishments Survey

overall sales. The data of this survey also showed a marginal increase in respondents recording significant improvements in their sales figures. This can be attributed to the new business ventures or added product lines. Taking the lead in the improved sales are enterprises who sell medicinal products or those whose products have been adopted for medicinal and sanitary purposes.

Impact on prices

There were no signs of price gauging in the first issue of this survey. Again, the data shows that majority (73%) of processors are yet to perform any form of price adjustments. While this may have been the case, it was uncovered those enterprises that used inputs whose access was limited and whose price has increased (e.g. Coconuts) were likely to increase their prices, while other micro size enterprises (e.g. pepper sauce) chose to decrease the prices of their products to garner more sales and keep their market share. As identified by the Statistical Institute of Belize’s (SIB) Impact of COVID-19 on Business Establishments Survey, businesses were significantly affected by cancellation of contracts by customers and retailers¹.

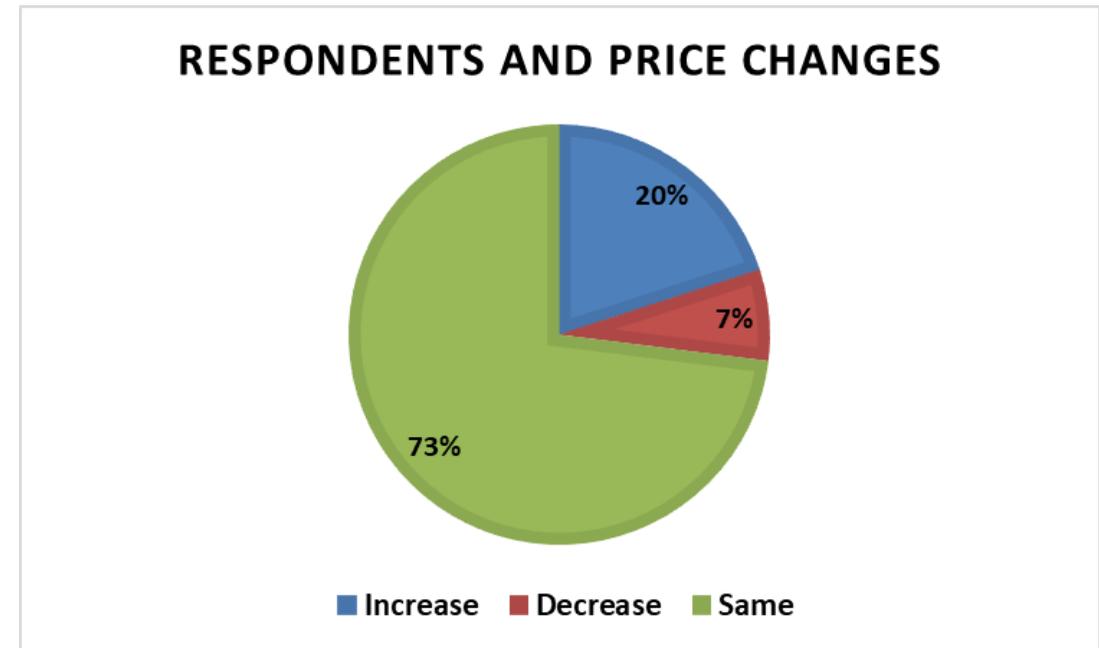


Figure 12

This of course required these businesses to respond by incorporating more attractive prices for their products to gain new customers or recover some of these lost contracts. As a result of the pandemic and other indirect effects, 20% of the enterprises have had to increase the price of their products while only 7% have chosen to decrease their price. It is likely that the reduction in price is an adaptation to a contraction of the market rather than the achievement of economies of scale or lower production costs.

Overall, 53% of the enterprises that were evaluated for this study recorded that they are operating at a price that is providing them with a profit. As shown in Figure 12, 21% of enterprises that are operating below their breakeven margin have chosen to decrease their prices, while a majority (74%) of those who have made no changes have recorded losses. On the other hand, of the enterprises that have increased their prices only 17% recorded being operating at a profit.

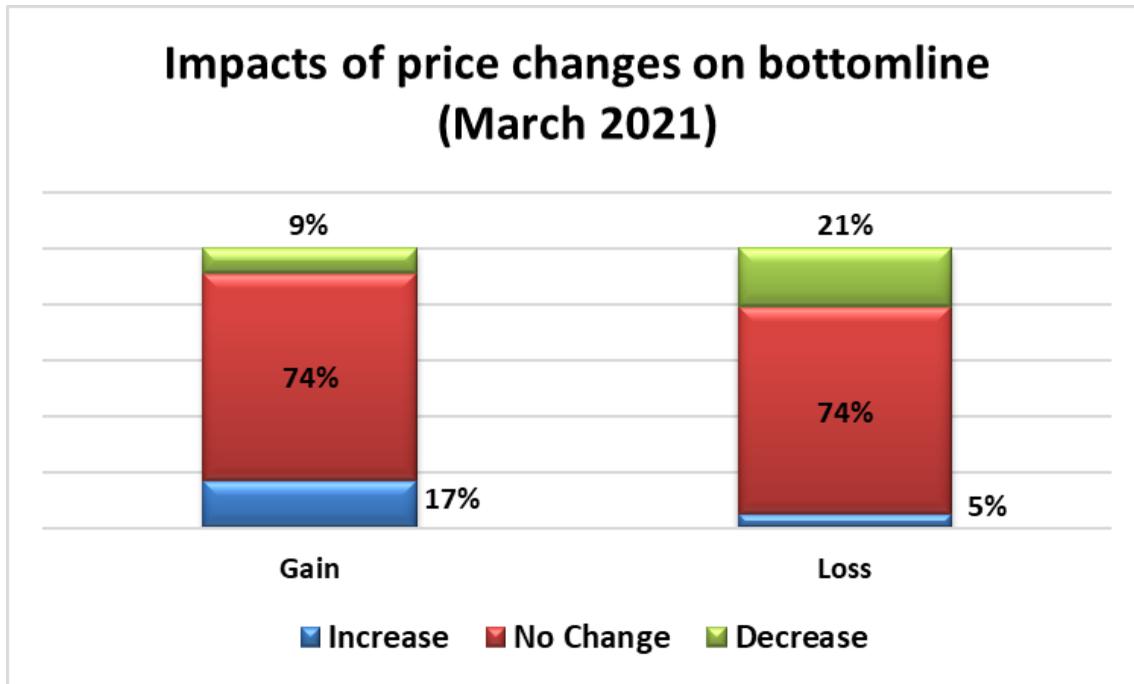


Figure 13

² <https://weather.com/en-IN/coronavirus/l/Belize+City+Belize?canonicalCityId=ffea551fd1af2ec63babadc9689cfb168b3964f4b776dcb31d90de6e51675ebe>

Impact on demand

The first report provided insights on demand that had the backdrop of the national lockdown period where the country was brought to a complete halt in March 2020. Since then, precautionary measures have been adopted and control measures have started to be relaxed. Demand data shown in the June 2020 report showed 41% of the respondents recording a significant decrease in demand for their products as COVID-19 started to spread across the country. Businesses producing cocoa-based, condiments (peppers sauces especially), and corn-based products were among the enterprises hit the hardest.

Since the June 2020 report, the influences on any demand change have been different. Contrary to when the major lockdown occurred in March 2020 when there were few cases recorded, the increase in cases and deaths started in late July. Further to that, the second wave occurred mid-October to mid-January². National testing and sensitization contended the pandemic spread and overall domestic operations were managed to mitigate the impacts on local commerce.

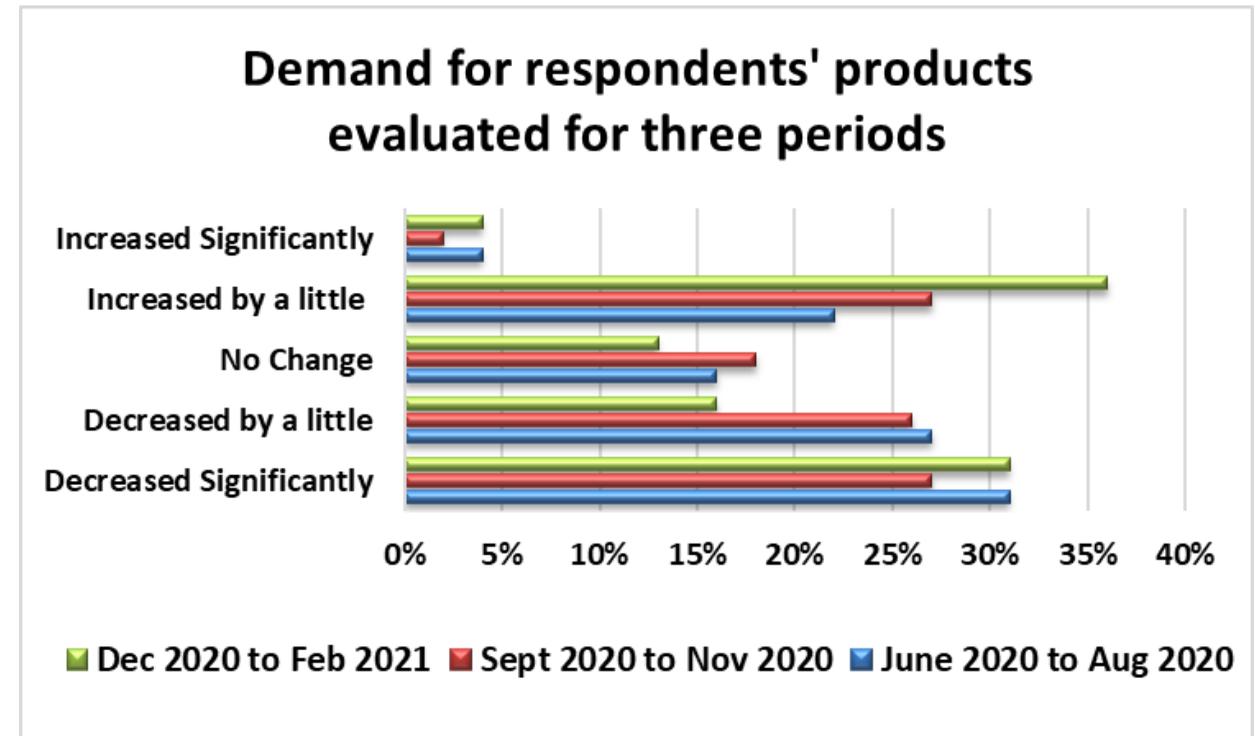


Figure 14

With these considerations, among others, the evaluation on ‘demand change’ for this report provides findings for three periods: June to August 2020 (pre-first wave period), September to November 2020 (Onset of the first wave), and December 2020 to February 2021 (first wave and recovery).

The overall trend indicates that since June 2020, approximately 30% of the respondents have been experiencing significant decrease in the demand for their products (June 2020 to February 2021).

Meanwhile, an estimated 32% of the respondents recorded some increase in demand for their products. The period that demonstrated the highest level of decrease in demand is June 2020 to August 2020 and the period that showed the highest level of increase in demand is December 2020 to February 2021.

As previously reported entrepreneurs producing sauces, cocoa-based, and seasoning products, on average continue to experience the highest decrease in demand. While enterprises producing honey, dairy-based, coconut-based, and medicinal products experienced an increase in demand.

More of the enterprises (63%) have been adopting measures to address the demand change when comparing to the 52% from the first assessment. Respondents provided their ideas on how they have or will address the demand change for their products. For those that experienced an increase in demand, the following summaries the main approaches to cope with the change:

“Now using social media to get more demand for our products since the demand has decrease via traditional channels”

“Increase production and use an ordering system”

“Increase price to make more profit and to keep stock”

For those that experienced a decrease in demand, the following summaries the main approaches:

“Stop production”

“Repurpose staff, cut working hours, lay-off to cut cost”

“Use social media to engage new customers”

“Produce for orders only”

“Offer discounts”

There has been a clear improvement in how these entrepreneurs are recording the change in demand for their products and their individual plans have now been more focused. Furthermore, the entrepreneurs show signs of using more technology and cost cutting mechanisms to tailor their business operations to address the changes in demand they are experiencing.

Impact on customer base

Customers were classified under three main classes: Wholesalers, Retailers, and Individual Buyers. Overall, the customer classes remain the same, with exception to only the Individual Buyers showing a 14% increase since the first report.

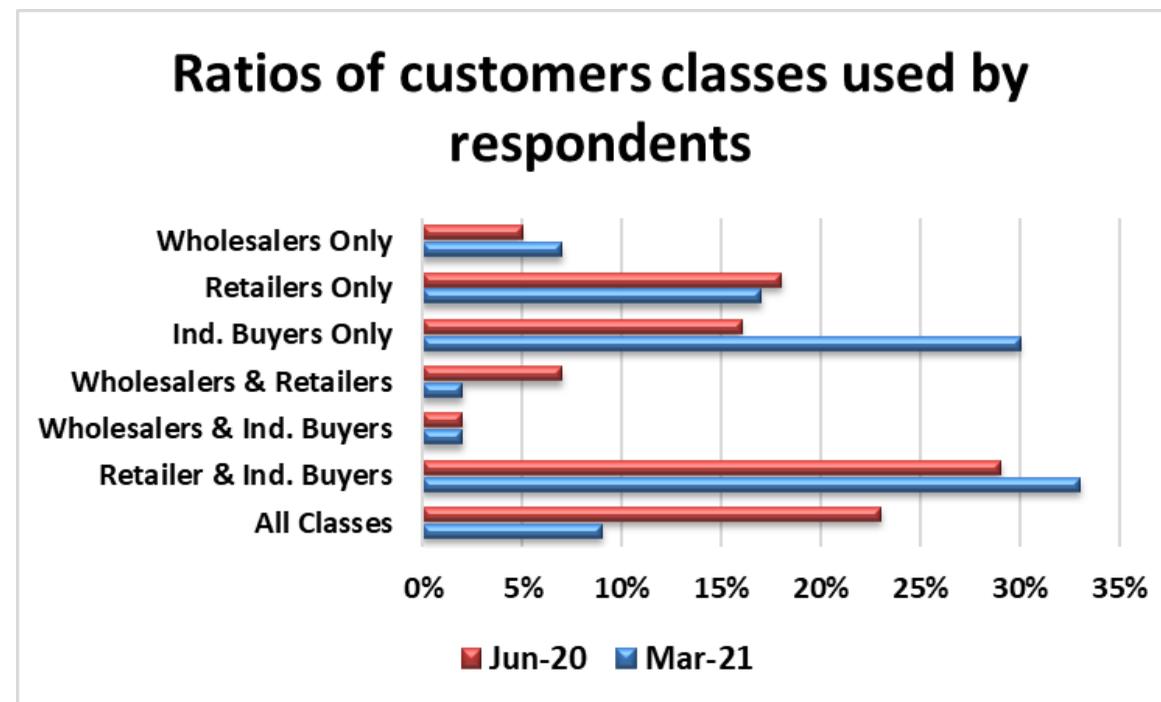


Figure 15

The current ratios show the following: 53% of all respondents sell their products to only one class of customers, with Individual Buyers (30%) being the top customer class when used alone. A total of 9% of the respondents had access to all three classes of customers and 38% of the respondents sold to a combination of two classes of customers, with retailers and individual buyers having the highest ratio (33%).

For businesses that utilized all three customer classes, the average distribution of their products being sold by the three classes is: Wholesaler accounts for approximately 13%, Retailers 56% and Individual Buyers 31% of their sales. This shows a shift from the use of larger customer classes to smaller buyers.

The distribution for businesses that uses two types of customers are as follows; group one: wholesalers 25% and retailers 75% of sales; group two: wholesalers 95% and individual buyers 5%; and group three: retailer 62% and individual buyers 38%.

Impacts experienced by the respondents using the various customer classes was evaluated. The first report indicated that enterprises selling directly to retailers were experiencing the most loss, while those using wholesalers had experienced significant growth.

This time around the assessment indicates that losses are more widespread, and the enterprises are experiencing more losses irrespective of current customer base. A total of 47% of the enterprises noted that using retailers is resulting in significant loss where their ability to produce products to put in these retail outlets has diminished as COVID-19 continues to progress.

The Statistical Institute of Belize (SIB 2021) reported on how the pandemic has impacted the operations of businesses of the outer districts such as Orange Walk and Cayo. In most cases it has affected their ability to maintain customer relationships and the adequate workforce. Furthermore, the report cites cancellation of contracts of suppliers and customers as a high impact factor for businesses being negatively affected by the pandemic. With such, this report further substantiates these findings; it can be seen how agro-processors have lost revenue owing to bottlenecks along the supply chain and businesses diminished ability to produce their goods at normal ranges. Now, the outlook on growth via any of these customer base has equated to only minor growth, showing more than a 50% drop in growth potential since the first survey. SIB (2021) has reported that

the manufacturing sub-sector has seen a decrease of approximately 64.3% since March 2020.

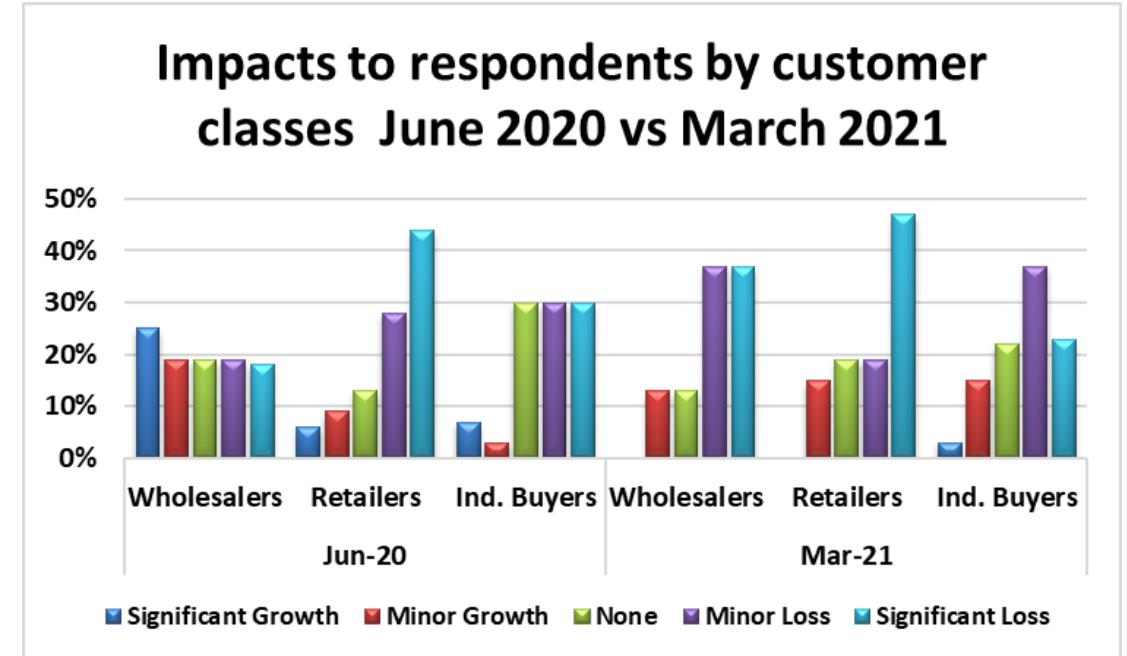


Figure 16

When the respondents were asked if the pandemic enabled them to access new customers or market segments, only 22% indicated that they gained new customers however the level growth is not considered to be significant.

Impact on distribution channels

Market Channels

Respondents were asked to identify the distribution channels that their businesses used before COVID-19. They were then asked to indicate whether they have gained any of the channels or experienced any challenges on their usual distribution channels.

The data showed that these enterprises incorporated more delivery into their business offerings. When compared to the June 2020 report, personal delivery increased from 76% to 82% and distribution through a domestic courier services such as BPMS and frontline

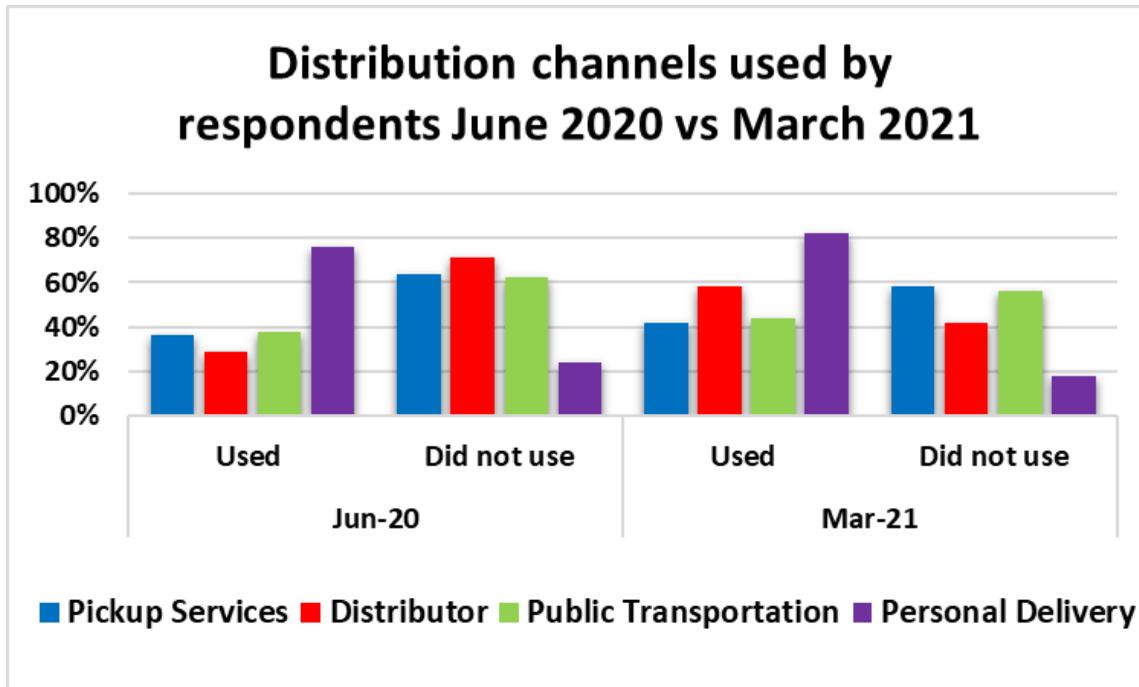


Figure 17

doubled to 58%. Overall, the data shows that more of the enterprises were using more than one type of distribution mechanisms to reach their customers.

A majority of the respondent (76%) indicated that they distributed their products via their own delivery services. Only 36% of the respondents offered pickup services from their place of business. Of all the enterprises, 38% use public transportation to distribute their products (primarily the micro enterprises) and 29% use a distributor such as BPMS or one of the airline carriers to send their products to customers. Businesses that used distributors belonged mostly to the small and medium enterprises.

The data also shows that since June 2020, there has been some stabilization for the distribution channels, where less enterprises have recorded that they have lost any of the mechanism they had previously used.

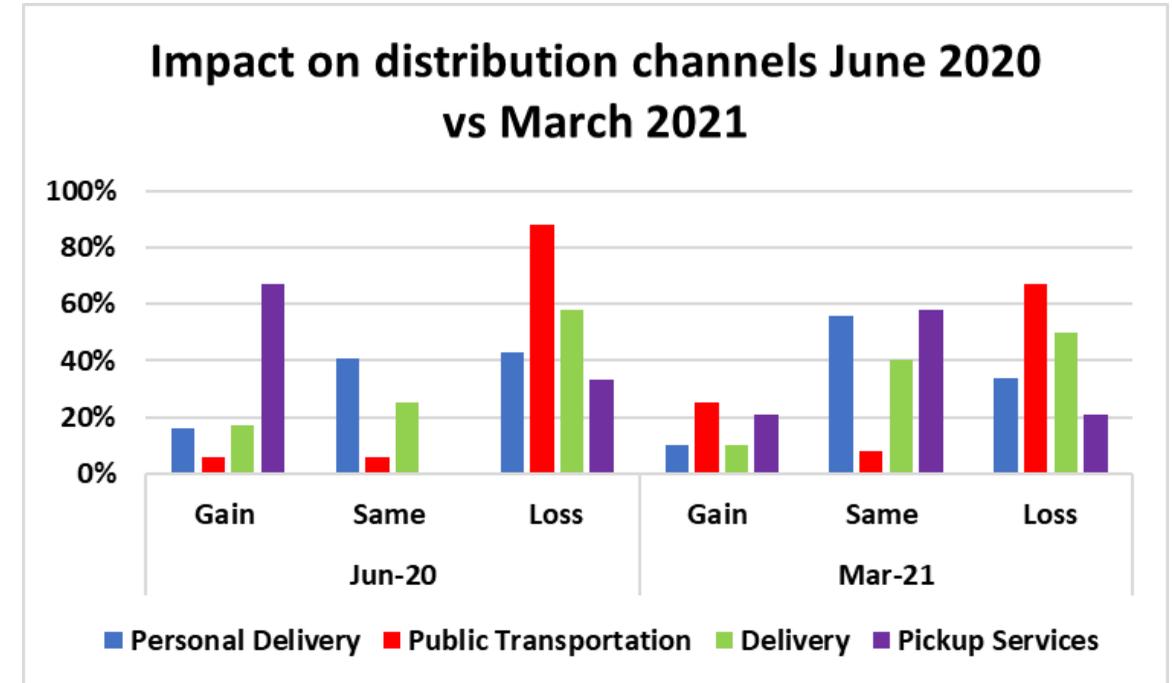


Figure 18

Market outlets lost during COVID-19

The number of places a business sells their products in can be used as a proxy to how much of their customers they are servicing. Usually a business removes their products from locations as result of poor consumer uptake. In most cases, when a business has a high demand for their product in each location, they will be likely to continue selling their products to that location. The variance between the number of places each business was selling their products in before COVID-19 and the number of places they were selling their product in during COVID-19, albeit other normal market factors, provide an insight on the gain/loss of customer reach each business experienced.

A total of 52% of the businesses recorded partial or total loss of their market segments, this value is unchanged since the previous survey. However, there is an increase in the number of respondents (10% to 22%) reporting that they have increased market access since the June 2020 report. An evaluation of the recurrent respondents and new respondents for this survey revealed that some of the enterprises interviewed in June 2020 have now seen some market growth.

There are some indications that since June 2020, most of the businesses are experiencing recovering market reach. The June 2020 report showed that on average, the enterprises that lost places they sold their products in, did so at an average of 5 places; however, currently the data shows improvement among the enterprises at an average rate of 3 places lost.

Recovery and Resiliency

A strategy to recovering from a disaster such the COVID-19 pandemic is to identify market needs and creating new products or to tap into new markets and developed a demand for your product.

This assessment was able to identify whether the sub-sector was showing any form of recovery and resiliency to the pandemic. Of the enterprises interviewed for this survey, 20% stated that they have created new products in response to market demands. COVID-19 allow many of the enterprises to service an acute demand for immunity boosters and cold/cough treatment drinks. Other products developed were frozen fruit drinks, hair products/cosmetics, peanut butter, pickled cucumber, and oils (wangla/sesame).

Further to this, some of these businesses (22%) have been able to sell their products in new locations. The businesses that have been able to do this belong to coconut-based and medicinal products. Important to note is that 9% of the enterprises evaluated in this study were newly established businesses.

The resilient capacity of the enterprises was explored by asking each of the respondents to describe how they viewed their respective business health. A majority (53%) described

their businesses as recovering. Meanwhile 36% saw their enterprises in a state of recovery and 11% were expecting to close their doors.

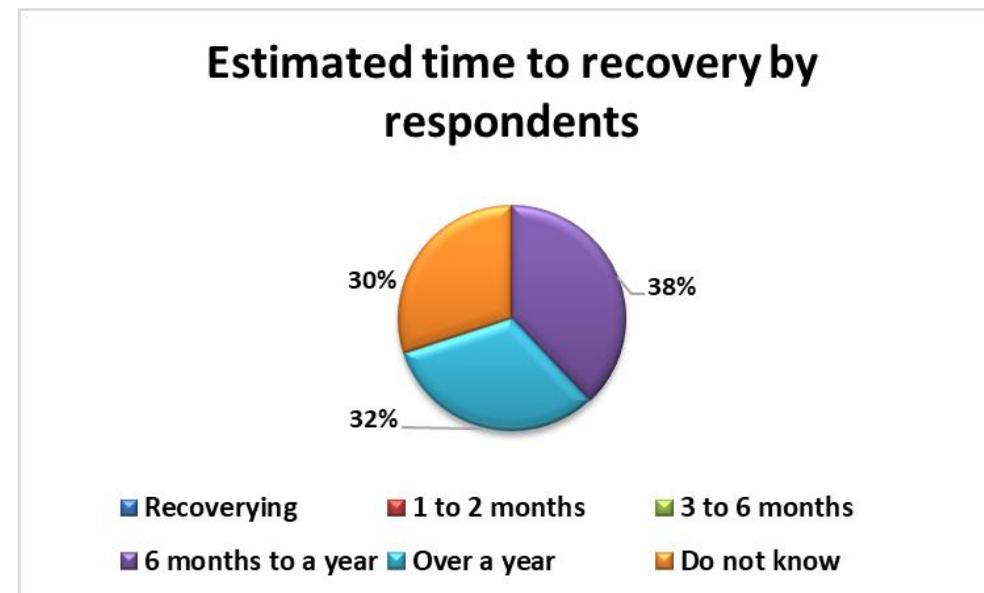


Figure 19

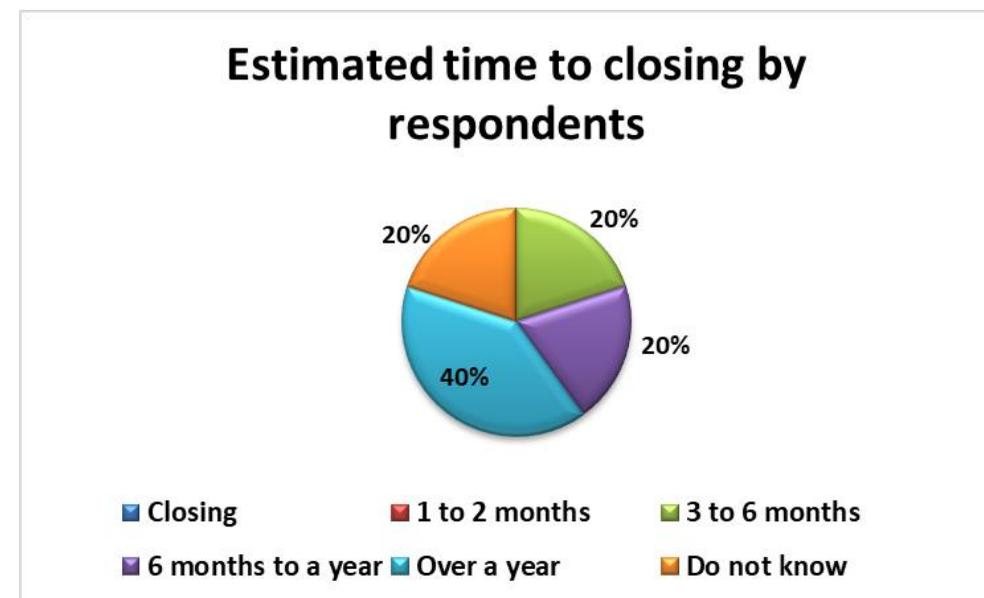


Figure 20

For those enterprises expecting full recovery, majority (70%) do not see it happening before 6 months. On the other hand, those enterprises that expect to be closing, had varying timeframes, 20% see closure being a reality within 3 to 6 months, another 20% believe they can survive more than 6 months but not more than a year, and 40% expect to survive for more than a year but still see closing as a very probable reality.

Planning and Finance

COVID-19 is an international anomaly and many of the MSME's showed great difficulty in developing a response plan quickly in the first survey. In fact only 12% indicated they had a plan in place to improve their business's ability to respond to risks associated with COVID-19. Since then, significant knowledge sharing has happened, with avid health and safety measure being coined and developed by various agencies, especially the health officials.

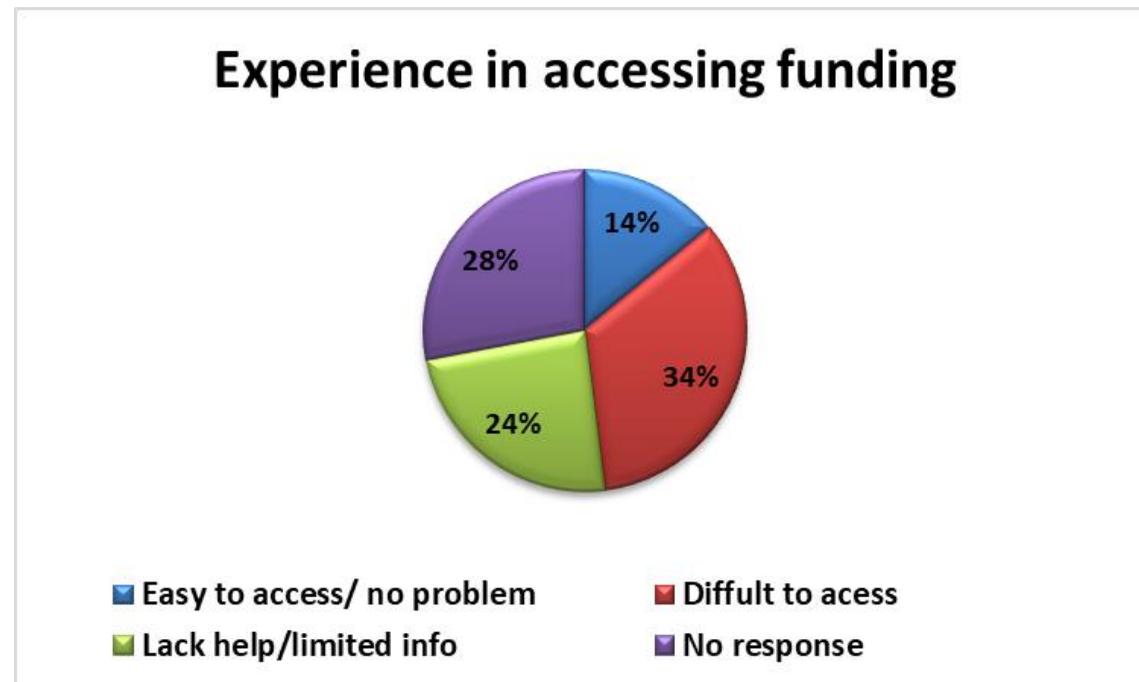


Figure 21

At the time of this assessment there has been a positive improvement since the first report and now over 62% of the respondents declared they now have some form of response plan in place.

Details gathered through the interviews showed that mitigation plans incorporate more than health and safety measures, but also include operational controls. Indeed, this indicates that these enterprises are rebounding with careful gatekeeping to minimize further social and economic losses. For example, to minimize possible contraction of the virus and to also control cost, some of the enterprises are now carrying out bulk delivery on specified dates of the month. Further to this, some of the plans described by the respondents showed intended investments in improved sanitization mechanism, including installation of handwashing stalls and provision of sanitizers when they engage in curb-side pickups. Other plans, include revisiting their production/processing procedures and working schedules to become more efficient and to protect their staff and customers.

These enterprises are still disproportionately at odds when it comes to receiving funding to stimulate their operations. Only (23%) declared that they had received any form of assistance funding since June 2020 for their businesses.

For those respondents that declared that they did not receive any form of funding for their businesses, 34% expressed that it is difficult to access, 24% stated that they have received limited help and information when applying for assistance. Only 14% stated that their experience was easy, and they did not have any problems.

For those that receive funding, the source included: BELTRAIDE, GOB loan, La Immaculada Credit Union, and Quickstop Loan. It should be noted that all the respondents that indicated they had a good experience with accessing funding were those that stated the source was BELTRAIDE and GOB Loan.

Resiliency and Gender

When resiliency is explored by gender, there are some clear differences in strategy and effect among the major genders.

From all the enterprises surveyed 55% were led by women, of these women led enterprises 82% are Micro, 10% are small, 4% are medium and 4% are large enterprises. In contrast of the enterprises led by men 90% are Micro, 5% are small, and 5% are medium.

Of all the businesses that had developed plans and implemented measures, 40% are led by women. A total of 80% of the businesses that have been able to access funding are led by women and 20% are led by men. Of the total rural enterprises 54% are led by women while 46% are led by men.

Overall, businesses that were owned/operated by males showed the following. An average of 88% of these enterprises did not experience any loss in employees and showed a minor trend of gaining an additional employee for some. These enterprises accounted for 22% of the businesses that were able to develop new products. Only 6% of these enterprises indicated that they were closing. However, males demonstrated that they were likely to use hard coping mechanisms to the impacts of COVID-19.

Most of the respondents (56%) that indicated that they would either keep their prices the same or increase were males. Further to this, when evaluating respondent's comments about how they would cope to a decrease or increase in demand of their product; males demonstrated that they have immediately looked at managing their cost of production more effectively or using cost cutting measures to mitigate against any losses or to improve on their overall efficiency.

Businesses that were owned/operated by females showed the following. An Average of 90% of these enterprises were losing their employees at an average rate of 1 employee per firm. These enterprises accounted for 78% of the businesses that were able to develop

new products. Approximately 18% of these enterprises stated that they believe they were closing in less than a year.

Female entrepreneurs demonstrated that they were likely to use soft measures to mitigate against the impacts of COVID-19. They account for 67% of the entrepreneurs that decreased their price to garner more sales. They also responded to demand changes by using social media and offering additional services such as personal delivery.

Estimated Economic impacts

The COVID-19 pandemic has led to the largest contraction in Belize in recent decades. It is estimated that the economy has contract by 15.5% in 2020³, owing to substantial declines in tourism, manufacturing and distribution combined with a previously expected decline in agriculture. Job losses in tourism, commerce, distribution, and other sectors have led to higher unemployment in 2020, which has carried over to 2021.

Economic policy response to COVID-19 has been driven by measures to contain the spread and economic damage from the pandemic. Programs such as the unemployment relief payout to those perceived to have lost their jobs due the pandemic and the MSME grants are geared towards enabling social and economic endurance of the COVID-19 effects.

The Statistical Institute of Belize (SIB) estimated that the manufacturing of food products and beverages (secondary industry) contributes approximately \$125.9M (BZD) to Belize's gross domestic product (GDP) in 2018 (SIB 2019). The Manufacturing of food products and beverages has been chosen for these estimates since the values represented in this sector are most closely related to the agro-processing sub-sector. This sector accounted for 6.6% of Belize's GDP in 2017 (SIB 2019). Furthermore, considering that secondary industries employ an estimated 26,744 persons (SIB 2019) and that the manufacturing of food products and beverages accounts for 31% of the total contribution of secondary industries, it can be estimated that the persons directly employed under the manufacturing

³ Preliminary Overview of the Economies of Latin America and the Caribbean ▪ 2020

of food products and beverages sector is 8,477 persons. These values (contribution to GDP and persons employed) represent only the contribution from manufacturing of food products and beverages and exclude those related to the manufacturing of textiles, petroleum, electricity and water supply, and construction.

Projected impacts for June 2020 to February 2021

- Using estimates from the SIB 2019 Annual Report, it is estimated that the manufacturing of food products and beverages would have provided an estimated value of \$94.4M during this period.
- The SIB's quarterly report estimated that output for this subsector fell as follows: **Quarter 2 (for reference of June 2020): 22.5%, Quarter 3: 7.7%, and Quarter 4: 11.2%**
- Using the average percentage loss in sales for the businesses evaluated in this study (14%), **the estimated decline in sales for this period is at \$13.2M.**
- Using the projected national contraction estimates granted continued impacts of COVID-19 on GDP, it is estimated that at **minimum a further \$16.3M** can be loss in sales granted the economic policies for the subsector do no take adequate effect (\$104.91 for Marc to Dec. 2021 at 15.5%)⁴
- **The estimated loss to micro and small enterprises and their associated business transactions is \$12.1M**, for the period. This estimated 13.2M decline in sales is expected to have caused a **\$3.96M loss in payrolls to employees**, using the standard benchmark of 30% of gross sales for manufacturing firms for payrolls expenses⁵.
- Impacts on jobs can be estimated at **2,627 jobs losses on agro-processing MSMEs during this period** due to the overall 31% decrease in employees between the period before and during COVID-19 recorded in this study.
- Using the 45% ratio of goods purchased from revenue for a standard food processing business, which is a part of cost of goods sold (COGS), it can be

estimated that the **value of raw agriculture inputs not purchased from farmers by the sub-sector amounts to \$5.94M for the period June 2020 to February 2021.**

- The impacts to suppliers (non-agricultural inputs) of agro-processors can be quantified at a **\$1.06M loss** for this period, using the remaining 8% of COGS.
- **Losses to businesses operated by women is estimated at a majority (\$7.3M)** of the total loss and those operated by males is estimated at \$5.9M.
- It is estimated that the losses to firms by sizes are as follows: **Micro- \$11.2M, Small: \$1M, Medium: \$0.5M, and Large: \$0.5M.**

Businesses, regardless of their size, are facing substantial losses and these businesses are further disadvantaged **by their difficulties in obtaining credit and an increased likelihood of insolvency.**

There have been severe impacts to rural residents and considering that 73% of the enterprises investigated for this study originated from rural settings, it can be estimated that **businesses from rural communities have experienced a loss of \$9.6M in sales.** This decline in sales is expected to have caused a **\$2.89M loss in payrolls to employees with a potential 1,917 jobs loss during this period.** All of this is leading to a **further growth in poverty and increased demand for the government to offer remedial aid**, all owing to the weakening of agro-processing businesses that are self-sustaining and job creators.

Micro businesses were the most affected by breakdown of distribution channels. Micro enterprises are primarily owned by women, they greatly marginalized and **disadvantaged** by limited funding facilities for credit to remain afloat, due the size of their businesses and the imminent downsizing caused by COVID-19.

Businesses affected by the changes brought about by COVID-19 can be grouped into three classes. The proportion of sales going to these customer groups and the intensity of

⁴ Preliminary Overview of the Economies of Latin America and the Caribbean ▪ 2020

⁵ <https://secondwindconsultants.com/resources/what-percent-of-your-revenue-should-be-spent-on-payroll/#:~:text=Start%20with%20the%20Industry%20Standard&text=Manufacturers%2C%20however%2C%20must%20maintain%20a,stay%20under%20the%2030%25%20benchmark.>

COVID-19 impact is present below, without considering the influence of other sales coming from other sectors to these businesses:

1. Wholesalers- 13% of agro-processors overall sales and are classified as the **least affected by COVID-19**.
2. Retailers- 39% of agro-processors overall sales and are classified as **moderately affected by COVID-19**.
3. Individual Buyers- 39% of agro-processors overall sales and are classified as the **most affected by COVID-19**.

There are clear signs of resiliency among primary industries, however; growth is highly dependent on specific inserts to tourism, as the sector reopens for visitors, with containment of the pandemic through therapeutics or vaccines. Agriculture is also expected to bounce back, bolstered by higher value added in crops and livestock production⁶.

It is expected that the impacts of COVID-19 will continue to affect the subsector in the immediate to medium term. However, the resiliency and innovative adaptation of the subsector must be acknowledged. The overall economic recovery of the country is expected to rely on the local processing subsector as the primary engine within the agriculture pillar.

Conclusion

As the masses continue to understand how to cope with the deadly COVID-19 virus, it is expected that an unceasing shift from being threaten by the pandemic to eventually taking full opportunity of the market needs it presents will be the reality. In the first iteration of this survey, there were strict measures in place for the period that was being evaluated. Further to that, many of the entrepreneurs and their respective employees were just being introduced to how to possibly address the challenges created by the crisis. While some of the same measures are still in place, such as social distancing, face mask wearing, and

crowding restrictions, a large majority of the general public have adapted to the lifestyle changes.

This review was able to capture 71% of the previously interviewed respondents from the sample populace of the first study. There has been a clear trend of downsizing for agri-businesses since the first review, where now a majority of the enterprises state that they are operating at micro-size business. Our findings on employees being laid off is consistent with that of the SIB's and this number is at a staggering 33%. Some of the major concerns highlighted relate to decreased productivity of the enterprises, significant decrease in demand for traditional agro-processed goods, and further losses being experienced along the supply chain as these enterprises loses customers.

Resiliency of the subsector is apparent and many of the enterprises demonstrated concrete signs of how they are currently dealing with these challenges, especially the decrease in demand and increasing cost of inputs. Further to that, there are emerging products and opportunistic product lines that demonstrate the strong adaptive capacity of the subsector.

Methodology

Respondents were randomly selected from a revised agro-processor database attained from the agro-processing unit of the Ministry of Agriculture. Selection was guided by a random stratification method with criteria of weighted average representation from the 6 districts, due to limited availability of consistent criterion types in the database. Data collection followed the form of structured telephone interviews for the period March 16 to 26, 2021.

Interview forms with responses were constantly reviewed to ensure that legitimacy and usefulness of data were being maintained by the enumerators. Data validation methods were built in the survey questionnaire and the data entry criteria in IBM SPSS, and later cross-referenced in MS Excel to minimize intentional and unintentional outliers.

⁶ Preliminary Overview of the Economies of Latin America and the Caribbean ▪ 2020

The data was analyzed using the built-in analysis packages of SPSS, where descriptive and correlation analysis were performed on the data according to location and size of the businesses, and for variances between the “non- COVID-19” and “COVID-19” periods. Qualitative analysis and interpretation included the standardization of non-representative data and the refinement of statement to match respondent’s views.



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