

Impacts of Covid 19 on MSMEs Food Processing Units in Indian State of Kerala: A Case Study

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Abstract

The COVID 19 virus epidemic has produced another era on the planet while people sort out the outcomes in various parts of everyday life. The COVID-19 pandemic has impacted all the sectors of the economy, especially the Micro Small Medium Enterprises (MSME) sector. The epidemic has created many challenges and an impact on production, supply chain, liquidity, demand, workers, etc. Considering a food industry, the business activities and supply of various food products have been suspended due to restrictions of demand, closing the food production facilities, and financial restrictions. The aim of this paper is to analyse the impacts of the COVID 19 pandemic on MSME food processing units in the Indian state of Kerala. The study uses the primary data for analysis that is represented as a questionnaire. The questionnaire is distributed to the 600 MSME managers to identify the impacts faced by the MSMEs during COVID 19. The results indicated that COVID-19 has major impacts on the performance of MSME food processing units in Kerala, such as layoffs of workers, reduction of working hours and salary, difficulties in accessing raw materials, decreasing production levels, individual capital difficulties, marketing difficulties, and administrative procedures.

Keywords: COVID 19, Pandemic, Impacts of COVID 19, Micro Small Medium Enterprises (MSME), Indian economy, Food, Supply chain.

I. INTRODUCTION

The global economy is more interconnected in recent times. This interconnection is the leading cause of the rapid spread of the new and foremost human tragedy COVID-19 originated from Wuhan, China [1]. COVID-19 pandemic is the greatest challenge that the world has faced after world war II. The virus is spreading like a forest fire. Even the developed countries are helpless. The number of positive cases and the death toll is increasing day by day [2]. Nearly 162 countries are decidedly going into lockdown, and businesses across the world are operating their works in fear of an impending collapse of global financial markets. This situation, clubbed with slowdown economic growth in the previous year, especially in a

developing country like India, is leading to extremely uncomfortable with current market conditions [3]. The Indian government declared a nationwide lockdown in the third week of March 2020 and continued it for a couple of months. This lockdown adversely impacted the mobility and functioning of economic and business activities [4, 5].

A huge adverse effect had been seen in the employment sector, a huge fall in GDP growth rate, production and distribution of goods and services, and start-ups [6]. The impact of COVID 19 can be said to have two kinds of shocks on countries: a health shock and an economic shock. Both of these shocks lead a country towards the dark side [7]. There are several sectors that have been hit the worst by

this pandemic. Agriculture, healthcare, and MSMEs are just a few to be listed. Amongst all these, MSME requires a special mention since it is this sector that employs nearly about 114 million people and contributes 30% to the Indian GDP [8]. MSME sector in India is the second employment generator after agriculture. It acts as a ground for entrepreneurs and innovators with substantial support in strengthening the business ecosystem [9]. MSME sectors include micro-enterprises that incur annual turnover worth below Rs. 5 crore, small enterprises with turnover worth between Rs. 5 crore and Rs. 75 crore, and medium enterprises with an annual turnover below Rs. 250 crore [10]. Constituting the backbones of an economy in maintaining an appreciable growth rate and in generating employment opportunities, MSMEs have been regarded as a major ingredient in any viable long-run development strategy, as an engine of socio-economic development, both in developed and developing countries [11].

Thousands of MSME actors have reported being very seriously affected by this pandemic. Their business is reported to have decreased by up to 56%. Another estimate indicates that between 19% to 43% of MSMEs might have closed down due to lock-down. On the other side, unemployment increased during lock-down which continued in the post-lock-down period [12]. In addition to decreasing income, these MSME actors also experienced difficulties in financing, distribution, and obtaining raw materials [13]. A massive percentage as high as 43% of these enterprises lay in troubled waters facing shut down forever. The 45% of Indian exports handed out by Micro, small and medium enterprises is also hindered due to production [14]. Many steps to curtail the outbreak, such as travel bans, closure of malls, theatres, and educational institutions have led to widespread disruptions in economic activity, which in turn has hampered the business operations of the MSMEs [15]. The challenges faced by MSMEs during COVID 19 pandemic is shown in figure 1.

CHALLENGES FOR MSMEs DURING THE COVID-19 PANDEMIC

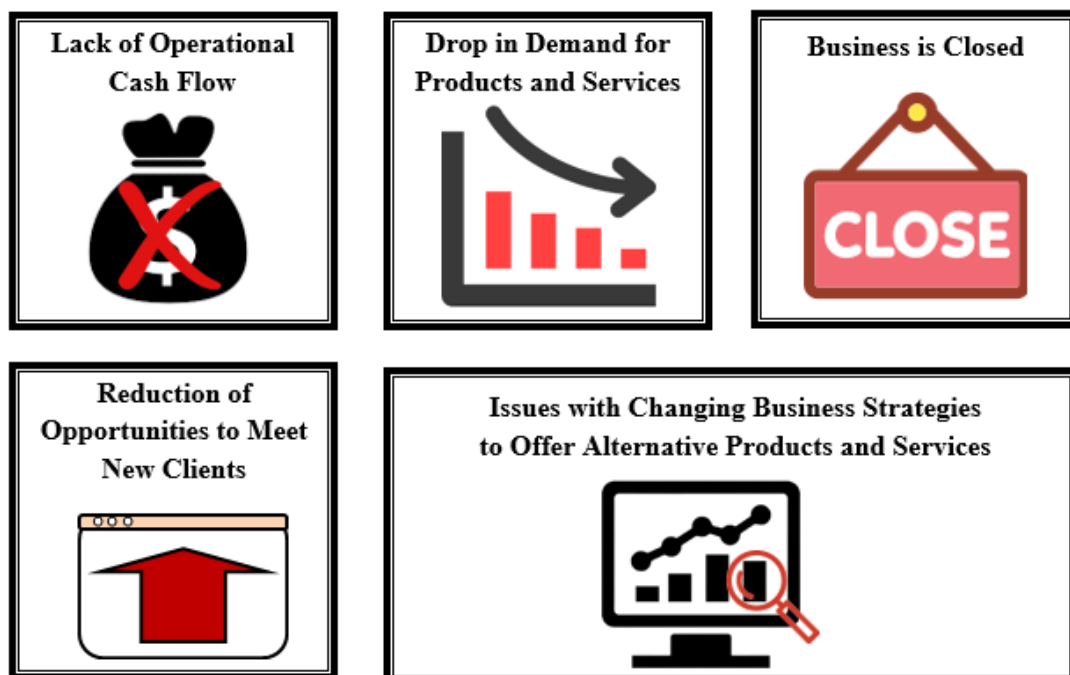


Figure 1: Challenges of MSMEs during COVID 19

Amongst all MSME, food processing units are one of the most important sectors of the country's economy, it has been seen that COVID-19 has an impact on the whole process from the field to the consumer. COVID-19 resulted in the movement restrictions of workers, changes in demand of consumers, closure of food production facilities, restricted food trade policies, and financial pressures in the food supply chain. Facilities should change the working conditions and maintain the health and safety of employees by altering safety measures. So, each country must realize the severity of the situation and sometimes should tighten or loosen the measures according to the spread of the pandemic. The aim of this paper is to study the impact of COVID 19 on food processing MSMEs in Kerala and to summarize the recommendations required to reduce and control the effect of the pandemic.

The draft structure of the paper is listed as follows: section 2 presents the related work, section 3 presents the research methodology, and section 4 ends with the conclusion.

II. RELATED WORK

This section reviews the recent methodologies presented to analyse the impacts of COVID 19 on MSME sectors.

Elaine Lilly Sajan [16] analysed and evaluated the performance of the MSMEs during the pre-COVID and post-COVID periods and how has it affected the Indian economy. The study was focused on studying the repercussions and stock performances of the Indian MSME for which secondary data was collected from the Government website of MSMEs, WTO, and NSE's Website. The results showed that there had been a drastic fall in the prices of the shares of the sector and their performances were comparatively low with that of the pre-lockdown phase. **Mohsin Shaf et al.** [17] assessed the impact of the COVID-19 outbreak on MSMEs in Pakistan. An exploratory methodology was adopted by comprehensively reviewing the available literature, including policy documents, research papers, and reports in the relevant field. Further, to add empirical

evidence, data was collected from 184 Pakistani MSMEs by administering an online questionnaire. The data were analysed through descriptive statistics. The results indicated that most of the participating enterprises had been severely affected, and they are facing several issues, such as financial, supply chain disruption, decrease in demand, reduction in sales and profit, among others. Further, more than two-thirds of participating enterprises reported that they could not survive if the lockdown lasted more than two months. **Oscarius Yudhi Ari Wijaya** [18] presented the impact of Covid-19 on MSMEs in East Java Province, Indonesia. From interviews with several informants namely MSME entrepreneurs and conducting literature studies, it was found that a pandemic, such as Covid-19 had a very significant impact on reducing sales revenue from MSME entrepreneurs even by up to 80%. The research found that the impact of the pandemic was very large on the economy due to a sharp fall in sales revenue and excessive concern will worsen the impact of the pandemic which could result in worsening economic conditions on a more massive scale. **Pravakar Sahoo and Ashwani** [19] presented an assessment of COVID-19 on the Indian economy by analysing its impact on the growth, manufacturing, trade, and micro, small and medium enterprises (MSME) sector, and highlighted key policy measures to control the possible fallout in the economy. The impact was severe on trade, manufacturing, and MSME sectors. The likely impact (deceleration) of COVID-19 from best-case scenario to worst scenario was as follows: manufacturing sector might shrink from 5.5 to 20 percent, exports from 13.7 to 20.8 percent, imports from 17.3 to 25 percent, and MSME net value added (NVA) from 2.1 to 5.7 percent in 2020 over the previous year. The economy was heading towards a recession and the situation demands systematic, well-targeted, and aggressive fiscal-monetary stimulus measures. **Amritha Hariharan et al.** [20] assessed the impact of the Covid-19 outbreak on Kerala MSMEs from majorly affected 5 sectors to understand the

impact of immediate responses by the government and the reliefs it offered to finally end with major understandings from the data collected. The data was collected from 26 Kerala MSME through direct and telephone interviews. The result indicated that all sectors were financially impacted and understood that these five sectors were severely affected due to the pandemic-related challenges and still it continued by facing various problems.

The above studies focused on identifying the impacts of MSMEs in an overall manner and the studies for Indian country was limited. In addition, none of them considered the impacts of the pandemic on food processing MSME. In the Indian economy, the role of food processing units was very important. The significance of food industries lied in the fact that they created employment opportunities, mobilized investible resources from the rural sector, promoted agricultural production, made use of local resources, add value to the farm products, improved quality, achieved efficient marketing, and combated rural-urban migration. The food processing industry in India had emerged as one of the important segments in terms of its contribution to the Indian economy, as it contributed 9% and 11% of GDP in the manufacturing and agriculture sectors respectively. So, this paper analysed the impacts of the COVID 19 pandemic on food processing MSME in Kerala.

III. RESEARCH METHODOLOGY

The objectives of the paper are to (a) attempt a literature review on the potential impacts of the Covid-19 on the MSME food processing sectors, (b) present a case analysis of the food processing sector, and (c) understand the crisis management approaches adopted by the food sector during the pandemic period. The primary data was collected for analysing the satisfaction level of the MSME operators and problems faced by them during the lockdown. This data was collected through distributing questionnaires to several small and medium enterprises and through personal interviews. Data was gathered from 200 MSME units. The respondents are the managers of the food

processing MSME. This study distributed the questionnaires' to the 600 respondents who owned or managed the MSMEs food processing units. On that, only 189 persons were fully responded, so the final respondents considered for this study is 189. The demographic characteristics of the surveyed participants are shown in table 1.

Table 1: Demographic characteristics of the surveyed participants

Demographic characteristics	Number of respondents (N)	Percentage (%)
Age		
<25 years	62	11.29
26-35 years	156	28.42
36-45 years	143	26.05
46-60 years	132	24.04
>60 years	56	10.2
Gender		
Male	367	66.85
Female	182	33.15
Marital status		
Single	460	83.79
Married	89	16.21
Qualification		
Undergraduate	236	42.99
Postgraduate	186	33.88
Doctoral	26	4.74
Diploma	89	16.21
High school	12	2.19

From table 1, it was observed that most of the people (28.42%) who participated in the survey are in the age group of 26-35 years followed by 36-45 years (26.05%), 46-60 years (24.04%), <25 years (11.29%), and >60 years (10.2%). Out of 549 respondents, 367 were male and 182 respondents were female. When seeing the marital status of the respondents, 83.79% of participants were married and 16.21% of participants were single or unmarried. Totally 236 persons were qualified with under-graduation followed by post-graduation (186), diploma (89), doctoral (26), and high school (12). The education details of the participated respondents are also shown in figure 2.

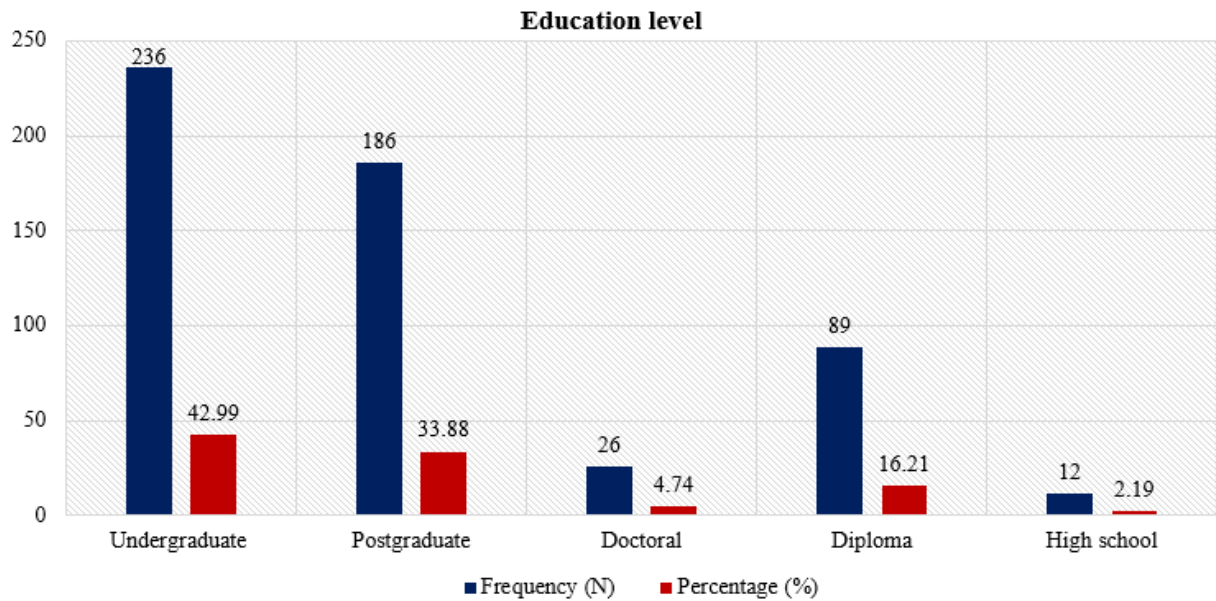


Figure 2: Education details of the respondents

The major food categories of the surveyed MSME are shown in figure 3. The main food categories represented are grains (17.85%), vegetables (16.76%), fruit (15.12%), and fish (12.75%), dairy (11.83%), eggs (8.74%), meat

(6.56), baked goods, and other ready to eat foods (3.46%), beverages (2.92%) and other food categories (4.01%) which includes Legumes (beans, lentils, peas), Condiments, sweeteners, spices, and oils and Nuts or seeds.

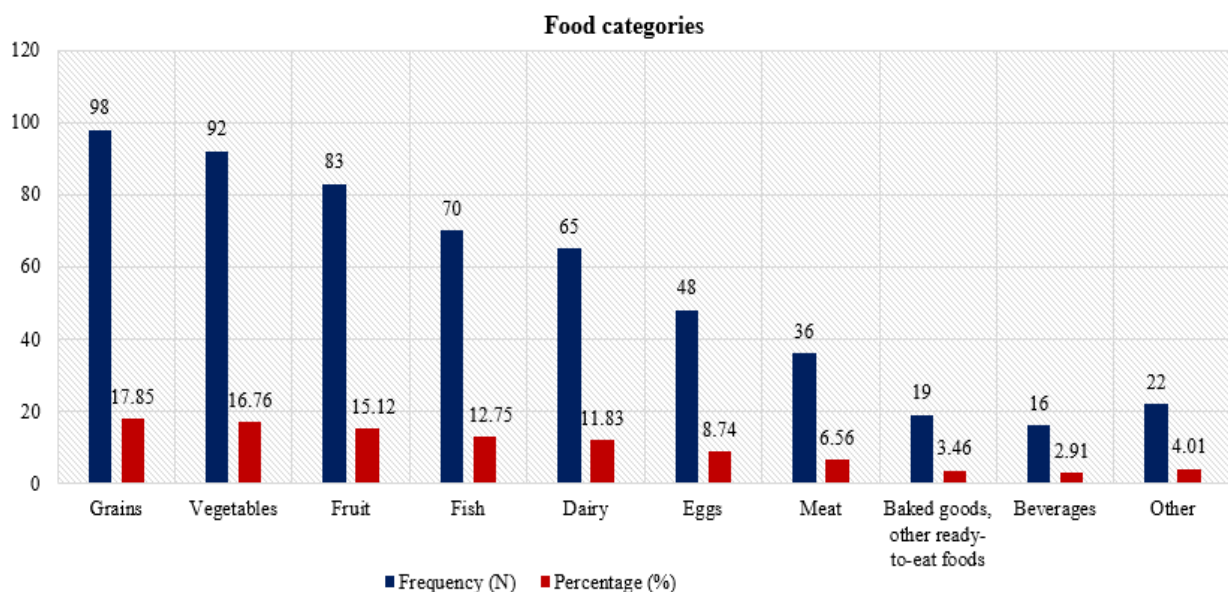


Figure 3: Food categories of the surveyed MSMEs

When analysing the impact of COVID 19 on the enforcement of MSMEs food processing units in Kerala, several variables are used, such as Layoffs, raw materials, production, capital, technology, marketing, administrative procedures as well as education and training. 28.05% of MSMEs food units had layoffs

(Termination of Employment). The biggest reason why these MSMEs decided to lay off workers was that there was no production process during COVID-19 so there was less income to pay their workers. Interestingly, 13.84% of them decided to lay off more than 80% of their workers. That decision was most

taken by MSME catering. These MSME almost had production fatalities due to restrictions from the government not to gather the masses, so the activities such as celebrations were prohibited. Even though, those activities were the biggest consumers of catering. When analysing the responses for the reduction of working hours, it can be seen that 65.57% of sample MSMEs food units decided to reduce working hours, 34.43% of them reduced working hours for greater than 6 hours. The MSMEs made that decision because when there was COVID-19, they used a shift system for their workers.

Table 2: Impact of COVID-19 on MSME workers

Variables	Number of frequency (N)	Percentage (%)
Layoffs (End of Employment)		
Do not have workers	154	28.05
There are no layoffs	45	8.2
0% to 20% of total workers	158	28.78
21% to 40% of total workers	116	21.13
>80% of total workers	76	13.84
Average reduction of working hours		
Do not have workers (done by family)	154	28.05
There is no reduction in working hours	35	6.38
1 to 2 hours	48	8.74
3 to 4 hours	123	22.40
>6 hours	189	34.43
Salary reduction of employees		
There is no reduction in salary	78	14.21
<500	118	21.49
500 to 1000	154	28.05
Above 1000	199	36.25

In total, 8.74% of MSME reduce the working hours of 1 to 2 hours for their employees, and 22.40% of MSMEs reduce the working hours of 3 to 4 hours for their employees. The salary reduction during the COVID period was also analysed in MSME. It was observed that only 14.21% of MSMEs are not reducing their employee's salaries, 36.25% of MSMEs reducing the salary amount of above 1000, 28.05% reducing the salary amount from 500 to 1000, and 21.49% of MSMEs reducing the amount of less than 500 for their employees. Because of less production and sales, the salary decrement of employees has occurred during COVID 19. The diagrammatic representation of table 2 is shown in figure 4.

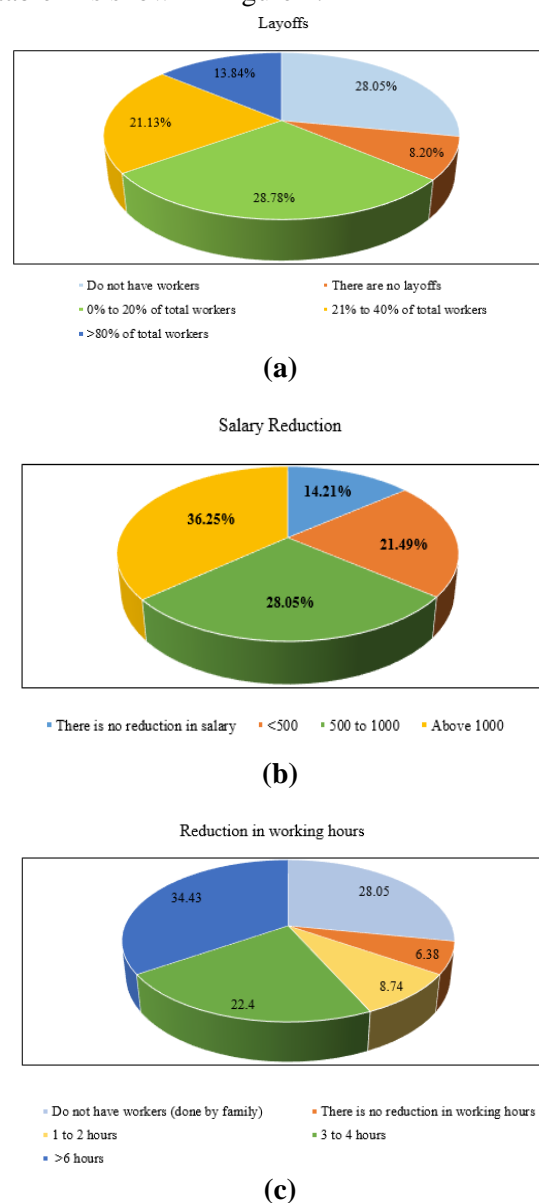


Figure 4: Impacts of COVID-19 on workers

The valuation impact of COVID-19 on raw materials can be analysed from several sub-variables like access to raw materials and delays in meeting raw materials. The following are the explanations impact of MSMEs in each of the sub-variables. Firstly, the respondents were asked for the level of fulfilment for accessing the raw materials. The results show that majority of the MSMEs, 242 (44.08%) faces difficulty accessing the raw materials. There were many reasons why raw materials were difficult to access during the COVID-19 pandemic, such as raw material suppliers closing their businesses and access to markets were also difficult. Even during the early days of the COVID-19 pandemic, there was a shortage of raw materials, such as herbs plants, and there were many enthusiasts so there was a struggle for raw materials. Behind the difficulty to fulfil raw materials, there were 29.69% of MSMEs felt easy to access their raw materials. Most of these MSMEs already have regular subscriptions so they were easy to fulfil. There were also MSMEs that had strategic locations like the proximity of the house to the market so that access overly became a problem. In total, 17.85% of MSMEs felt neutral level and 8.38% of MSMEs felt very difficult for accessing their raw materials.

Table 3: Impact of COVID-19 on MSME raw materials

	Frequency (N)	Percentage (%)
Access to raw materials		
Very difficult	46	8.38
Difficult	242	44.08
Neutral	98	17.85
Easy	163	29.69
Very easy	-	-
Delay to fulfill raw materials		
Very often	56	10.20
Often	163	29.69
Neutral	152	27.69
Safe	136	24.77
Very safe	42	7.65

The difficulties to access raw materials usually cause delayed fulfilment. In total, 10.20% delays very often to fulfil their raw materials, 29.69% delays often, 27.69% felt neutral delay, 24.77% felt safe, and 7.65% felt very safe to fulfil their raw materials. Some MSMEs not facing any delay to fulfil their raw materials, because many MSMEs deliberately stocked raw materials. Even though there were no stocks of raw materials in the Kerala market, the MSMEs will look for alternative ways by looking at the other markets. Another reason that made the fulfilment of raw materials neutral when there is a pandemic is that there were no orders entered so the MSME felt there was no influence between raw materials with the pandemic crisis. The diagrammatic illustration of table 3 is shown in figure 5.

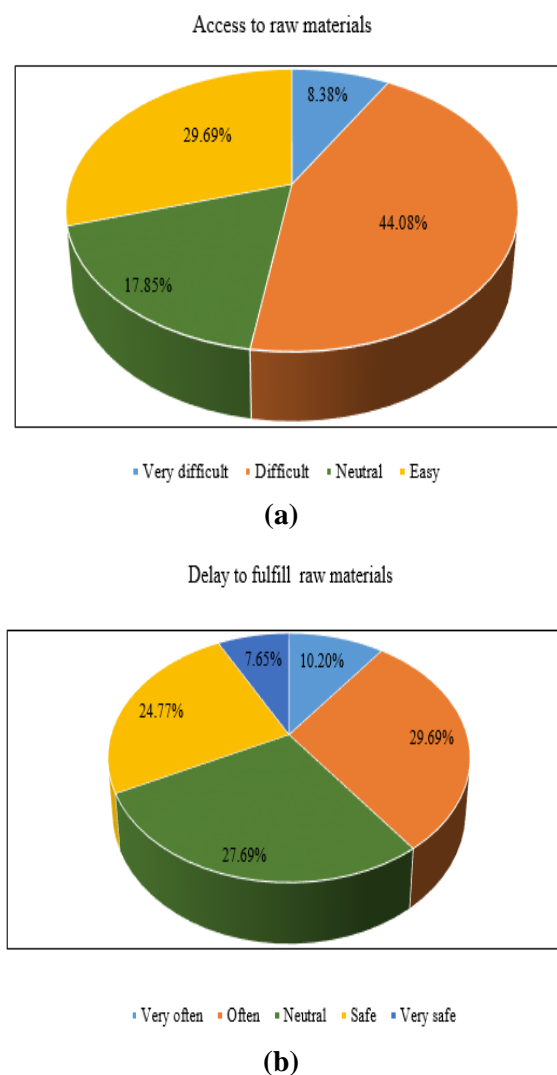


Figure 5: Impact of COVID-19 on MSME raw materials

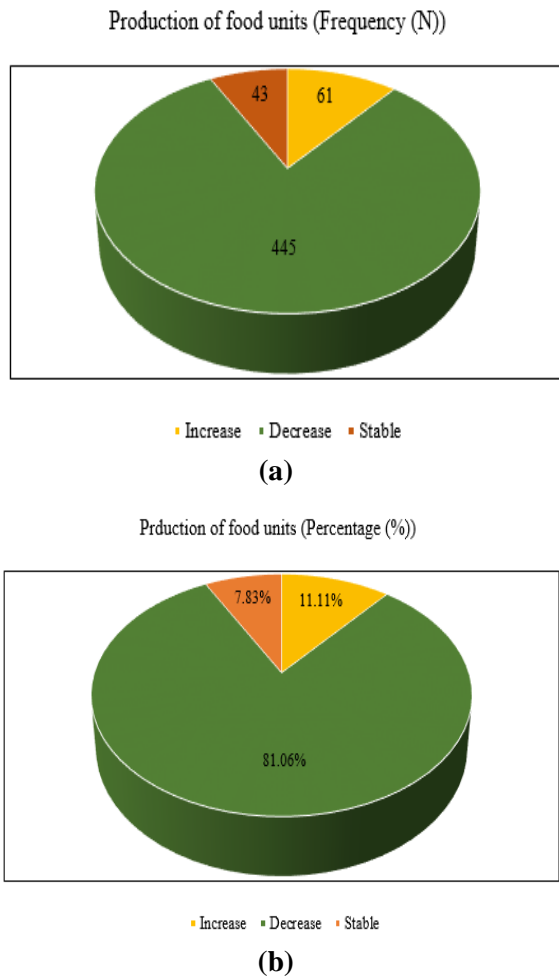


Figure 6: Production level of MSMEs food processing units after COVID 19

The impact of COVID-19 on the production of MSMEs food processing units can be analysed from several sub-variables, such as increase or decrease in the amount of production, increase in production costs, and increase in energy costs. Figure 6 shows the production level of MSME after COVID 19. It was observed that the majority of the MSME faces a decreased production level (81.06%) during this pandemic. However, 11.11% of sample MSMEs had increased production levels and 7.83% of MSMEs maintained a stable level of productivity. This situation occurred in MSMEs that produce instant herbal medicine (white turmeric, ginger, red ginger) that is because now people are required to always maintain their stamina to avoid the COVID-19 virus. That was the reason why the production of herbal medicine increased. Figure 7 shows the percentage of increase and decrease in the production of MSMEs food units in Kerala.

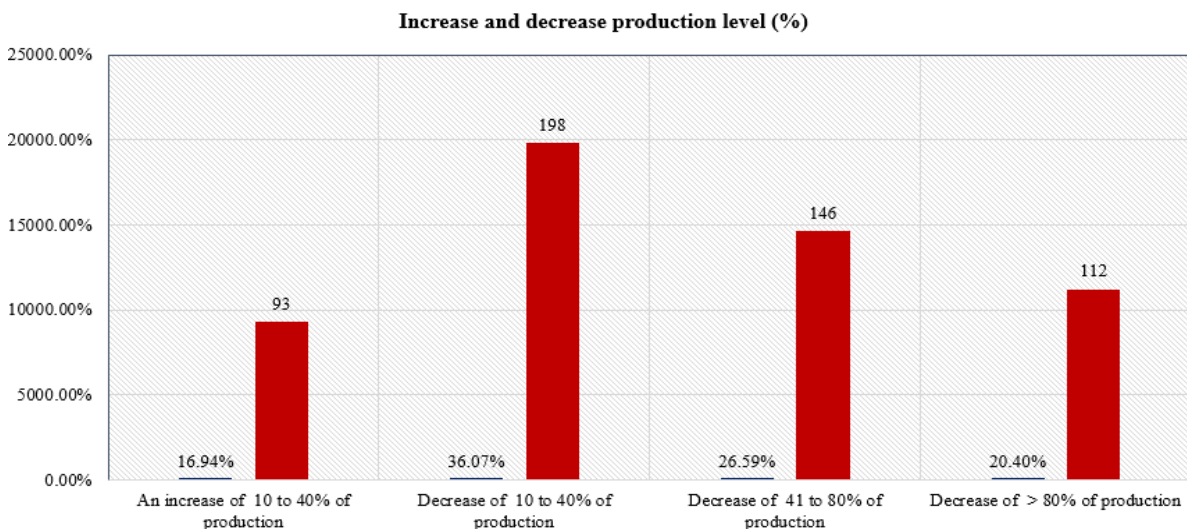


Figure 7: Percentage of increase and decrease production level of MSMEs food units

Figure 7 shows that there were several levels of percentage increase and decrease in the number of MSME production. The majority of the MSMEs faces a decreased level of production, only a few 16.94% of MSMEs face the

increased level of production that is the MSMEs who produced instant herbal medicine (white turmeric, ginger, red ginger). In the production process of MSMEs, energy is one of the supporting parameters. In MSME, the

energy used was PLN electricity, PDAM, and LPG GAS. The following figure 8 shows the condition of energy costs during the COVID-19 pandemic. From figure 8, it was observed that 50.27% of sample MSMEs did not have any increasing or decreasing energy costs, while 27.8% of sample MSMEs had increasing energy costs from 0% to 20% of initial cost, 14.21% of sample MSMEs had increasing energy costs from 41% to 60%, and 7.65% of sample MSMEs had decreasing energy costs from 0% to 20%.

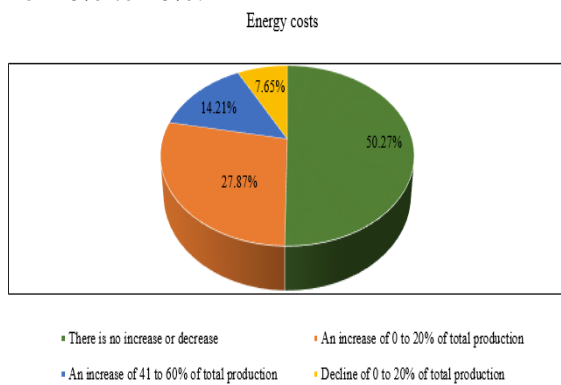


Figure 8: Increasing energy costs of MSMEs food units

The impact of COVID-19 on MSMEs capital can be seen from several sub-variables like access to formal capital, access to non-formal capital, and individual capital. Based on figure 9, it is known that 73.78% of sample MSMEs food units managed their business with capital from themselves, 17.9% of sample MSMEs had source capital from formal capital, such as banks, state-owned companies, and 8.38% of them used non-formal capital to manage their MSMEs, such as family loans, lottery club, and others source.

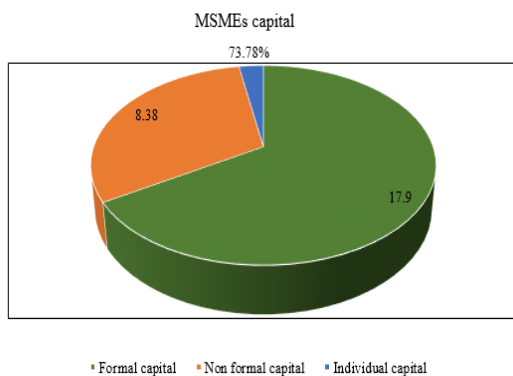


Figure 9: Impacts of COVID 19 on MSMEs capital

The difficult level of MSMEs to access capital during COVID 19 is tabulated in table 4. For accessing formal capital, it was known that 38% of MSMEs who used formal capital, such as banks were classified as neutral, which meant there was no influence of COVID-19 on access to formal capital. Meanwhile, another 16% of MSMEs found it was very difficult, and 40% of MSMEs found that it was difficult because of production fluctuation. Informal capital loans, such as individual funds, family, friends, and money lenders also had little impact on the COVID-19.

Table 4: Difficult level of MSMEs to access capital

Variables	Percentage (%)
Access to formal capital	
Very difficult	16
Difficult	40
Neutral	38
Easy	4
Very easy	2
Access to informal capital	
Very difficult	2
Difficult	6
Neutral	8
Easy	69
Very easy	15
Access to individual capital	
Very difficult	2
Difficult	15
Neutral	46
Easy	32
Very easy	5

As much as 69% from Kerala MSMEs felt easy to obtain informal loans, and 15% felt easy to obtain informal loans that meant there was no influence of COVID-19 on access to informal capital. During the COVID-19 pandemic, access to convenience in obtaining individual capital was sometimes difficult and sometimes easy. It was observed that 46% of MSMEs owners who used personal capital felt neutral for accessing personal capital, 32% felt easy, and 5% felt very easy to access personal capital. The reason is that they were able to manage

money during the pandemic. However, some MSMEs found it difficult to obtain their personal capital. 2% of MSMEs owners found it very difficult to get personal capital and 15% felt difficult to access personal capital because there was no income during the COVID-19 pandemic.

The impacts of COVID 19 on Msme’s marketing condition in terms of percentage level was shown in figure 10. From the figure, it was observed that during the COVID-19 pandemic, the marketing of MSMEs products was very difficult. In total, 72.36% of sample MSMEs evidenced that marketing in the pandemic era was difficult and 15.28% of MSMEs felt difficult to market their products. Only 12.36% of MSMEs felt neutrality for marketing their products, other than that no MSMEs felt easy for marketing. This was because of the decreasing number of consumers, and it was caused by the low trust of public consumers in food from outside the home.

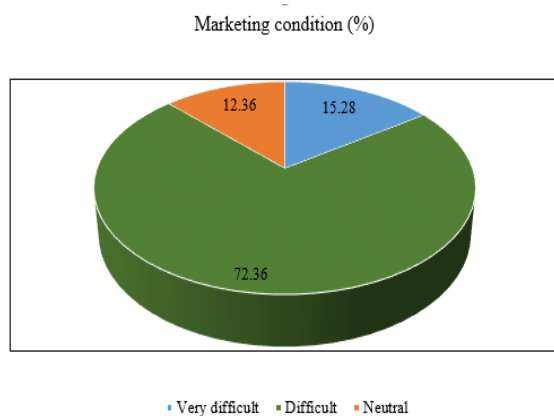


Figure 10: Marketing condition of the MSMEs during COVID 19

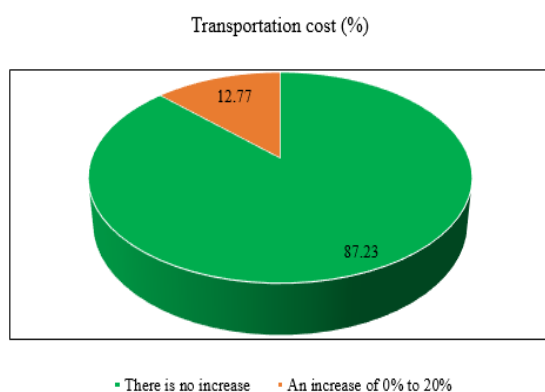


Figure 11: Transportation cost MSMEs during COVID 19

The impact of COVID-19 on marketing can also be seen in increasing transportation costs when marketing the MSMEs products, and the impact is shown in figure 11. From the figure, it was observed that 87.23% of MSMEs said that there were no increasing transportation costs. Meanwhile, 12.36% of MSMEs told that the presence of COVID-19 had increased transportation costs in marketing their products. This was because of the COVID-19 pandemic. MSMEs owners felt unsafe when delivering the orders by themselves, so these owners took action by using delivery services, so there were additional transportation costs. For developing the MSMEs food processing units, there must be several administrative stages that should be taken by the companies. The conditions of administrative procedures during the COVID-19 pandemic are shown in figure 12.

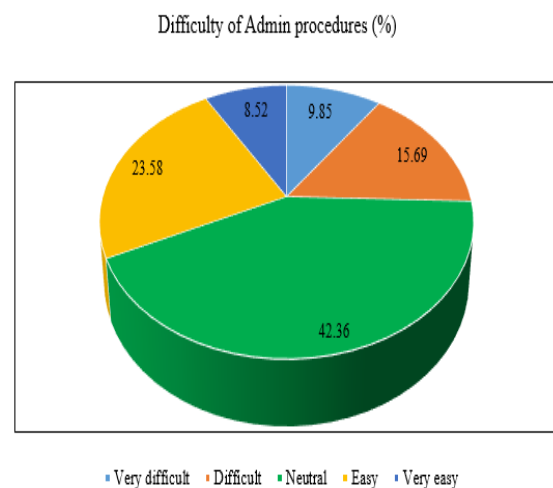


Figure 12: Impacts of admin procedures during COVID 19

It was observed that 42.36% of MSMEs felt that there was no influence of COVID-19 due to Msme's administrative procedures, which meant that administrative procedures remained neutral. On the other hand, 15.69% of MSMEs and 9.85% of MSMEs found it difficult and very difficult to fulfil administrative procedures during a pandemic. This was because the system has moved completely online. Some MSMEs owners weren't technology savvy, so they felt the complexity.

IV. CONCLUSION

This paper presented a research model to analyze the impacts of COVID 19 on MSME food processing units in the Indian state of Kerala. These food MSME sectors consist of various variations, such as cake processing, seafood cracker processing, herbal medicine production, catering business, etc. Based on the conducted study and results, it was observed that COVID-19 has a major impact on the food units of MSME in Kerala, such as employee's layoffs, reduction in working hours and salary, difficulties in the access of raw materials, decreased production levels, hard to obtain individual capital, hard to market the food products, and hard to maintain administrative procedures. It was recommended that food processing units should concentrate on facilities like maintenance of employees' safety and health, change of conditions in working for improving their productivity level. In the future, this work will be extended by identifying the pandemic impacts on other MSME sectors in the Kerala state.

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