

# A SYSTEMATIC REVIEW ON THE EFFECTS OF THE COVID-19 PANDEMIC ON THE FOOD SECURITY IN MALAYSIA

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## 1. INTRODUCTION

The COVID-19 pandemic had provided many adverse effects on the economies of many countries and individuals around the world. Economic downturns always led to a rising rate of hunger. World Bank (2021) reported that as of April 2021, around 296 million individuals are experiencing food insufficiency, an increment of 111 million more individuals if compared to April 2020, based on the data obtained in 35 countries where the World Food Programme works. Additionally, the United Nations Food and Agriculture Organization (FAO) estimates that the case of undernourishment increased drastically by 82 to 132 million people in 2020 due to the COVID-19 pandemic (Elias & Jambor, 2021). This scenario showed how severe the consequences of the COVID-19 pandemic are to the food security threat, especially in the availability dimension. The number of people encountering a heightened level of food insecurity in 2020 and 2021 is anticipated to have radically increased. Hence, the threat to food availability in the post-COVID-19 era is an unpredictable phenomenon and has a robust effect on global food security. This threat might contribute to rising numbers of hunger and under-nutrition, leading to adverse health-related consequences acute effect on livelihood caused by the COVID-19 pandemic is a phenomenon that happened globally, affecting the world socially and economically, creating a threat to food security, and does not spare Malaysia.

### 1.2 COVID-19 and Food Security

As the food security issue is too wide to be covered in a single study, the main problem addressed in this paper is focused on how COVID-19 affected food security, specifically on the food availability dimension at the national level. Availability is defined as when there is a sufficiency in the entire physical existence of the locally produced food, combined with the numbers of imported food and stockpiled food in required quantities based on the specific country's needs (FAO, 2021). This review paper intended to understand the impacts that the COVID-19 pandemic brings that might directly threaten global food availability from the perspective of Malaysia economically.

## 2. METHODOLOGY

The method used in this review to retrieve articles related to the effects of the COVID-19 pandemic on food availability is Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020. The application of the PRISMA 2020 Statement includes reviewing sources from Malaysia's Ministry of Agriculture and Food Industries database, Google Scholar, Scopus, and Web of Science using basic key terms, i.e., COVID-19, food

security, and Malaysia. Search results were not limited to a specific time frame, but apparently, the earliest publication on this topic was in August 2020, and the latest was in June 2021. Sources were then reduced by filtering the eligibility criteria step by step along the review process. Relevant data were extracted and analysed.

## 2.1 PRISMA 2020 Statement

PRISMA is a trend for a systematic review that is first popular among scholars in medicine and started expanding to social science scholars. PRISMA Statement was first published in 2009, in which it was an updated guideline from the 1999 Quality of Reporting of Meta-Analyses (QUOROM) Statement. The PRISMA 2020 Statement then replaced the 2009 statement and included new reporting guidance reflecting advances in identifying, selecting, appraising, and synthesizing studies. The new PRISMA guideline comprises four types of flow diagrams that illustrate the movement of information through the various stages of a systematic review comprising three vital steps, namely identification, screening, and inclusion (Page et al., 2021). The available type of template for new systematic review, which included searches of databases, registers, and other sources, was chosen for this study.

## 2.2 Reporting Bias Assessment

Reporting biases might affect the validity and reliability of systematic review findings. For instance, a researcher can influence the results of a particular work to get the desired outcome. However, that researcher had compromised the impartiality of the study and the value of the results by doing so. Another risk of bias is missing results in the synthesis process of the review. It might cause systematic distortion which arises from the selective disclosure or withholding of information by parties involved. In this study, the dual review was employed by having every researcher assess the inclusion of the materials independently.

## 3. RESULTS AND DISCUSSION

At the end of the included stage, the eight eligible articles are assessed and analyzed before categorizing the empirical studies' findings into three emerging main themes of threats to food availability, *i.e.*, (i) agricultural production, (ii) supply chain, and (iii) international trade. The identified articles are listed as below:

**Table 1: The Main Themes of the COVID-19 Pandemic Effects on Food Availability in Malaysia**

No.	Author	Method	Level of Analysis	Themes		
				Agricultural Production	Supply Chain	International Trade
1	Ponnusamy, 2020	Qualitative	National	√	√	√
2	Abdullah et al., 2020	Quantitative	Household		√	
3	Chin, 2020	Qualitative	National		√	
4	Waiho et al., 2020	Qualitative	Aquaculture subsector	√	√	√
5	Azra et al., 2021	Qualitative	Fishery subsector		√	√
6	Ruiz Estrada, 2021	Qualitative	Household	√		

7	Adnan and Nordin, 2021	Qualitative	Paddy subsector	√		
8	Ali et al., 2021	Qualitative	Food industry SMEs		√	
<b>Frequency</b>				<b>4</b>	<b>6</b>	<b>3</b>

### 3.1 Movement Control Order (MCO)

The government of Malaysia enacted several actions plans under the name Movement Control Order (MCO) to contain the spread of the COVID-19 from getting harsher by enforcing selective preventive measures to partial or total lockdowns depending on the severity of the cases of infection, warded, and death. MCO had been implemented from March 2020 and had been prolonged on and off until now. On 15 June 2021, the government announced National Recovery Plan and anticipated the MCO would be lifted fully in November when the rate of vaccination had reached 60% of the total population, daily cases are below 500, and congestion levels at the hospital ward had been eased. Retailers and industrialists blame MCO for the post-pandemic economic turmoil. The review findings found MCO was the precursor to the theme (i) agricultural production and (ii) supply chain.

### 3.2 Lower Agricultural Production

A negative aspect of the Malaysia agriculture scenario is the high dependency on foreign labour. Production became a problem across all agro-food subsectors during the MCO, including crops, livestock, and fisheries. It halted as there were issues with temporary foreign workers who could not enter Malaysia again when they went back to their home countries during their work leave. The review found out that COVID-19 affected productivity by directly disrupting workforce mobility. A worth mentioning example was that in the fisheries sector, the COVID-19 pandemic indeliberately helped replenish nearly depleted fish resources due to the inactivity of fishermen, including commercial fishers who faced a shortage of foreign vessel's crews. However, the fish landing post-pandemic period still showed a significant decrease, despite the increased resources, which contributed by low productivity in the fisheries subsector.

### 3.3 Supply Chain Disruption

The government's tough decision to restrict transportation and movement of people under MCO had created supply chain and logistic disruptions, especially on agricultural producers from distributing their products to the market. This COVID-19 pandemic is nothing like other disturbances previously undergone by farmers and distributors, as it has caused an unprecedented global disruption, not sparing Malaysia. The review found out that most farmers and distributors were caught off guard by the pandemic's immediate impact, which affected each tier of the domestic supply chain.

### 3.4 International Trade Restriction

Malaysia's food import bill reached MYR55.4 billion in 2021 (Saeril et al., 2021). It showed how devastated protectionist policies impacted Malaysia, from the regional trading

countries due to the concern of shortage of local supply, especially on rice import, where Malaysia's dependency is 30% from total annual per capita consumption.

### 3.5 Mitigation Actions and Policy Measures

Responding to the economic shock caused by the COVID-19 pandemic, the government of Malaysia had announced eight economic stimulus packages amounting to MYR540 billion as follows:

**Table 2: List of Economic Stimulus Packages announced by the Malaysian Government to Mitigate COVID-19 Impacts (PMO, 2021)**

Economic Stimulus Packages	Announcement Date	Amount
PRE2020	27 February 2020	MYR20 billion
PRIHATIN	27 March 2020	MYR250 billion
PRIHATIN PKS	6 April 2020	MYR10 billion
PENJANA	5 June 2020	MYR35 billion
PERMAI	18 January 2021	MYR15 billion
PEMERKASA	17 March 2021	MYR20 billion
PEMERKASA+	31 May 2021	MYR40 billion
PEMULIH	29 June 2021	MYR150 billion

From this amount, MYR1 billion is allocated for Agrofood Facility under the Central Bank of Malaysia to provide small and medium enterprises financing to increase agro-food production for domestic markets and exports. On top of this allocation, another MYR1 billion is allotted for the Food Security Fund under the Ministry of Agriculture and Food Industries (MAFI) to regenerate disrupted agro-food industries beyond the pandemic period, to ensure Malaysian kept feed despite confronting the negative impacts of COVID-19. A significant number of the program implemented aimed to increase logistics, storage, and distribution capacity to mitigate the supply chain disruption issues the farmers, livestock breeders, fishers, aquaculture breeders, and food entrepreneurs had to face. On the other hand, to help increase agriculture production, MAFI introduced two specific programs such as MyFuture Agro and Community Garden (Kebuniti). MyFuture Agro, with an allocation of MYR40 million for 2020/2021 expenditure, is a hiring incentive scheme for companies to offer on-the-job training and encourage the displaced workforce to venture into the agriculture and agri-food industry. Meanwhile, Kebuniti, with an allocation of MYR40 million for 2020/2021, is a program to familiarize the society with urban and peri-urban farming to increase community access to healthy, affordable, and fresh produce. In the long run, the Cabinet Committee on Food Security Policy (CCFSP) was established on 25 March 2020, chaired by the Prime Minister with 11 permanent members representing various ministries. CCFSP's main objective is to formulate a holistic food security framework by engaging experts, industrial players, and non-governmental organizations.

## 4. CONCLUSION

This systematic review of the literature shows that the COVID-19 pandemic significantly impacted the subsets of activities under the dimension of food availability at the national level, *i.e.*, agricultural production, supply chain, and international trade, at a global scale, regardless of the country's status, whether developed, developing or poor. Governments had to respond to the economic shock by launching several economic stimulus packages. This funding ensures

the continuum of food production capacity by agricultural producers and eases the financial burden of the entrepreneurs involved in agriculture produce distribution. Cash aid, food basket, and food bank programs either by governments or non-governmental organizations helped the affected populations overcome hunger. However, please note that as the review purposely single out the food availability dimension, thus the study cannot be generalized to the COVID-19 pandemic impacts on food security. A similar systematic review is recommended for the other food security dimensions, namely accessibility, utilization, and stability.

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