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Malaysia's Chicken Shortage, A Solution Proposal Through Consumerism Advocacy

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ABSTRACT:

This study intended to observe Malaysia's chronic shortage of poultry eggs and meat, especially chicken, from September 2021 to July 2022. The pattern observed could answer the role every Malaysian can play through consumerism amid the current chicken crisis. A case interview is done by using McKinsey Case Interview Format. The corresponding author is currently a practitioner in the Policy and Strategic Planning Division, Ministry of Agriculture and Food Security (MAFS), Putrajaya. Data were obtained primarily through discussion with the two (2) senior officials of MAFS from their observation in several government strategic meetings. The scope of the study is limited to chicken eggs and meat. Poultry egg and meat undeniably are Malaysia's most sought source of protein as it is cheap and easily accessible. The shortage of poultry meat and egg supply caused social unrest. Malaysia's poultry egg self-sufficiency ratio is more than 100%, and almost 100% for poultry meat. However, Malaysia's per capita consumption is among the world's highest at 22.2 and 52.0 kg/person/year. If Malaysians diversify their protein intake and unintentionally create a more reasonable demand, despite all the disruptions to production, our current poultry supply should still be enough for everyone. This study suggested that Malaysians consume chicken more than they should chew and should be advocated to practice a healthier lifestyle. In guidelines by the Ministry of Health, *i.e.*, 'Malaysia Healthy Plate: Quarter, Quarter, Half' and 'Malaysia Diet Guideline and Food Pyramid 2020', Malaysians were urged to eat more fiber, such as fruits or vegetables, and eat less protein, especially meat.

KEYWORDS: food-security, chicken, eggs, consumerism, agriculture

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INTRODUCTION

Reality Check on Malaysia's Food Security

Currently, Malaysia is dealing with a situation referred to as "3C-shock", which consists of the COVID-19 pandemic, the impacts of the conflicts in Russia and Ukraine, and climate change (*e.g.*, flood and drought). Without a doubt, the present course of Malaysia's efforts to maintain its food security in the future will be landscaped upon these shocks. Academic conversations are perpetually preoccupied with the issue of food security. This topic has been widely discussed in the mainstream media and the House of Parliament in Malaysia and has always captured the general public's attention. The disruption of the food system brought on by COVID-19, the flood, and the global food crisis brought on by the conflict between Russia and Ukraine also caught the attention of the Ruler of

Malaysia, al-Sultan Abdullah, who issued a decree stating that the food security crisis needs to be addressed immediately. It is necessary to develop a long-term strategy to improve food security and ensure the cost of living is reasonable (*BERNAMA^a, 2022*).

Globally popular fast-food franchises in Malaysia faced a shortage of particular food items starting in January 2022. McDonald's is short of its fun fries (*Meisenzahl, 2022*), while KFC is short of its chicken (*Mukhriz, 2022*). Until May 2022, the issue persists. This shortage is symbolic of a much bigger national problem that forced Malaysia's government to impose drastic measures. To stabilize the local food supply quickly, the government decided to relinquish approved permits (AP) for all types of food importation, banning chicken exports and introducing a food stockpile starting from chicken (*Mat Ruzki, 2022*).

The Problem of Chicken Shortage

Malaysia, along with other countries in South East Asia, is in the process of undergoing a nutrition transition, which typically entails a shift in the diet away from plant proteins and toward animal proteins. In general, higher levels of education and income were associated with higher levels of protein consumption, which was true across all countries. Plant proteins were found in 50 percent of the foods analyzed by *Drewnowski et al. (2020)*, followed by animal proteins in 19 percent of the foods, fish in 12 percent, eggs in 12 percent, and dairy products in 7 percent. The chicken was the most common source of meat, accounting for 16 percent, as opposed to pork or beef, at 1.5 percent each. On the other hand, increments in animal protein counts were associated with the younger generation's dietary preference. Because some religions practiced in Malaysia require strict dietary rules regarding meat, the country's food sources are influenced by socio-cultural and economic factors. Chinese ethnic, for example, had a relatively higher income and education level than other ethnic groups and was associated with higher animal protein consumption.

Currently, in 2022, Malaysia faces a chicken shortage problem. In a newspaper report by *Iskandar (2022)*, Malaysia's Prime Minister, Ismail Sabri Yaakob, admitted that Malaysians were angry because of the high price of several food items, especially chicken. Unlike the shortage of other agricultural produce, Malaysian gets very angry when they find out there is a chicken supply shortage and a steep price hike. It might be because chicken is a source of protein that can be enjoyed by all Malaysian. Malays, who are Muslims, for example, cannot consume pork, and Hindu Indians cannot consume beef because their religion prohibits them. However, there has been a chicken shortage starting in late 2021. The reason is that the price of chickens skyrocketed when the industry of hotels, restaurants, and caterers (HORECA) recovered from the COVID-19 economic slump. An official report, *The Economic Outlook 2022*, produced by the *Ministry of Finance (MOF, 2021)*, anticipated the hotels and restaurants subsector to recover by 7.3% starting from early 2022. An increased demand for chicken, contributed by the HORECA industry recovery, is believed to be the fundamental reason for the increased chicken price in the market.

Government's Intervention

Malaysia's government acted reactively to solve high chicken prices and shortages. Among the drastic action were price-control mechanisms capped at MYR8.90 until July 2022 (*Daud, 2022*) and MYR9.40 starting July 1, 2022 (*FMT^a, 2022*). The government also took the initiative to provide

subsidies to broiler and egg-laying chicken breeders, amounting to MYR 1.1 billion, the most extensive subsidies ever granted to poultry breeders (*Sulaiman, 2022*). On June 1, 2022, a ban on chicken exports to ensure domestic consumption's poultry supply remained stable. However, in just two (2) weeks, on June 15, 2022, as the local supply for specific special categories of chicken improved, special permission for export was reinstated for chicken commodities such as black chicken, free-range chicken, day-old-chick parent stocks, and all chicken-based products (*Heng, 2022*). For the record, eggs were never banned from export, even since June 1, 2022.

The price hike, especially chicken, besides being discussed in relevant periodic meetings such as the *National Action Council on Cost of Living (NACCOL)*, *Economic Action Council (EAC)*, and *Food Security Cabinet Committee (FSCC)*; the government established a new additional task force to tackle the matter, i.e., *Technical Taskforce on National Food Security (TNFC)* on June 14, 2022, and *Special Jihad Committee Against Inflation (J-TI)* on June 29, 2022 (*FMT^b, 2022*). The committee, councils, and task force were tasked to formulate strategies to tackle the rising cost of living, higher inflation rate, and the intensifying prices of goods, especially food items. However, the policy measures seem one-sided as they come entirely from the government without citizen participation through volunteerism or consumerism advocacy.

OBJECTIVES

The authors' objectives in this study were to understand (i) the factors of the current chicken shortage within the industry's environment and (ii) the factors of the present supply scarcity from the value of consumers' advocacy.

National Agrofood Policy 2021 -2030 (NAP2.0) gives particular focus on the eighth (8) food items, i.e., rice, beef, chicken, egg, milk, vegetables, tropical fruits, and fish. Much of the literature suggested that food affordability and accessibility were the most prominent antecedent for food insecurity (*Farrell et. al, 2018*), reflective of the current situation in Malaysia now, where their cheapest and easiest access to the source of protein supply is being compromised. The study limits the discussion to chicken from the spectrum of availability and affordability dimensions using indicators developed by the *Global Food Security Index (GFSI)*; during the period of chicken shortage crisis in Malaysia between September 2021 and July 2022.

Problem Statement

The World Food Program's 2022 Global Report on Food Crises (GRFC) pointed out the bizarrely high severity and numbers of people in the food crisis in 53 territories, driven by persistent conflict, on top of COVID-19-related pre-existing economic shocks and weather extremes. The report is the 6th edition since the 1st in 2017, and the number identified in the 2022 edition is the highest in the report's six-year existence. Global hunger levels continue to be alarmingly high. The number of people suffering from hunger increased to 828 million in 2021; approximately an additional 46 million people in 2020, and 150 million more people since 2019, prior to the outbreak of the COVID-19 pandemic (*FAO, 2022*). Furthermore, the *World Food Programme (WFP)* and the *Food and Agriculture Organization (FAO)* warned that acute food insecurity could worsen in 20 countries or areas from June to September 2022.

Scarcity of Food Might Lead to Public Unrest

By definition, Malaysia is far from being categorized as facing a food crisis. *Essien (2015)* mentioned that a widespread lack of available food is typically the result of a food crisis in society. In most cases, it is the result of a complex interplay of factors, including the failure of crops, the explosive growth of populations, the policies of governments, and the lack of action taken to increase food production.

In the event of a food crisis, people in society will typically suffer from hunger, starvation, and malnutrition. Malaysia's Defence Minister, Hishammuddin Hussein, at Asia's top security summit, the Shangri-La Dialogue, in Singapore, as reported by *The Star^a* (2022), was quoted saying that soaring food prices are a security concern. He then pointed to the political instability in several nations facing the threat of inflation as a warning to the rest of the region. Rising food prices may push people over the edge, generating a wave of instability, with potential protests and riots affecting the security environments of the nations. The skyrocketing price of staple food like wheat and rice stokes fury, warranted or otherwise, against governments. The best example is the recent unrest in Sri Lanka and Pakistan over inflation and during the Arab Spring more than ten (10) years ago, where protestors were crying out for freedom, justice, and bread. Food insecurity threatens societies and exacerbates conflicts; no country is immune to this.

Meanwhile, *Hunter^a* (2022) stated that starting at the end of 2021, several foodstuffs in Malaysia will be in short supply and subject to increasing prices. Both the prices rise and supply shortages are believed to result from supply chain glitches, the recent December 2021 floods, and post-COVID-19 labour shortages. The Russia – Ukraine war worsens the glitches of the global supply chain. However, the Malaysian food crisis cannot be considered a cyclic issue as severe structural issues are involved.

The current issues in global food security are disruptions to food production, trade, and access to essential resources. It became a major international food security issue due to the instability and violence in Russia - Ukraine. Violence in Ukraine has been affecting the supply of Ukrainian farm products to European markets. The conflicts do not only impact Ukraine but also the rest of the world. The world is facing a shortage of agricultural input of fertilizer in the absence of Belarusian supplies of potash, which is a crucial nutrient for major crops like corn and soybeans, as well as much other agricultural produce. The conflict has also impacted Russian agricultural production. It has disrupted transport routes, decreasing the amount of Russian food that can reach international markets. This decrease in exports will harm global food security.

As soaring natural gas costs forced many fertilizer plants to halt or curtail production, fertilizer prices have skyrocketed. Expensive fertilizer makes food more costly to produce and contributes to rising global inflation for consumers. Expensive fertilizer brought a dominos effect, as it pushed the price of maize and soybean meal, the largest components of animal feed. Directly, the hike in maize and soybean meal price caused an increment in animal feed by up to 30 percent (*Mat Isa, 2022*). As animal feed constitutes 60 percent of the total production cost of chicken, it results in a higher farm-gate price of chicken and egg. Poorer consumers are likely disproportionately affected since food costs comprise a larger share of their budgets.

No Dedicated Agencies to Oversee Livestock Industries (Ruminant and Poultry)

The *Ministry of Agriculture and Food Security* (MAFS) primarily deals with food security and agriculture policy, programmes, services, support, schemes, business, and statistics. MAFS has also been involved with the agricultural industry's Industrial Revolution 4.0 (4IR) aspects. MAFS's primary objective is to enhance Malaysian quality of life by boosting agricultural production through a range of platforms.

MAFS is headquartered in the Federal Territory of Putrajaya, Malaysia. As a ministry, MAFS does not have offices in states. However, MAFS Incorporated was established to smooth the ministry's administrative machinery within states and districts. MAFS is among Malaysia's oldest ministries, existing since Malaysia's independence in 1957. Since then, MAFS has undergone several name changes, as shown in *Table 1*.

Table 1: Changes in the Ministry of Agriculture name since independence until now

Ministry's Name	Year
Ministry of Agriculture and Cooperatives	1957 - 1965
Ministry of Agriculture and Land	1966 - 1971
Ministry of Agriculture and Fisheries	1972 - 1973
Ministry of Agriculture and Rural Development	1974 - 1975
Ministry of Agriculture	1976 - 2003
Ministry of Agriculture and Agrobased Industries	2004 - 2020
Ministry of Agriculture and Food Industries	2020 – 2022
Ministry of Agriculture and Food Security	2022 – present

Source: Authors' Own

Currently, there are four (4) departments, seven (7) statutory bodies, and two (2) agencies under MAFS. Two (2) statutory bodies under MAFS had been dissolved, *i.e.*, *National Livestock Development Authority (MajuTernak)* – dissolved in 1983 – and *National Rice and Paddy Authority (LPN)* – corporatized in 1996 into *Padiberas Nasional Berhad (BERNAS)*. One (1) agency, *TEKUN National Foundation (TEKUN)*, was transferred to the *Ministry of Entrepreneurial Development and Cooperatives (MEDAC)* back in 2018. The complete list of the current MAFS's departments, statutory bodies, and agencies is in *Table 2*.

Table 2: List of departments, statutory bodies, and agencies under the ministry

Department			Statutory Body		Agency	
i.	Department of Agriculture (DOA)		i.	Federal Agricultural Marketing Authority (FAMA)	i.	Agrobank
ii.	Department of Fisheries (DOF)		ii.	Farmers' Organization Authority (LPP)	ii.	Malaysia Bioeconomy Development Corporation (MNBC)
iii.	Department of Veterinary Services (DVS)		iii.	Fisheries Development Authority (LKIM)		
iv.	Department of Quarantine and Inspection Services (MAQIS)		iv.	Malaysia Agricultural Research and Development Institute (MARDI)		
			v.	Malaysia Pineapple Industry Board (LPNM)		
			vi.	Muda Agriculture Development Authority (MADA)		
			vii.	Kemubu Agriculture Development Authority (KADA)		

Source: MAFS (2022)

After *MajuTernak* dissolved in 1983, there was no specific agency to monitor the growth of livestock industries (Roslan, 2021). Department of Veterinary Services, Malaysia, on the other hand, is the regulatory body for livestock importation and exportation; and the prevention of animal-related diseases. The absence of *MajuTernak* gave a disadvantage to Malaysia's government as the government could not interfere much in the livestock industry.

RESEARCH METHODOLOGY

Materials And Methods

This study chose a case interview as the method for obtaining primary data. Through personal communication, the researchers did this by discussing the intended research objectives with two (2) senior ministry officials from MAFS, Malaysia. In Malaysia's governmental setup, things related to agriculture and agro-food fall under MAFS purview.

Content analysis was also used to enrich the study's data, using secondary data from existing literature and contents related to the current chicken shortage faced by Malaysia.

Kim (2017), in his study on scientists' data-sharing behaviour via data repositories, journal supplements, and personal communication methods, stated that in scientific research, data-sharing requests between scientists upon personal communication are prevalent. However, as a common research practice, data sharing is not yet widely utilized across a variety of disciplines. Therefore, this

study tried data-sharing with MAFS using the personal communication method to try out a practitioner-researcher collaboration in completing a case study.

McKinsey Case Study Format

Similar but not the same as a case study, a case interview is an interview in a business context. In a case interview, a business problem is the center of the discussion, and ideas pertaining to that problem are brainstormed; to solve it. It is called a case with the whole surrounding business context, hence explaining the term 'case interview'. In short, a case interview examines the cause and solves it (Ammerman, 2012).

Regarding the degree of autonomy during a case interview in McKinsey Case Study Format, two different options could be chosen. At one end of the spectrum is the respondent-led case, in which the respondent takes the lead in the process of problem-solving. On the other hand, the researcher will direct the actions in participation in a researcher-led interview.

Case interviews using the McKinsey Case Study Format are typically 'researcher-led'. In the most involved version of this format, the researcher "leads" the problem-solving process by posing individual questions directly related to the case context. The respondent is at a loss for what strategy to employ in addressing the issue. In practice, on the other hand, the researcher might give the respondent some leeway in how to answer specific questions.

This time, the study used a researcher-led case; hence the respondents instead answered a series of questions coming from the researcher. In a researcher-led case interview, the case is split into multiple small questions, and a structured approach is taken to these questions,

It is possible to prepare for McKinsey case interviews methodically. It was done by organizing the potential questions into eight (8) predictable categories (MPrep Consulting, 2020), in which two (2) of the categories precisely matched the research objectives, *i.e.*, pieces of information questions and problem-solving / solution-finding questions.

Selected Respondents

The respondents were selected using purposive sampling. As the institutional setting for this study is MAFS, two (2) officers from the ministry who are actively involved in chicken shortage issues were approached. Both officials are the ministry representatives who have attended several strategic meetings regarding current inflation, high food prices, and the rising cost of living. The list of the attended meetings is as follows in *Table 3*.

Table 3 : List of Meetings Attended by the Respondents

Frequency	Meeting Title	Chairman
Five (5) meetings from June to July 2022	Technical Taskforce on National Food Security (TNFC)	Co-Chaired by the Minister of Agriculture and Food Industries and the Chief Secretary to the Government of Malaysia
Seven (7) meetings from June to July 2022	Special Jihad Committee Against Inflation (J-TI)	Minister of Communication and Multimedia
Single meeting on July 27, 2022	Courtesy Call of the Permanent Secretary of the <i>Ministry of Sustainability and the Environment (MSE)</i> , Singapore	Secretary-General of <i>Ministry of Agriculture and Food Industries (MAFS)</i> , Malaysia

Source: Authors' Own

As both officials needed to report the meetings' outcomes, they observed them closely. Then, they interpreted the findings to collude as a report document for the ministry's top management. Therefore, through discussions with these two (2) senior ministry officials, the researchers successfully constructed interpretive meanings based on the research paradigm.

The two (2) respondents from MAFS are namely Mr. Shahril Faizal Abdul Jani, an Undersecretary of the *Policy and Strategic Planning Division* (Respondent 1), and Mr. Mahdir Bahar, a Chief Data Officer of *Integrated Data Management Section* (Respondent 2). While Mr. Shahril Faizal Abdul Jani is an Administrative and Diplomatic Officer, Mr. Mahdir Bahar is a Statistician from the Department of Statistics Malaysia (DOSM) and currently assuming the cader post in MAFS.

The Interview Process

Primary data in this study was obtained from a series of unpublished interviews or group discussions between researchers and respondents. Any information that falls under these two (2) themes was jotted and transcribed during the talks with both respondents. The themes are as follows in *Table 4*.

Table 4: Themes emerged from the series of discussions

No	Themes
1	What are the factors causing the current chicken shortage from the industry's side?
2	What are the factors causing the current chicken shortage from the consumers' side?

Source: Authors' Own

Secondary Data

Depending on the central focus and objective, this study is supported by secondary data from the existing contents and literature to make up for the small number of respondents. The *Corporate Communication Unit* in the *Ministry of Agriculture and Food Security (MAFS)* collects daily

newspaper clippings related to MAFS. Fortunately, every news related to chicken shortage from the period of September 2021 to July 2022 was also screened and recorded. The archived newspaper cutting will be read and analyzed. Related content will be extracted for further cross-analysis

RESULTS

Most of the data obtained from Respondent 1 and Respondent 2 on the factors that cause chicken shortage were consistent with newspaper reports or articles, as shown in *Table 5*.

Table 5: Comparison of the Theme and Subtheme that emerged from the respondents and content analysis from newspaper on the factors causing the chicken shortage

	Theme 1 Factors causing chicken shortage (Industries)				Theme 2 Factors causing chicken shortage (Consumers)	
	Expensive Chicken Feed	Labour Shortage	Cartel Try to Push Chicken Price	Ceiling Price by the Government	Malaysia's Consumer Behaviour / Panic Buying	Higher Demand as Economy Recovers from COVID-19
<i>Newspaper reports or articles</i>	/	/	/	/	/	/
<i>Mr. Mahdir Bahar, Chief Data Officer (Respondent 2)</i>	/	/		/	/	/
<i>Mr. Shahril Faizal Abdul Jani, Undersecretary (Respondent 1)</i>	/	/		/	/	/

Source: Authors' Own

The two (2) predetermined themes were later broken into several sub-themes that emerged from the researcher's content analysis. Five (5) factors believed to be causing the chicken shortage were identified as consistent between the newspaper cutting and the respondents. The factors are (i) expensive chicken feed, (ii) labour shortage, (iii) negative impact from ceiling price set by the government, (iv) relatively higher demand for chicken as the economy recovers from the COVID-19 pandemic, and (v) Malaysia's bad consumerism habit or panic buying that had a considerable share in the chicken shortage conundrum.

Only one (1) factor showed inconsistency, where both respondents do not believe (vi) a cartel is trying to push the chicken price, even though the statement was widespread in newspapers. In contrast, the media portrayed the existence of the cartel as the most prominent factor causing the chicken shortage and high price.

Factor 1 and 2: Expensive Chicken Feed and Labour Shortage

According to *Tan (2022)*, in a survey among traders of a morning market in Petaling Jaya (a big city in Malaysia), the market price of chicken increased and indirectly forced retailers to reduce orders from the farm to avoid loss, resulting in the scarcity of chicken sold at the retail level. The low demand from retailers triggered the supplier to slow down their production rate amid the stable demand from consumers. MAFS reported a reduction in chicken production at the farm level in April 2022 as the cost of production, mainly chicken feed, has skyrocketed since January same year (*The Star^b, 2022*).

Respondents 1 and 2 suggest a 10% reduction in chicken rearing from January to April 2022 due to rising production costs caused by expensive chicken feed and labour shortage. Feed contributed more significantly to increasing production cost, as feed consists of about 70% of the total cost of production at the farm level, compared to the latter, at only 6%. Indirectly, this exposed how the chicken industry relied heavily on cheap labour to control production costs. Hence, any investment in automation and mechanization will affect the local chicken and egg price competitiveness if the government allows the import of these two commodities. Respondents 1 and 2 also believed that the Malaysian Ringgit slides against the US Dollar - *the currency denomination used when importing raw materials for poultry feed* – causing the costs to go up for chicken breeders. If the Malaysian Ringgit keep sliding, it will lead to higher production cost and put the breeders in financial constraints (*personal communication, July 27, 2022*).

Animal feed, including chicken, comprises several components, with maize comprising more than 50% of it (*Guertler, 2023*). Global maize prices had shot up due to the protectionist policy enforced by several maize exporter countries. On top of that, at the farm-gate level, there is also an increase in maize prices. The production cost became more expensive than in pre-conflict because of the scarcity of fertilizer (*Abdul Aziz, 2022*). Russia and Belarus – *currently in conflict with Ukraine* – were the largest producer of potash, an essential component in fertilizer manufacturing. It was regrettable that Malaysia is a net importer of grain corn, with a whopping USD792.79 import bill in 2020, as can be seen in *Table 6*.

Table 6: Comparison between Malaysia and the grain corn main producer in Southeast Asia

	Malaysia	Indonesia	Thailand	Philippines	Vietnam
2020 Import Bill (USD 'mil)*	\$792.787 mil	\$172.649 mil	\$282.764 mil	\$212.516 mil	\$2,402.234 mil
Domestic Production	Nil	Yes	Yes	Yes	Yes
Protection Policy	Nil	Yes	Yes	Yes	Nil
Guaranteed Minimum Price	Nil	Yes	Nil	Yes	Nil
Import Quota	Nil	Nil	Yes	Yes	Nil
Subsidy	Nil	Yes	Nil	Yes	Nil
Guaranteed Minimum Price /kg***	Nil	IDR 3,150	THB 8.13	PHP 12	VND 5,500
Market Price RM/kg	Nil	0.99	0.97	1.04	1.02

World Price RM/mt**	748				
World Price RM/kg	0.75				
Difference between domestic and imported prices RM/kg	Nil	0.24	0.22	0.29	0.27

*Estimation based on average corn price in 2020 of USD150/MT

**USD/MYR : 4.2

*** 1000000IDR/MYR : 315, 100THB/MYR : 11.90, 100PHP/MYR : 8.66, 1000000VND/MYR : 185.40

Source: MAFS (2022)

Factor 3 and 4: Cartel Try to Push Chicken Prices and Ceiling Price by the Government

In a media statement dated April 29, 2022, the Malaysia Competition Commission took notice of public perception tuned by various media platforms regarding cartel among chicken industry players that came into a secret pact to push prices. The commission expressed its commitment to investigating this matter (MyCC, 2022). Contrary to the public perception (Zin, 2022), Respondents 1 and 2 never once suggested any existence of a cartel in the chicken industry.

However, both respondents had the same opinion as the Chief Executive Officer of the Center for Market Education, as reported in a local newspaper (Krishnan, 2022) that the imposition of ceiling prices on chicken and eggs to prevent a price increase on the products led to market price distortions. Consumers might sigh relief after learning that the ceiling price of standard chicken and egg has been lowered. In contrast, maintaining a ceiling price for chicken and egg will exacerbate supply and demand tensions in the poultry market by discouraging poultry breeders from increasing production. The shortage will prevail unless the government floats the currently regulated chicken and egg prices and leaves them to market forces (*personal communication*, July 27, 2022). For the record, the ceiling prices set by the government were MYR9.50 in November 2021, MYR9.30 in December 2021, MYR9.10 in January 2022, MYR8.90 in February 2022 (Mohd Anuar, 2022) and MYR9.40 in July 2022 (Musa, 2022).

Factor 5 and 6: Malaysia's Consumer Behaviour and Higher Demand as Economy Recovering from COVID-19

A shortage occurs when the supply is lower than the demand. With the easing of COVID-19 restrictions, the demand for chicken has increased dramatically, especially from the HORECA industry, exceeding the capacity of local producers to meet the immediate need. As a shortcut solution, Malaysia's government granted approved permits (APs) to 32 companies to import chicken from Thailand, China, and Brazil to overcome the shortage (Hunter^b, 2022). Before, no AP was issued for whole chicken import, except for parts for industrial use. Before the pandemic, Malaysia's chicken production had already exceeded the 100% self-sufficiency ratio (DOSM, 2021); hence AP was enforced to restrict whole chicken imports to protect local industry from excess. Respondents 1 and 2 shared the same opinion that with the reopening of the HORECA industry, chicken and egg producers cannot cope with the sudden spike in demand. However, both respondents were quite pessimistic about the government's plan to bring chicken from outside into the local market. They argue that the companies that granted APs are capable of bringing in the chicken, because the problem of chicken shortage also happens in many other countries. Furthermore, they believe local producers should be given time and the needed support to recover the pre-pandemic production rate. Import will jeopardize local production stability. They compared that chicken shipment from Brazil will take 80

days, but local producers can produce chicken in just 45 days (*personal communication, July 27, 2022*).

On the other hand, when touched on bad consumer behaviour, both respondents suggested panic buying did stress the demand for chicken and eggs. Nothing good came out of the panic, and the individual actions contributed to the uneven distribution of chicken in the retail segment. Panic buying disproportionately affects low-income groups already impacted by social barriers such as transportation, proximity to a local market, and shopping affordability. The same scenario was also observed by *Nchanji and Lutomia (2021)* in their study regarding consumer behavior to see the sustainability of the agri-food supply chain amidst the pandemic in Southern and Eastern Africa.

Suggestions from Findings

Malaysia's yearly chicken consumption per capita is close to 50 kilograms, while egg consumption per capita is close to 20 kg per year. The consumption placed Malaysia as Asia's number 1 chicken lover and third in the world (*Ferlito, 2020*). The eating pattern is contradictory to the guidelines by the Ministry of Health, i.e., '*Malaysia Healthy Plate: Quarter, Quarter, Half*' and '*Malaysia Diet Guideline and Food Pyramid 2020*', where Malaysians were urged to eat more fiber such as fruits, vegetables and eat less protein, especially meat (*Tan et al., 2022*).

Besides changing their diet, Malaysians should try to practice better consumerism habits. *Mr. Shahril Faizal Abdul Jani* (Respondent 1) shared an interesting perspective he encountered during the courtesy call from the Permanent Secretary of the Ministry of Sustainability and the Environment (MSE), Singapore, to the Secretary-General of MAFS, Malaysia. The Permanent Secretary said that during the beginning of Malaysia's banning export of chicken to Singapore, MSE started to engage consumers in Singapore, especially housewives and those who prefer to cook at home. What MSE did was request Singapore consumers practice good consumerism by buying enough chicken to cook for the day. Apparently, Singaporean consumers buy chicken supplies for the whole month and store them in the freezer. When they practiced buying less chicken, just enough for the day's consumption, surprisingly, the chicken supply was enough for everybody. At the same time, it allows the production to catch up with the market demand, thus stabilizing the price and supply. Responsible shopping is essential to help the world function normally during this impossible time by helping flatten the curve. (*personal communication, July 27, 2022*).

Certain quarters worried that abolishing food items' AP would affect the balance of trade. A high import bill than an export leads to a trade deficit (*Dardak, 2020*). In this case, some experts believe that Malaysia's trade deficit would increase by importing chicken and eggs to overcome the shortage. However, as per discussed earlier, Malaysia is a net importer of grain corn, the main component of chicken feed. It means that even if Malaysia produces chicken locally, there also will be a trade deficit from grain corn import, as illustrated in *Table 8*. But of course, all this while, Malaysia benefitted from chicken export, which gave a balance of trade to grain corn import.

Table 8: Malaysia's Grain Corn Import Rate to Agriculture GDP Comparison from 1985 to 2019

Year	Agriculture GDP (MYR) million	Grain Corn Import (MYR) million	Grain Corn Import Rate to Agriculture GDP (%)
1985	16,166	201,00	1.24
1995	28,809	831.2	2.89
2000	30, 647	969.2	3.16
2005	44,912	1,389.9	3.10
2010	82,882	2,472.3	2.98
2015	97,539	3,016.4	3.09
2019	109,613	3,259.5	2.97

Source: *MAFS (2022)*

Hence, if the chicken export ban continues, it is not economical to continue producing chicken locally, as the trade balance will worsen. Import will be a much cheaper option. However, if chicken export resumes back, then local chicken production should continue, but with better global procurement of grain corn, as grain corn constitutes 50% of animal feed composition and animal feed comprises 60% of the total production cost of chicken rearing.

IMPLICATIONS

This study shows that several factors, such as climate change, conflicts in Russia and Ukraine, and the COVID-19 pandemic, are significantly impacted the subsets of activities under the food availability dimension at the national level. Regardless of the country's status, whether developed, developing, or poor, disruption at a global scale to agricultural production, supply chain, and international trade is happening. Governments worldwide had to respond to the economic shock by launching several economic stimulus packages. The emergency funding ensures the continuity of the food production capacity by agricultural producers and eases the financial burden of the entrepreneurs involved in agriculture produce distribution. Programs providing monetary assistance, food baskets, and food banks, whether run by governments or non-governmental organizations, assisted the afflicted populations in overcoming their hunger.

Malaysian government took swift and reliable policy measures. In fact, the economic stimulus packages introduced to recover from the economic slump from COVID-19 effects have proven fruitful. The increasing demands from hotels, restaurants, and caterers mainly shoot skyrocketing demand for food items, including chicken. That is why a number of governments have already included initiatives to boost innovation as part of their economic stimulus packages (*Shafiullah, 2022*), and these same governments can also take steps to improve their long-term innovation potential. Anti-crisis policy measures, such as those taken by the Malaysian government, can provide built-in incentives to innovate. Table 7 presents the eight (8) economic stimulus packages that the government of Malaysia has announced in response to the economic shock that was caused by the COVID-19 pandemic. The total value of these packages is MYR540 billion.

Table 7: List of economic stimulus packages announced by the Malaysian government to mitigate COVID-19 Impacts

Economic Stimulus Packages	Announcement Date	Amount
PRE2020	February 27, 2020	MYR 20 billion
PRIHATIN	March 27, 2020	MYR 250 billion
PRIHATIN PKS	April 6, 2020	MYR 10 billion
PENJANA	June 5, 2020	MYR 35 billion
PERMAI	January 18, 2021	MYR 15 billion
PEMERKASA	March 17, 2021	MYR 20 billion
PEMERKASA+	May 31, 2021	MYR 40 billion
PEMULIH	June 29, 2021	MYR 150 billion

Source: PMO (2021)

Especially for chicken and eggs, special subsidies were granted to try to stabilize the cheapest source of protein in Malaysia. The subsidies were amounting MYR730 million from February to June 2022 and MYR369.5 million in July and August 2022. As mentioned in the earlier paragraph, this study intended to see how Malaysia's government maneuvered in solving the case of chicken shortage limited from September 2021 to July 2022. This time frame was chosen because, initially, the subsidies were targeted from February 5 to June 4, 2022, to complement the ceiling price of chicken and egg enforced under the SHMKM as announced by former minister of agriculture, Datuk Seri Dr. Ronald Kiandee (*Sheikh Rahim, 2022*). However, the subsidies kept being extended until the year-end, with the rate increasing from the first announcement. The subsidies were given at MYR0.60 per kilogram for chicken and MYR0.05 per egg, then raised to MYR0.80 and MYR0.08 (*Bernama^b, 2022*). However, as the egg shortage became more severe at the year-end, the government had to resort to another increment of egg subsidies to MYR0.10 per egg (*Bernama^c, 2022*).

Even though the current economic situation forces all governments to confront challenging questions and make difficult new decisions, it also presents an opportunity to improve the economy's potential in the medium and long term. The mix of policies that governments are adopting to combat the economic downturn can include forward-looking structural measures that inject innovation. Governments can take these measures. There is a possibility that some of these will contribute to demand in the near future, but the majority of them are more likely to offer benefits in the distant future.

Most importantly, the study discovered that the government should advocate the consumerism of food items, especially chicken and eggs. Consumerism, in economics, is the theory that consumer spending, or spending by individuals on consumer goods and services, is the primary driver of economic growth and the most important indicator of the productive success of a capitalist economy. On the other hand, in this study context, advocacy is the act of Malaysia's government to influence decisions within political, economic, and social institutions. Hence, not deviating from this study's scope, consumerism advocacy to mitigate the chicken and eggs shortage now can be likened to a decades-old campaign, 'Zero-Inflation'. The campaign with the tagline 'Zero-Inflation is Our Target' was introduced in 1995 by the former Malaysian Prime Minister, Dr. Mahathir Mohamed, to curb the

increasing Consumer Price Index (CPI). The campaign aimed at consumers to be more prudent in spending, as unselective expenses might push certain items to be priced higher. A study by *Ismail et al. (1997)* showed that the campaign reached most consumers, who were aware it was an advocacy to planned spending.

CONCLUSION

Mitigation of the chicken shortage should not be shouldered only by the government. It should be a whole-of-nation initiative. Society as the consumers should help by creating a well-balanced demand. Buy only to cook, not to store; a solution proposal.

However, please note that the study was only a preliminary case study using personal communications. Thus, the study cannot ascertain the factors causing a chicken shortage in Malaysia during the specific periods of September 2021 to July 2022. Similarly, the proposal of advocating for society to practice a healthier lifestyle and shaving the bad consumerism habits under the notion that Malaysians consume chicken more than they should needs further study.

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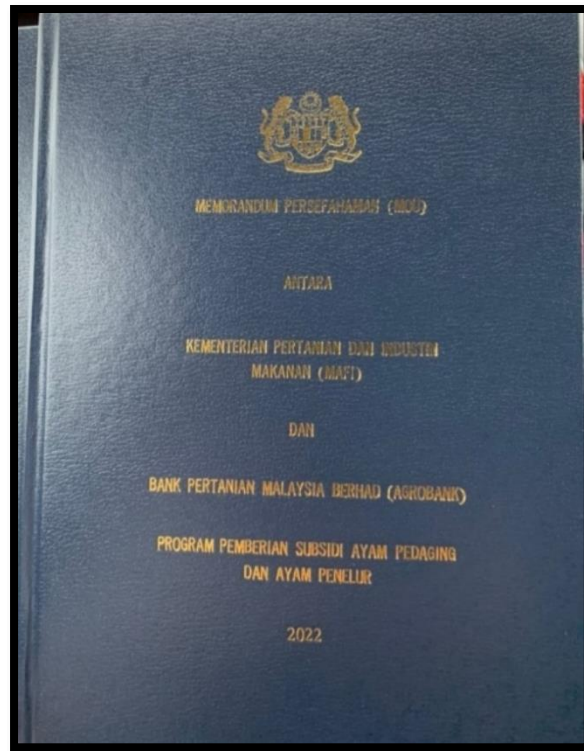
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APPENDIX 1



A document of 'Broilers and Layers Subsidy Programme'

APPENDIX 2



Example of newspapers' cutting collection by MAFS's library used by the researchers as secondary data



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