

FOOD SECURITY DURING THE COVID-19 PANDEMIC: POLICY COMPARISON IN FIVE DEVELOPING COUNTRIES IN ASIA

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Abstract

This study examines how the COVID-19 pandemic has impacted five developing Asian countries in terms of food security policies, particularly in Malaysia, Thailand, Saudi Arabia, Nepal, and Indonesia. These five countries have several differences, such as population, the quantity of main imported foods, food self-sufficiency policies, and natural resource conditions. This research uses a qualitative approach with literature study methods. The study shows that each country's initial policies in response to COVID-19, especially in terms of transportation mobility restriction, has impacted on food distribution. Domestic food stocks, subsidies, and government financial assistance are considered capable of maintaining food security temporarily. Nevertheless, domestic policies alone will not be sufficient to maintain and ensure long-term availability, affordability, and safety of food products. This study concludes that the optimization of local food production and imported food products is essential to maintain the balance of the supply chain of food in the country.

Keywords: food security; COVID-19; import; Asia; food policy

Abstrak

Penelitian ini mengkaji bagaimana dampak pandemi COVID-19 terhadap lima negara berkembang Asia dalam hal kebijakan ketahanan pangan, khususnya di Malaysia, Thailand, Arab Saudi, Nepal, dan Indonesia. Kelima negara ini memiliki beberapa perbedaan, seperti jumlah penduduk, jumlah makanan utama impor, kebijakan swasembada pangan, dan kondisi sumber daya alam. Penelitian ini menggunakan pendekatan kualitatif dengan metode studi literatur. Studi ini menunjukkan bahwa kebijakan awal masing-masing negara dalam menanggapi COVID-19, terutama terkait pembatasan mobilitas transportasi, mempengaruhi mobilitas distribusi makanan. Stok pangan dalam negeri, subsidi, dan bantuan

keuangan pemerintah dinilai mampu menjaga ketahanan pangan untuk sementara. Namun demikian, kebijakan dalam negeri saja tidak akan cukup untuk menjaga dan memastikan ketersediaan, keterjangkauan, dan keamanan produk pangan dalam jangka panjang. Studi ini menyimpulkan bahwa optimalisasi produksi pangan lokal dan impor produk pangan sangat penting untuk menjaga keseimbangan rantai pasokan makanan di dalam negeri.

Kata kunci: ketahanan pangan; COVID-19; impor; Asia; kebijakan pangan

A. Introduction

The implementation of food security policy during pandemic era is crucial to study. The implemented policies will determine the stability level of the fulfillment of food needs by the society. Fulfilling food needs is related to people's purchasing power, given the economic sector is one of the essential sectors that is usually hit hardest by the pandemic. Due to the COVID-19 pandemic, almost all business sectors in most countries have slowed down, including the agriculture sector, plantation, and tourism (Bahtiar & Saragih, 2020). By observing a country's food security policy, it can also be projected how that country can adapt to the rising prices of certain food commodities due to limited mobility during the pandemic. The experience of a country on one hand can be a best practice for other countries, particularly if the conditions of the countries are relatively the same, in terms of climate and geographical condition, political system, or even cultural closeness. However, differences in the character of countries can also be a comparison of the existing variations. Thus, the purpose of this study is not to compare similarity, but rather to emphasize the different conditions of the five Asian countries in question, resulting in different policies.

Corona virus disease, better known as COVID-19, is an infectious disease caused by the SARS-CoV-2 coronavirus. First outbreak in Wuhan City, China, November 2019 (Azizah, 2020), this virus has rapidly become an epidemic in various countries around the world. On January 21, 2021, the

number of people worldwide infected with this virus reached 97,233,164 people, with total deaths reaching 2,080,402 (Mela, 2021). The World Health Organization (WHO) then declared that COVID-19 has become a global pandemic. The COVID-19 Pandemic has mainly affected not only health sector, but also economic and industry, agriculture, and transportation (Hossain, 2020). The last three things mentioned are closely related to the availability of sufficient food nationally.

Food is a basic human need in order to survive. Therefore, the availability and adequacy of food is a human right that must be fulfilled. Adequacy and availability are forms of food security (Masniadi et al., 2020). According to the Government of Indonesia Regulation No. 68 of 2002, food security is defined as a condition in a society related to the availability of food that is sufficient in quantity and quality, safe, evenly distributed, and affordable. According to the WHO, there are three components of food security: food availability, access to food, and food utilization (Aisyah et al., 2020).

The COVID-19 pandemic can disrupt food security in a country due to its effects on three pillars. The three pillars include (1) disruption of food availability, (2) food access limitation, (3) nutritional adequacy of food products (Laborde et al., 2020).

The first pillar affected by the COVID-19 pandemic is food availability. COVID-19 does not have a direct effect on the amount of food production in a country. In general, the production of staple foods such as wheat and rice can still be maintained, both in developed and developing countries. However, non-staple foods such as fruits and vegetables, especially in developed countries, have been quite affected by this pandemic since it requires many workers. The limitation on the number of workers operating during a pandemic will affect production (Laborde et al., 2020)

The second pillar is limited access to food products. This pillar has been directly affected by the COVID-19 pandemic. This is related to policies from various countries to limit people's movement within and

outside the country to prevent the spread of the virus. This restriction directly hampers the community's supply chain (Erokhin & Gao, 2020). Besides, restrictions can also occur in global scope in the form of restrictions on food products' export. A joint statement from the Food Organization Association (FAO), the WHO, and the World Trade Organization (WTO) confirmed the above condition. The disruption of food supply triggers restrictions on exports, thus creates shortages in global markets (Hossain, 2020).

The third pillar affected by the COVID-19 pandemic is the adequacy of food nutrition consumed by everyone. This pillar relates to everyone's income. It is known that during the COVID-19 pandemic, many companies reduced their workforce. Since the beginning of the pandemic in 2020, precisely in April, it was estimated that more than 16 million workers had been laid off (Coibion et al., 2020). Job losses will significantly affect purchasing food products, especially products that are nutritious for consumption. This is because their income has decreased significantly when they do not have a job (ADB BRIEFS, 2020).

This study assesses food security policies in five developing countries, namely Malaysia, Thailand, Saudi Arabia, Nepal and Indonesia. These five countries have some differences, such as the number of populations, the quantity of main imported important food, food self-sufficiency policy, and the condition of natural resources. These different characteristics are then utilized as a reference in this study to examine the implementation of food security policies during the COVID-19 pandemic. The assessment is done through literature studies with some statistical data.

B. Materials and Method

Food is a commodity from various foodstuffs that are consumed and become a basic human need. The food is then processed for human consumption and needs. Food is consumed by humans regularly. Food is a

basic need for every human being and must be fulfilled (Badan Perencanaan Pembangunan Nasional, 2011).

Adequacy and availability of food is a form of food security. The initial concept of food security is based on the view of Maslow (1954), that food is a primary need (Hapsari & Rudiarto, 2017). Based on Government of Indonesia Regulation No. 68 of 2002 the definition of food security is a condition in a society related to the availability of food that is sufficient in quantity and quality, safe, evenly distributed, and affordable. There are three main components in food security security: food availability, food access, and food utilization (Aisyah et al., 2020).

Food security is also one of the Millennium Development Goals (MDGs) of the World Food Summit in 2009. Food security can be obtained when every human being has access to adequate, safe, and nutritious food (Badan Perencanaan Pembangunan Nasional, 2011). Food security can also be achieved through the implementation of a policy. This is because food security is a flexible concept that requires much research as well as policy implementation.

The aspects of food security during the COVID-19 pandemic need to be addressed including a) availability, b) access, c) utilisation and d) stability (Ma, et al., 2021; Zurayk, 2020). Availability and access of food are most vulnerable during COVID-19 outbreak due to problems with transportation, distribution and delivery (Galanakis, 2020; Vallianatos et al., 2010). As restrictions established, availability and accessibility of food stocks may be disrupted to a certain extent, hampering import and export. Countries need to ensure they have a sustainable food reserve to meet market demand. Limited number of workers due to mobility restriction and budget constraints causes delay in crops planting for continuous supply (Zurayk, 2020). In general, pandemic can trigger threats to global food security, in terms of the following conditions: *First*, pandemic threaten nations that are suffering from pervasive poverty and poor healthcare infrastructure; *Second*, pandemic threaten nations that lack robust social

safety nets. *Third*, pandemic can cause malnourishment for vulnerable groups; *Fourth*, pandemic may cause disruptions in the food supply chain, creating food shortages and food price increase; *Fifth*, pandemic can create domino effect, in which decision of one nation in international trade could have threatening food accessibility of other nation (Ma et al., 2021).

The implementation of food security policies differs among countries. For instance, in Russia, the food security policy emphasizes the importance of government intervention in the form of assistance for domestic production (Wegren et al., 2016). It happens also in Australia. Assistance to increase agricultural production and optimize markets for its products are two primary government interventions. The two countries tend to emphasize food security policies by emphasizing the optimization of domestic production. Some countries, such as Norway, food security policy is implemented by importing food products (Richards et al., 2016).

There are two approaches to food security policy in developing countries, namely direct and indirect policies. Direct Policies involve structural intervention such as price-setting and food subsidies. Meanwhile, indirect policies include agricultural production through improved infrastructure and technological facilities for farmers (Boratyńska & Huseynov, 2017).

This study uses qualitative method to analyze the implementation of food security policy in Malaysia, Thailand, Saudi Arabia, Nepal, and Indonesia. By applying case study approach, this research develops an in-depth description and investigation of multiple cases with countries as unit of analysis (Creswell & Poth, 2016). The analysis is based on the characteristics of each of these developing countries that are traced through literature review. This study looks at how the COVID-19 pandemic is impacting the food sector and how countries are responding to that impact, before drawing conclusions as to what policy tendencies are carried out. The description regarding the food security policy is presented as follows.

C. Results and Discussion

The COVID-19 pandemic has directly resulted in a severe economic crisis and further exacerbating food and nutrition insecurity. The pandemic has disrupted global food supply chains, and the movement's restrictions have caused almost every step of the distribution channels of agriculture disrupted. The disturbance in food production and food-related logistics and services challenges the food system's ability to provide sufficient, affordable, and nutritious food for everyone (UNICEF, 2020). The consequences of this tend to impact more on the poor and vulnerable groups of the economy, which can eventually deepen inequality between classes in society. The economic and social crisis caused by the COVID-19 pandemic also raises the risk of malnutrition, especially for those who since before the pandemic have experienced critical problems in food access and nutrition. Therefore, a comprehensive strategy is needed to mitigate the impact of the pandemic on food security. Food security policy cannot look at food issues solely, but must also be associated with other aspects, such as public health, social security, and economic recovery.

This study analyses food security policies in five developing Asian countries, namely Malaysia, Thailand, Saudi Arabia, Nepal, and Indonesia, in responding to the impact of the COVID-19 pandemic. These five Asian countries were taken as case studies because of the uniqueness of each country. Thailand is known for being a productive country exporting its agricultural products. Indonesia and Malaysia tend to have similar characteristics with a quite strong agricultural and plantations bases, although in some sectors still bear the status of staple food importer. Saudi Arabia as a country that imports most of the food commodities from other countries as their local production is not enough to meet the domestic needs. Major limiting factors in agriculture production in Saudi Arabia are land and water. Due to this condition, it is projected that by 2050, Saudi Arabia is

expected to import all its domestic needs (Fiaz, Noor, Aldosri, 2016). Nepal is also considered unique for its condition regarding food security. Although 68% of Nepal's population is employed in the agriculture and forestry sector, accounting for 34% of the GDP, it still struggles to produce an adequate supply of food for its citizens (USAID, 2022). Based on the different characteristics and levels of vulnerability of each country, this study examines how state policies in achieving food security during the pandemic of COVID-19.

Malaysia

Malaysia is one of the countries in Southeast Asia that announced the first case of COVID-19 in late January 2020. The first person to be confirmed positive for this virus was an immigrant from Wuhan, China (Hassan, 2020). The outbreak of the COVID-19 pandemic in Malaysia resulted in a slowing economic sector and an increase in the amount of unemployment. This certainly has an impact on revenue. Reduced income affects people's purchasing preferences towards food. A recent study among low-income families in the urban area found that the COVID-19 crisis has modified their spending on food due to reduced income. Changes in dietary patterns during the COVID-19 crisis could contribute to a rising threat of food and nutrition insecurity (UNICEF, 2020). This impact is increasingly felt in people who before the pandemic had been included in the category of poor and difficult to meet nutritional standards. In this group, children are the most vulnerable one because malnutrition can affect their growth and development.

The Department of Statistics Malaysia (DoSM) stated that the COVID-19 pandemic has resulted in Malaysia producing less food in 2020 and relatively less-sufficient for certain food products. Pandemic had indirectly affected Malaysia's agricultural sector such as in terms of supply and demand for food products. Similarly, Covid-19 affected the number of food items for which Malaysia had a self-sufficiency ratio (SSR) of more

than 100 per cent, with only 19 such items in 2020 as compared to 25 items in 2019 (Lim, 2021).

To cut the spread of COVID-19, Malaysia implemented a Moving Control Order (MCO) policy. This policy affects the food supply chain in this country (Hossain, 2020). During the MCO policy implementation, the government still permits the food supply chain activities to proceed. These activities contain the scope of agriculture, fisheries, and also animal husbandry. Nevertheless, the MCO policy has caused some delays in the food supply chain. Under the MCO policy, only essential services were allowed to operate with restricted working hours and minimum number of employees which then affected the production (Lim, 2021). The decreased of demand due to prolonged MCO period had caused excess in local production. To overcome this, the Malaysian government appointed the Federal Agricultural Marketing Authority to help market products from farmers (Hossain, 2020).

Imports are one of the important policies for food security in Malaysia. Through imports, the government can maintain the food products availability and to control the price of these food products. Nearly a quarter of food in Malaysia was obtained through imports. As a step in supporting this policy, the Malaysian Government optimized bilateral relations with various related countries with the application of a more lenient trade policy network (Huszainey, 2020). Malaysia has depended on imports of food and agricultural products from many neighbouring countries such as Indonesia, Thailand, and the Philippines (Ruiz Estrada, 2020). For 2020, Malaysia exported RM33.8 billion worth of food products but imported RM55.5 billion of food products. This means Malaysia has been reliant on imports to meet local demand for food items, with the level of reliance for each food item measured through the Import Dependency Ratio (IDR).

Although, the policy is often seen as a burden of foreign exchange. It happens if there is no balance between import and export. Malaysia has succeeded in terms of exports even during the COVID-19 pandemic. In June

2020, Malaysia's exports increased by 8.8%, with an export value of 82.9 billion Ringgit. The increase was backed by Malaysia's superior export products such as electrical and electronic goods and in machinery and equipment products (Oxford Business Group, 2020).

Thailand

Thailand is one of the countries besides Malaysia which has also been affected by the COVID-19 pandemic. The first cases of this virus infection were found on January 13, 2020. The first person to be confirmed for this virus was also an immigrant from Wuhan, China (World Health Organization, 2020).

Thailand is one of the countries in Southeast Asia with a significant commitment to agriculture as a food product producer. Thailand is even known as the food basket in Asia. Rice, vegetables, tropical fruits, poultry, and livestock are in abundance in this country (Supaphol, 2010). Thailand is also the world's largest rice export, accounting for 36% of total exports (Clapp, 2017)

Although Thailand is strong in the agriculture sector, COVID-19 has also impacted Thailand. In the beginning, the implementation of restriction policies from various countries for their people's mobility, the number of tourists in Thailand went down. The demand for food products also decreased significantly (Hossain, 2020). The government maintained food security during the COVID-19 pandemic by monitoring the supply chain of food products to be distributed optimally. Hence, the Thai government provided loan assistance amounting to 150 billion Baht to institutions such as banks and agriculture, and cooperatives. This step is very beneficial for farmers and small and medium enterprises (Hossain, 2020).

Thailand seemed not to have any obstacles in food security. Rice production in Thailand is sufficient for domestic consumption and even has more for export. Rice production in Thailand in 2019 reached 28.4 million tons and consumed approximately 13.3 million tons. Thus, Thailand is sufficient for domestic consumption (Neo, 2020). With an abundant amount

of production in the country, Thailand still able to export its food products. In April 2020, Thailand's exports increased by 2.12%, with 19.7% of agricultural products such as rice, marine processed products, and fruits (Neo, 2020).

Thailand's food security during COVID-19 is quite strong. There are some key strategies supporting vigorous food security in Thailand, namely: (1) developing the quality of life of farmers (smart farmers); (2) development of agricultural production efficiency, management, and food security; and (3) the development of source power farm in an efficient, balanced, and sustainable. One example of the application of agricultural policies in Thailand that favours farmers is directly bought rice from farmers using a subsidized system. With subsidies, farmers can obtain certainty about the selling price of rice products. Besides, with this government's direct purchase, domestic rice prices will also be more stable (Dabukke & Iqbal, 2016).

Saudi Arabia

Saudi Arabia is one of the countries in Central Asia which is vulnerable to the spread of COVID-19. This is because this country is the centre of worship of Muslims around the world. However, the first new case occurred on March 2, 2020. The first person to be confirmed for this virus was a migrant from Iran traveling to Bahrain (Khalid, 2020). Saudi Arabia is rich in oil resources. However, as a desert country, Saudi Arabia's agricultural sector is not properly developed due to environmental conditions. Consequently, Saudi Arabia must import food commodities from other countries to meet its domestic needs. Besides, the Saudi government also gives attention to the advancement of agriculture. These efforts include financial support, coaching, and counselling (Baig et al., 2012). Introduction of recent agricultural expertise, farmer responsive plans, feasible credit scheme, free land distribution and effective extension programs have improved the yield of cereals, fruits, vegetables and animal related products (Fiaz, Noor, Aldosri, 2016).

During the COVID-19 pandemic, the Government of Saudi Arabia claimed that there were no significant problems with the country's food supply chain. To support farmers, in 2019, the government gave a loan 506.67 million US Dollars to farmers. In addition, the government is also addressing the problem of water supply that is disrupting agricultural production in this country. This policy has an impact on increasing production in the agricultural sector. The final result is an abundance of agricultural stocks during the COVID-19 pandemic. In 2020 Saudi Arabia was the largest wheat and flour store in the Middle, with more than 3.3 million tonnes (Bashraheel, 2020).

Saudi Arabia is a country that is mostly dependent on imported food products. Although, the implementation of policies to achieve food security during the pandemic by increasing domestic production has been quite successful. To guarantee domestic food stocks, the government also imported some food products. In May 2020, the government had allocated 2 billion Riyals to import agricultural food products (Rashad, 2020). In the early stage of pandemic, Saudi Arabia and the United Arab Emirates (UAE) has taken measures to mitigate food insecurity. Salic, a food and livestock company owned by the Public Investment Fund, the Saudi Kingdom's sovereign wealth vehicle, acquired a 30 percent stake in Indian group Dawaat Foods, as part of its strategy to secure rice supplies. It also invested in the British Agritech firm, Hummingbird Technologies, which employs drones and satellite imagery to produce high-resolution maps that can help farmers forecasting crop stress and predicting yields (England & Terazono, 2020). The combination of the implementation of these two policies has a very significant impact on food security in this country. The optimization of domestic production while importing certain products has stabilized food security in Saudi Arabia.

Nepal

Nepal is a small country in South Asia which is also affected by the COVID-19 pandemic. The first case in this country was identified on January 13, 2020. The first person who was confirmed infected by COVID-19 was a student at Wuhan University of Technology (Bastola et al., 2020). Nepal implemented a lockdown policy to prevent more transmission in the country. This lockdown policy affected food allocation distributions in the country (Bastola et al., 2020). To some extent, Nepal's farming systems also show some resilience that helps to cope with and adapt to the crisis. Government and other actors in Nepal have also implemented new ways to deal with the disruption caused by COVID-19 in food production and food security, and some of them have helped farmers and the broader population (Adhikari et al., 2021).

Nepal is currently known as a country that implements import policies to achieve food security in the country. Its ability to produce adequate food has been hindered by several aspects, such as small farm sizes, remoteness of farms, insufficient information, and support to farmers in terms of access to inputs like seed, fertilizer, irrigation, and technical know-how (Adhikari et al., 2021). The impact of the lockdown which limited the movement of human activities greatly affected food security in this country. A survey of 4416 households conducted in April - about a month after lockdown-revealed that COVID-19 increased food insecurity by 8 percentage points, pushing the proportion of food insecure households to 23 percent and deterioration of the dietary diversity by 2 percent affecting mainly children (Adhikari et al., 2021; Subedi, 2020).

Optimization of the allocation of food need in this country was carried out through the provision of around 15 mini trucks in Kathmandu, and seven each in Bhaktapur and Lalitpur to help with the logistical transportation of rice, cooking oil, salt, potatoes, and onions. In addition, the Nepalese Government has also opened the border with China in an effort to facilitate the provision of basic foodstuffs. Given that some of the food products are imported from this country (Hossain, 2020).

Despite implementing a lockdown policy, the Government of Nepal still allows agricultural activities to continue. Efforts from the Government of Nepal in the form of services to farmers simplify the supply chain process for raw materials and marketing of post-harvest products. Also, the government has provided financial assistance amounting to 0.5 billion Nepal Rupees to increase agricultural production, especially in potatoes (Bastola et al., 2020).

The lockdown policy in Nepal lasted for three months (March- June 2020). Along the way, the government increased domestic production. The restrictions also made transportation difficult for farmers. It was estimated the loss of agriculture around 10 million Nepal Rupees (Ghimire, 2020). The government open to import was re-opened in mid-July 2020. Since then, there has been an increased in the number of imported products, especially food products, such as imported rice products, which have increased by 5% (Shrestha, 2021).

Indonesia

Indonesia is a country that is quite vulnerable to the spread of COVID-19. The high population, its density, and its mobility, have unguarded the country towards COVID-19 spreading. The government announced the first case on March 2, 2020. Two citizens were announced to be positive for this virus after interacting with Japanese citizens at an event in Jakarta (Ihsanudin, 2020).

In the initial response of the COVID-19, the government established Large-Scale Social Restrictions (PSBB) on April 10, 2020. It was stated in the capital city of Jakarta. In addition, the government also implemented social and physical distancing. Although not as strict as the lockdown policy, this policy also strictly limits the community's mobility (Wijaya, 2020). The implementation of this policy has a profound impact on food security in Indonesia. This policy limited of food distribution among regions (Masniadi et al., 2020).

The Indonesian government has paid great attention to maintaining food security during the COVID-19 pandemic. The government has reallocated and rearranged the national budget to cope with the pandemic. This allocation includes the budget in the availability of basic needs, one of which is food products (Hossain, 2020). Agriculture, as one of the sectors most impacted by the Covid-19 pandemic, has become a vulnerable sector (Wang et al., 2020). As many people in Indonesia still rely on the agriculture sector, it has become a complex issue. This sector is also closely related to food security because it naturally plays a vital role in supplying and protecting food availability. Farmers, as the main actors in agriculture, face a complex situation in this pandemic, especially regarding fluctuating prices, increasing input prices, and health issues (Rozaki, 2021). Regarding this matter, the Indonesian government, through the Ministry of Agriculture has collaborated with other institutions at the provincial level to form a Mitra Tani Market (Pasar Mitra Tani). The initiative was to improve logistical efficiency for food products while reducing costs during distribution (Badan Ketahanan Pangan, 2020).

The government also strengthened and established a new food estate (lumbung pangan) covering an area of 178 thousand hectares in Kapuas and Pulang Pisau districts, Central Kalimantan (Sutawi, 2020). Food Estate is one of the Indonesian government's efforts to achieve food security. It has incorporated local governments, business, and community/society (Asti et al., 2017). The initial stages of developing a food estate in Indonesia began with expanding the irrigation network covering an area of 165 thousand hectares in the peatlands of Pulang Pisau and Kapuas districts (Sutawi, 2020).

In achieving resilience, Indonesia is known for implementing import policies for several food products. Data showed that in 2018 the total imports in Indonesia for food products reached 576.18 million dollars. Therefore, with regard to import policies during the COVID-19 pandemic, especially for food products, there were less restrictions. In 2020, it was

recorded that for certain food products, imports of corn, soybeans and wheat reached 14.6 million tons during January-September 2020 (Timorria, 2020). To facilitate imports, the Indonesian Government of Indonesia removed the import approval letter (SPI) for shallot and garlic products. This policy is to enable imports of the two products. As its result, the price of garlic decreased from 55.000 to 40.000 IDR in April 2020 (Amanta & Aprilianti, 2020).

Despite importing several food products, the data showed that there was an increase in exports for several agricultural products. From January to August 2020, Indonesia's agricultural sector exports increased by 8.82 percent, reaching 258 trillion rupiah. These exports include food crop products (grain, maize, and cassava) and plantation crops (rubber, coffee, sugar cane and cloves) (Gayati, 2020). Success in increasing the value of exports is also related to government assistance schemes in the form of fiscal stimulus, relaxing payment due date for credit, or even e-commerce form development.

Global Food Security Index

The global food security index (GFSI) was created by the Economist Intelligence Unit (EIU), a research and analysis unit of the Economist Group. This indicator is coined to evaluate food security in a country. This food security index refers to three pillars of food security include availability, affordability, and quality and safety of food products. Determination of these indicators of food security is examined by various institutions such as the Food and Agriculture Organization (FAO), International Food Policy Research Institute (IFPRI), World Trade Organization, US Agency for International Development (USAID) Bureau for Food Security, and many notable university research centers (Năftanăilă et al., 2018).

This index has become a benchmark and is widely used because it involves a mixed quantitative and qualitative method based on 58 indicators.

Category scores are calculated from the weighted average of the underlying indicators on a scale of 0 to 100. The overall score for the GFSI is calculated by the simple weighted average of the first three scoring categories (Năftanăilă et al., 2018). The higher the GFSI value, the better the level of food security in the country. By looking at the calculation of the GFSI indicator, the government of a country can determine the right food security policy. Thus, the aim is to increase food security for people welfare.

Based on the assessment of the Global Food Security Index (GFSI) regarding the three pillars of food security (availability, affordability, and quality and safety of food products), these five countries have different values. The assessment was conducted in 2020 to coincide with the pandemic COVID-19.

The impact of implementing food security policies was greatly affected this value. The assessment results show that Saudi Arabia is ranked first among five countries studied and ranked 38th globally, while Nepal is in the lowest rank and ranked 77th globally. The results of the assessment of the five countries are below in Table 1.

Table 1. Food Security Index Values

Global Ranking	Country	Food Security Index Value
38	Saudi Arabia	69.5
43	Malaysia	67.9
51	Thailand	64
65	Indonesia	59.5
77	Nepal	53

Source: (The Economist, 2020)

Based on Table 1, the food security policy in Saudi Arabia has succeeded significantly. This is because in addition to increasing production domestically by employing technology innovation, which is quite successful, the Saudi Arabian government is also still importing several

food products. The combination of optimal domestic production while importing certain products tends to stabilize food security in these countries. While Thailand seems having vigorous domestic resilience in food production, it still lags Malaysia who tends to look more vulnerable in terms of food resilience. One of the factors is the Malaysian Government took effort in optimizing bilateral relations with various related countries to create a more lenient trade policy network, resulting in a more diverse food supply. This can outperform in all three food security indicators. Indonesia is ranked 65th in the GFSI. This is an increase from previously being ranked 71 in 2016. In response to the COVID-19 pandemic, Indonesia has adopted several policies to maintain supply to avoid food crisis. One of them is the Food Estate program in Kalimantan and Sumatra, although the Indonesian government in the future will still have to think about the ecological impact of this land conversion. However, many other factors influence the Food Security Index Values, which become recommendation for further research. Some of them relates to volatility of agricultural production, food loss, and political commitment. These three factors also make Indonesia still unable to be at the forefront of food security.

D. Conclusion

The COVID-19 pandemic, which affects all countries in the world, requires regional and global solutions for handling. The impact resulting from this pandemic is very complex and one of them is on the food sector. The food sector is an indicator of food security in a country related to people's lives in the world. The policy in realizing food security during a pandemic is essentially ensuring the three pillars of food security, namely availability, affordability, and quality and safety of food products. Based on the studies that have been carried out in the five Asian countries, there are differences in the implementation of policies in realizing food security during the COVID-19 pandemic. The policy depends on domestic social policy conditions in each country and the challenges that accompany it.

In general, these five countries are trying to increase agricultural production to support domestic food availability. However, despite efforts to increase domestic production, the four countries, including Malaysia, Saudi Arabia, Nepal, and Indonesia, still depend on imported products. Importing food products is considered a reasonably efficient step in realizing food security instead of increasing domestic production which will take a long time. Compared to the other four Asian countries, Thailand is less dependent on imported food products. Even during the pandemic, even during the pandemic, Thailand can still have a food surplus and become one of the main food exporting countries.

Based on the GFSI data generated in the year of 2020, Saudi Arabia ranked first among other five countries. Saudi Arabia was quite successful in its policies to increase domestic production. In addition, Saudi Arabia is still importing several food products. The combination of optimal domestic production while importing certain products has stabilized food security in Saudi Arabia.

The COVID-19 pandemic has forced all the five Asian countries to pay attention to food security policy. In general, the implementation of the policies applied is to increase domestic production, optimize supply chains, and import from abroad. The implementation of this policy is quite effective in realizing food security in the country. Given the importance of relations between countries in the export-import policy of various food products, it only fits the regulations if these policies are more relaxed. This greatly underpins the convenience in the policy and because it is quite effective in maintaining national food security.

In general, the fulfillment of food needs tends to focus on staple foods such as rice, wheat, and some cereal products. The COVID-19 pandemic could actually be a moment for a country to optimize other staple food sources besides these products, considering that there are still many other carbohydrate-producing food sources that can be looked into, such as several tubers (cassava, sweet potato, or taro), and also from fruits such as

bananas and breadfruit. Support from the government is definitely needed to optimize this local food source in the context of human resource, technology, institutional and financial support. Optimizing local food sources is deemed important to reduce import from other countries.

This research has limitations, namely in terms of scope and methodology. Since this research emphasizes more on the different characteristics of the five Asian countries, the scope becomes too vague without specific comparison indicators. However, this study offers the idea that to generalize a food security policy is not an easy task. Internal and external factors add the complexity for a country to set its food security strategy. Therefore, reviewing the different conditions in each country can help to see the pattern of these policies. In terms of methodology, subsequent research to elaborate in more detail on the GSFI derived indicators is required. In addition, the scope for research can be made more specific to one country, or wider by comparing food security between developing and developed countries.

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