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Implications Due to Challenges to Food Security in Malaysia

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Abstract

The issue of food security encompasses challenges related to production, distribution, and accessibility of nutritious food. In Malaysia, food security is increasingly threatened due to reliance on imports, declining agricultural productivity, and income inequality. In 2023, food imports reached RM78.7 billion, indicating heavy dependence on global markets. Population growth, expected to reach 42 million by 2050, exacerbates the demand for food, creating further stress on the nation's food systems. This study employed a qualitative methodology to analyze factors impacting Malaysia's food security, focusing on secondary data from academic and institutional sources. Document analysis was used to examine existing policies and data on food security and its implications. Key findings highlight that food insecurity in Malaysia leads to hunger, malnutrition, and related health issues, such as childhood stunting and obesity. The COVID-19 pandemic significantly worsened these conditions, with 30% of the population estimated to experience food insecurity. Environmental factors, including climate change, deforestation, and resource overuse, further challenge food production. Additionally, global disruptions, such as the Russia-Ukraine conflict, have escalated costs and strained supply chains. The study concludes that addressing Malaysia's food security requires a holistic approach, integrating sustainable agricultural practices, reducing dependency on imports, and strengthening local food systems. Collaborative efforts between governments, private sectors, and international organizations are essential to ensure an equitable and sustainable food future. This research underscores the urgent need for policy reforms and strategic planning to safeguard Malaysia's food security amidst growing global and local challenges.

Keywords: *Challenges, Food Security, Malaysia.*

Introduction

Food security can be referred to as a field that includes not only food production and distribution, but also other aspects such as food consumption. Issues with food security in developing nations are different from those in third world nations. Third world nations struggle with issues like hunger, poverty, food shortages, unwholesome food, and ineffective food distribution. In contrast, the topic of food security is handled rather differently in industrialised nations, where emphasis is placed on food hygiene, the negative effects of health issues, food ethics in terms of distribution and food production practices (Shaikh Mohd Saifuddeen et al., 2006). Chronic food insecurity arises from limited access to resources for procuring and cultivating food, thereby resulting in the enduring presence of insufficient dietary intake. When there is a balance between supply and demand, a situation of food insecurity is said to have ended. Food insecurity occurs when no one can ever afford to eat healthfully and adequately to maintain an active lifestyle.

One of the challenges of food security is ensuring that individuals, communities, and nations can access nutritious, safe, and sufficient food to meet their dietary needs and maintain good health. The consequences of this issue may significantly affect the environment and several other economic and social issues such as hunger and malnutrition, health issues, poverty and economic instability, environmental impacts as well as effects on the global food system.

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Problem Statement

Malaysia's food security is under increasing threat due to several interrelated factors. The nation's dependence on food imports makes it vulnerable to global market fluctuations and supply chain disruptions. In 2023, the import value of food reached approximately RM78.7 billion, up from RM75.6 billion in the previous year (Larry Wong, et al. 2024). Declining agricultural productivity, coupled with income inequality, further exacerbates the issue, limiting access to sufficient and nutritious food for all citizens. Despite government efforts to bolster food security through various initiatives and budget allocations, challenges persist in achieving self-sufficiency in key food staples. Additionally, the projected population growth to 40-42 million by 2050 intensifies the demand for food, posing a dire threat to food security (Ministry of Agriculture and Food Industry, 2021).). Addressing these challenges requires a comprehensive understanding of the underlying causes and the development of effective strategies to enhance food security in Malaysia.

Research Methodology

A comprehensive and methodical research strategy is essential for collecting accurate and valuable information, particularly when examining complex issues like food security in Malaysia. This approach involves coordinating three key principles of research design: epistemology, research methodology, and research methods. By aligning these principles, researchers can ensure that the entire research process is well-justified and yields meaningful insights.

This study employs a qualitative research approach to explore factors affecting food security in Malaysia. Qualitative research focuses on gathering and analyzing non-numerical data to understand individuals' social realities, including their attitudes, beliefs, and motivations. According to Maxwell (2005), qualitative research is particularly useful for gaining in-depth insights into phenomena that are difficult to quantify, providing new perspectives on well-known issues. This approach is prevalent in social sciences, including anthropology, sociology, and history, and is effective in supporting hypotheses, enhancing understanding, and analyzing natural occurrences. This study utilizes two research methods: data sourcing and data analysis. For data sourcing, this study using secondary data that was obtained from various scholarly materials, including magazines, books, journals, archival records, case studies, library books, and online resources. These sources offer diverse perspectives and enable a comprehensive examination of existing information, allowing for current conclusions that may differ from earlier studies.

For Data Analysis Process, Document analysis techniques are extensively used in social research due to the abundance of written social and factual information. In qualitative research, common data sources include people, records, and photographs. Data collection methods encompass transcripts, interviews, observations, and content analysis, all aimed at understanding phenomena from participants' perspectives within their social and institutional contexts. Inductive techniques are often employed, along with traditional methods like fieldwork and library research. For instance, analyzing written sources such as records, annual reports, and legal requirements through library searches, as well as conducting interviews or focus group discussions during field studies, are integral to this process. This study specifically focuses on policies related to national food security implemented and announced by the government.

Hunger and Malnutrition

Hunger and malnutrition are the effects of food insecurity that manifest most quickly. Hunger may be described as a distressing or distressing bodily experience resulting from inadequate intake of food energy. When an individual consistently fails to eat a enough amount of calories (dietary energy) to sustain a healthy, active, and typical lifestyle, the problem develops into a chronic situation. Individuals who do not have enough food are basically living but are in a poor state of health. In the worst-case scenario, famine is the result of not having enough food or extreme lack of food for survival. For instance, in 2011, approximately 250 000 people in Somalia died due to famine (Elver, H. 2017). Certain demographic groups, such as families with children, pregnant women, the elderly, those with low incomes, or those who rely on

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government or other people's assistance, are more likely to experience food insecurity, which increases their likelihood of having inadequate diets.

For many years, the FAO of the United Nations used the Prevalence of Undernourishment (PoU) indicator to estimate the global scope of hunger. Hence, the terms "undernourishment" and "hunger" can be applied interchangeably. (Food and Agriculture Organization of the United Nations, 2023). uses a variety of indicators to effectively track and assess global food insecurity and hunger. Among these indicators are the PoU (Prevalence of Undernourishment) and the prevalence of moderate or severe food insecurity in the population, as determined by the Food Insecurity Experience Scale (FIES). The PoU, or Prevalence of Undernourishment, serves as a conventional metric used by the Food and Agriculture Organisation (FAO) to assess global and regional hunger levels. This indicator relies on country-specific data pertaining to food availability, food intake, and energy requirements. It assesses the sufficiency of a population's energy intake from food. The estimation of the prevalence of moderate or severe food insecurity within a population pertains to the percentage of individuals in a country who have difficulties in obtaining enough safe and nutritious food to support their regular growth, development, and overall well-being.

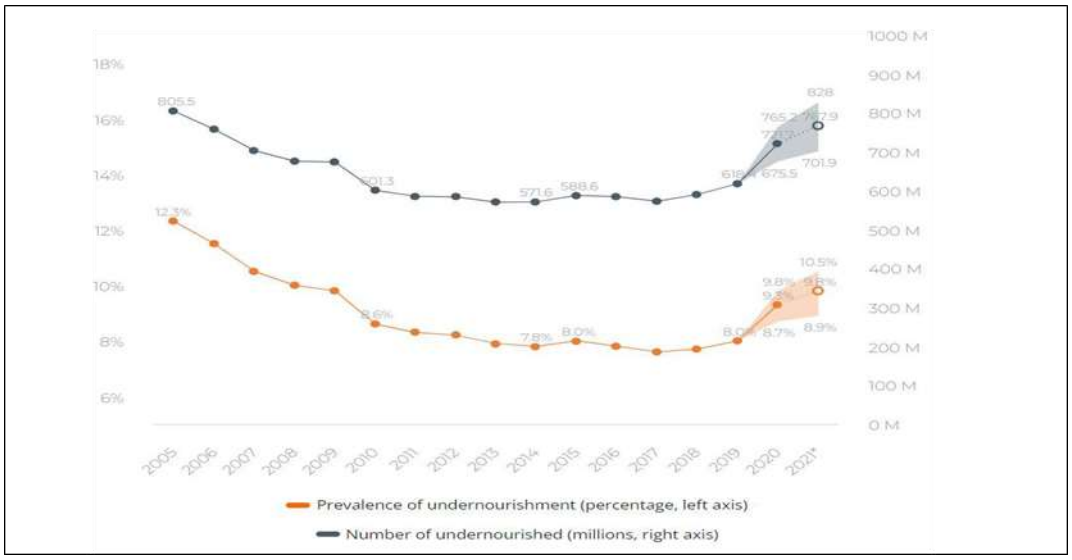

Figure 1. Prevalence of Undernourishment and Number of Undernourished from Year 2005 Until Year 2021

Source: Food and Agriculture Organization of the United Nations (2023)

Data in Figure 1 shows that between 702 million and 828 million individuals throughout the globe experienced hunger between 2005 and 2021 due to a shortage of food. The information is gathered through direct interviews in which individuals are asked about their experiences with limited food availability. The FIES has the capacity to assess various degrees of food insecurity, both at the individual and household levels.

Furthermore, in light of a lack of financial capital or other resources, People experiencing moderate food insecurity often have challenges in maintaining the desired quality and quantity of their meals due to uncertainties around their access to food. The presence of moderate food insecurity has the potential to increase the likelihood of experiencing some forms of malnutrition, such as childhood stunting, deficits in essential micronutrients, or a rise of obesity in adults. In addition to that, Insufficient and limited availability of food may lead to malnutrition, shortages in essential nutrients, and impaired physical development, especially in children. Malnutrition impairs physical and cognitive development, weakens the immune system, and increases one's vulnerability to illness (Avery, 2021).

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Malaysia is no exception and vulnerable to the effects of food insecurity. According to data from the Malaysian Adult Nutrition Survey Malaysia's hunger score on the 2022 Global Hunger Index indicates a moderate level, with a slight rise in the hunger index from 10.9 in 2014 to 12.5 in 2022. This increase probably indicates a cause of food insecurity resulting from the COVID-19 pandemic. Up to 25 percent of the population, with a higher incidence seen in low-income households (33 percent –39 percent), had insufficient food quantity and diversity in 2014. The study also revealed that up to 22 percent of respondents said that they had skipped a meal or cut back on the amount of their meals because of lack of money, and 21 percent said they had had to give their kids less variety in their diet. Given the 4 percent and 2 percent increases in stunting and wasting among Malaysian children since 2014, respectively, this prevalence will likely be higher in 2022 (Jemilah Mahmood et al., 2022).

On top of that, in a study carrying out by Mohamadpour et al. (2012) pertaining to the issue of health, food insecurity, and nutritional status within a selected group of households residing in palm-plantation areas in Malaysia found that about 85.2 percent or a majority of the households showed food insecurity. The assessment was carried out with the Radimer/Cornell Hunger and Food Insecurity Instrument. The findings from this study indicate that there exists an indirect correlation between food insecurity and adverse health outcomes as well as inadequate nutritional status. Meanwhile, a report produced by UNICEF (2020) stated that approximately 4.88 million (25.0 percent) adults in Malaysia were already classified as having food insecurity prior to the start of the COVID-19 pandemic. Insufficient food diversity was reported by 25.5 percent (4.98 million) of respondents to the Malaysian Adult Nutrition Survey (MANS) in 2014, while meal sizes were reduced by 21.9 percent (4.26 million) of respondents due to financial restrictions. In addition to that, children have also been documented to experience food insecurity, where over 4 million kids (23.7 percent) reported having food insecurity in terms of reliance on a small number of inexpensive foods, while 20.8 percent (3.5 million) of households said they were unable to provide a range of food for their kids to eat because of lack of money (Gundersen & Ziliak, 2015).

To make matters worse, according to the World Food Programme (2022), the COVID-19 pandemic is expected to quadruple the number of people experiencing food crises, unless immediate action is taken. Based on the present rate of food insecurity, it is anticipated that 9.76 million Malaysians, or 30 percent of the country's population will experience food insecurity as a result of the COVID-19 pandemic. The report also highlighted that malnutrition risks are posed as a result of the social and economic catastrophe brought on by the COVID- 19 crisis, particularly for individuals who were already subject to severe food and nutrition shortages prior to COVID-19. Food and nutrition insecurity are linked to malnutrition, where children in households with food insecurity are more likely to be malnourished. Children's physical, mental, and cognitive development may be impacted by this. The report also stated that stunting was three times as common in children under five than it was in other upper- middle-income nations, and the rate was rising even before the COVID-19 issue (from 17.7 percent in 2015 to 21.8 percent in 2019). The COVID-19 pandemic is projected to make Malaysia's child malnutrition rate worse because of rising poverty and food insecurity, as well as the suspension of school feeding services.

Other Potential Health Issues

Food instability has also been linked to various types of malnutrition such as overweight, obesity, wasting, and anaemia, in addition to stunting. This is due to the lack of availability of nutrient-rich food which may also be a factor in the growth of dietary-related illnesses. Although the extremity of the FIES falls under the category of "severe food insecurity", households which fall under the category of "mild food insecurity" are also of concern as their access to food is unpredictable. To be able to eat, these people might have to forego other essential requirements. When these people do eat, the food may be whatever is cheapest or most easily accessible, which might not be the healthiest option. This phenomenon is a contributing factor to the increase in obesity and other forms of malnutrition. vegetables and fresh fruits, highly processed, high-sugar, high-sodium, and high-saturated fat meals are often more affordable and accessible. Although consuming these foods may meet individuals' daily caloric requirements, they are still depriving their bodies of essential nutrients necessary for maintaining good health and optimal functioning. Additionally, experiencing inconsistent access to food and going without meals for extended periods of time can lead to physiological changes that contribute to overweight and obesity. Children who endure

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undernutrition, food insecurity, hunger, and food insecurity today may have a higher likelihood of developing overweight, obesity, and chronic diseases such as diabetes. In addition to that, Obesity and undernutrition often coexist in many nations, and both can be attributed to inadequate access to food (Food and Agriculture Organization of the United Nations, 2023; Avery, 2021; Gundersen & Ziliak, 2015).

According to Parker et al. (2010), based on the data collected using the National Health and Nutrition Examination Survey (NHANES) for the years 1999 to 2006 to investigate the cross-sectional association of household food security with metabolic syndrome in United States' adolescents and adults, the study hypothesized that individuals who reported having food insecurity would have a higher risk of developing metabolic syndrome when compared to the individuals who reported residing in fully food secure households. Parker et al. (2010) also added that inflammation, obesity, and the metabolic syndrome have been demonstrated to be cross-sectionally related with dietary patterns that are high in calories and poor in fruits and vegetables. As a result, those who live in households with food shortages are more likely to have undesirable risk profiles.

The statement above is supported by a study conducted by Stuff et al. (2005). The study examined the relationship between food security and chronic disease risk factors or diseases in a sample of adults from the Lower Mississippi Delta region. The study revealed that significant chronic illness problems and food security are related. The results of a study involving 1,453 adults revealed that people in food-insecure households were significantly more likely than those in secure households to report having high cholesterol (20.6 vs 17.9 percent), heart disease (13.5 vs 6.8 percent), hypertension (44.8 vs 29.3 percent), diabetes (15.1 vs 9.4 percent) and conditions suggestive of metabolic syndrome (at least 3 of the following: high cholesterol, high blood pressure, heart disease or diabetes syndrome) (10.0 vs 4.4). Food security status was linked to heart disease, high cholesterol, and a metabolic syndrome marker in a logistic regression model that controlled gender, age, race, income, and education.

In Malaysia, based on the Global Nutrition Report (2022), about 21.8 percent of children under the age of five suffer from stunting, and Malaysia has not made any progress towards meeting the objective set for the condition. This rate is in line with the average for Asia (21.8 percent). In addition to that, the report also stated that 9.7 percent of children under the age of five are wasting which is higher than the average for the Asia region (8.9 percent), and Malaysia has also made no progress towards meeting the objective for this category. Additionally, 5.2 percent of children under the age of five are overweight, but Malaysia is "on course" to stop the trend from continuing.

Poverty and Economic Instability

Beyond the effects on individuals and families, food insecurity has also been connected to long-term economic implications like greater health care costs, lost productivity, lower adult earnings, and a higher likelihood of poverty later in life (UNICEF, 2020). When individuals lack access to or are unable to buy sufficient food, they may devote a large percentage of their income to basic needs, leaving little money for spending on healthcare, education, or other income-generating endeavors. On a larger scale, this cycle of poverty can impede development and economic growth. Poverty and food insecurity are linked problems that significantly influence one another and have a complicated and nuanced relationship. Poverty can be defined as the inability of a person to achieve the expected level of health, life expectancy, or education (Elver, H. 2017). One of the ways in which food insecurity can impact poverty is that food insecurity frequently has a negative impact on one's ability to obtain a sufficient and nourishing diet. Malnutrition and other health issues, particularly in children, can result from this. Poor nutrition has an impact on physical health and cognitive development, which can impair academic success and future employment chances. Due to decreased productivity and earning capacity, people and families are at risk of staying in poverty (Elver, H. 2017.; Manap & Ismail, 2019). On top of that, lack of access to nourishing food can also result in a number of health issues including chronic illnesses and micronutrient deficiencies. Managing these health issues frequently necessitates expensive medical care and treatment, and these additional health-related costs may be difficult for low-income people and families to bear as it adds to their already mounting financial burden (UNICEF, 2020).

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At the individual and social levels, food insecurity can harm productivity and economic performance. People's energy levels and cognitive capacities are impaired when they are undernourished, which affects their capacity to perform productively. Poor nutrition can result in lower productivity in industries like agriculture, where physical labour is essential. Due to the fact that decreased productivity impedes economic expansion and development, this may continue a cycle of poverty. Generally, issues with food security are typically found in dryland developing nations such as South Africa and Mexico. This circumstance arises as a result of dry-land degradation's impact on food production, i.e. shortfalls. Unsustainable land and water use as well as climate change-related variables are reasons for the degradation of dry areas (Manap & Ismail, 2019). A study conducted by Manap & Ismail (2019) on the effect of food security on the economic development of dry land developing countries suggested that food security affects economic growth. The study aims to assess the effects of food security on economic growth both directly and indirectly through indicators of poverty, life expectancy, and overall employment. Manap & Ismail (2019) also concluded that an increase in food security is able to spur economic growth. Moreover, life expectancy and total employment due to higher food security and diminishing poverty have a favorable impact on economic growth in terms of life expectancy, employment, and poverty.

Environmental Impact

The challenge of food security is intricately linked to environmental sustainability. Environmental deterioration, soil erosion, and biodiversity loss can be brought on by agricultural practices such deforestation, heavy pesticide use, and overuse of water resources. The overgrazing of animals on land can also be one of the causes of soil erosion. When animals consume plants, the soil is swiftly washed away, and when they use the area, the soil is quickly compacted. The risk of soil erosion is further increased by deforestation and the overuse of land for plant growth. The necessity to raise more animals and produce more food as a result of food insecurity exacerbates the harm. According to the Azrul Azlan (2022), soil degradation is a result of declining soil quality, human activity-related pollution, harsh weather conditions including drought, and poor land utility; all of which have a detrimental impact on food production. Degradation will affect an ecosystem's capacity to absorb and use precipitation as well as limit biological productivity. In addition, climate change has a significant impact on food production, particularly in African agriculture systems that depend on rain. Food security issues will result from this circumstance.

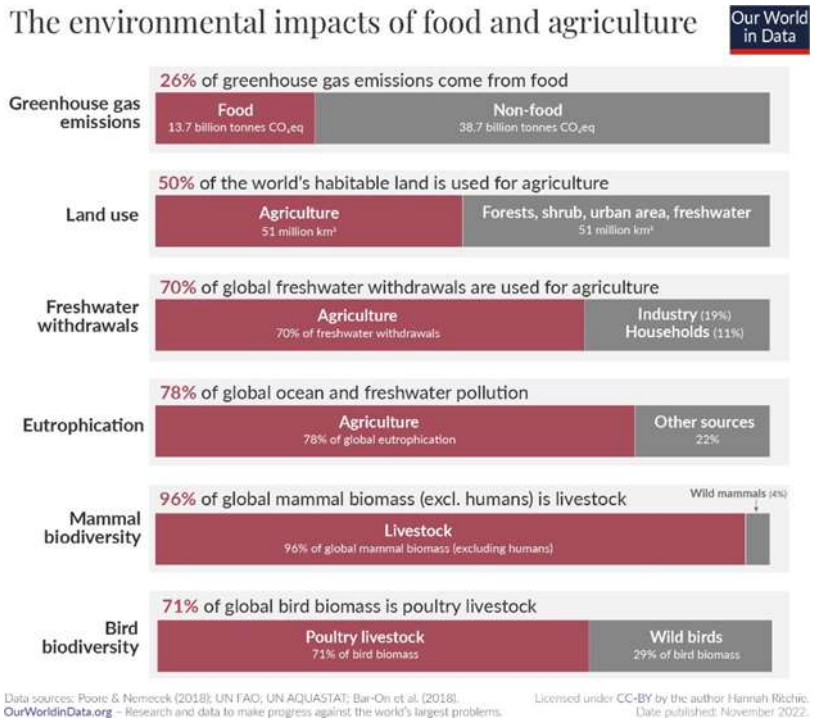

Figure 2. The Environmental Impacts of Food and Agriculture

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Source: Poore & Nemecek (2018)

The visualisation in Figure 2 shows a summary of some of the global enviromental impacts as a resulf of food security activities. According to Poore & Nemecek (2018) one of the main ways that agriculture can have a big impact on the environment are through requirements of abundant fresh water, which can put a lot of pressure on the environment in places where there is a shortage of water. Agriculture consumes water as an input and releases nutrients that contaminate rivers, lakes, and seas. Secondly, agriculture is a significant contributor to climate change, accounting for around a quarter of global greenhouse gas emissions. Lastly, due to its extensive use of land, agriculture has a significant negative influence on the environment worldwide. In the world, agriculture occupies half of the livable land.

The problem is further complicated by climate change which has an impact on crop yields and food supply - increased temperatures, altered rainfall patterns, and extreme weather events. Climate change is profound when farmers alter the conditions under which agricultural activities are carried out. Both direct and indirect effects of climate change are seen in agricultural production systems. Direct effects include the effects on certain agricultural production systems brought on by a change in physical attributes like temperature levels and rainfall distribution. Meanwhile, indirect effects are those that have an impact on production through modifications to other species such as pollinators, pests, disease vectors, and invading species (Food and Agriculture Organization of the United Nations, 2015). Recent evaluations place the global agricultural system's contribution to greenhouse gas emissions at approximately a third, making it the second-largest source of methane and biodiversity loss after the energy industry. Although rising temperatures and carbon dioxide (CO2) can be advantageous for crops up to a point, however, increasing temperatures also hasten soil and plant evapotranspiration, and crops need sufficient water to grow. Above a certain point of warming and particularly above an increase of 2 degrees Celsius in average global temperatures, crops become extremely difficult and expensive to adapt. Rising temperatures could have a more immediate impact on certain crops like wheat which are less heat resistant in nations where temperatures are already quite high, such as the Sahel zone of Africa or South Asia. The impact of falling crop yields, particularly in the world's most food insecure countries, may increase poverty if remedies are not found. By 2030, it is projected that 43 million people in Africa alone will be living in poverty. Climate change will progressively have a negative influence on agricultural production in regions of the world that already have limited water resources due to decreased water availability, an increase in extreme weather events like floods and severe storms, heat stress, and an increase in pests and illnesses (The World Bank, 2022).

In the case of Malaysia, according to Singh et al. (1996) as cited in Alam et al. (2011), the average temperature in Malaysia's rice-growing regions is around 26°C. Under the present climate change scenario, temperatures above 25°C may cause grain production to decrease by as much as 9.6 percent –10.0 percent with every 1°C rise, and grain mass to decrease by 4.4 percent per 1°C rise. Singh et al. (1996) also added that Malaysia's actual agricultural yields of rice range from 3-5 tonnes per hectare, compared to a potential output of 7.2 tonnes. The study conducted by Alam et al. (2011) also found that the yield of rice decreases by 4.6 percent to 6.1 percent for every 1°C rise in temperature, and that the doubling of CO2 concentration (from its current level of 340ppm to 680ppm) may counteract the negative effects of a 4°C rise in temperature on rice output in Malaysia. Overall, the macro cases of national data from 1980 to 2008 in Malaysia suggest that the paddy yield would decline between 43 percent and 61 percent if an increase of 1°C temperature and 1 millimetre (mm) rainfall are recorded. This conclusion is based on the examination of the minimum and maximum yield for the last 28 years. Alam et al. (2011) also disclosed that, despite Malaysia's ratification of the Kyoto Protocol and its numerous endeavours to employ renewable energy sources and reduce emissions, there has been a fast incline in CO2 emissions. With a population of about 27 million, Malaysia is currently ranked as 23rd greatest producer of greenhouse gases out of 209 countries in the world. Given the rate at which emissions are growing, Malaysia is projected to swiftly move up the list (Worldometer, 2023).

On top of that, climate change also affects livestock production in a variety of ways, both directly and indirectly. The health and productivity of animals as well as yields of forages and feed crops are the most significantly affected. During severe drought occurrences in the recent past, 20 to 60 percent reductions in animal population were seen in a number of sub- Saharan African nations. Climate change may cause a 10

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to 25 percent decline in dairy yields in South Africa. The significant decreases in forage production may have resulted from elevated temperatures and decreased precipitation, as evidenced by the 60 percent deficiency of green fodder during the 2003 summer in France (Food and Agriculture Organization of the United Nations, 2015). In Malaysia, states such as Kelantan, Terengganu, Pahang, Perak, Negeri Sembilan, Melaka, Kuala Lumpur, and Selangor experienced significant flooding as a result of climate change-related exceptional downpours on December 17, 2021. During the event, about 5,000 farmers and breeders of animals experienced disruptions, resulting in losses to the agro-food industry of around RM 67.72 million (Jemilah Mahmood, 2022).

Furthermore, the capability of forests to provide a vast range of commodities and environmental services to an estimated 1.6 billion people that are fully or partially reliant on it for their livelihoods and resilience is being impacted by climate change and climate variability. Evidence suggests that climate change is causing a variety of environmental problems in different parts of the world, including decreased tree productivity and dieback due to drought and temperature stress, increased wind and water erosion, storm damage, more frequent forest fires, pest and disease outbreaks, landslides and avalanches, changes in the distribution of forest plants and animals, inundation and flood damage, saltwater intrusion and sea level rise, and damage from coastal storms. This can jeopardize the contribution of forests to the resilience of agricultural systems, such as for instance the water and temperature regulation at landscape level, and the provision of habitats for important species like pollinators (Food and Agriculture Organization of the United Nations, 2015).

Moreover, climate change also affects capture at fisheries and the growth of aquaculture in freshwater and marine habitats. The impacts emerge from both the slow atmospheric warming and related physical changes in sea and inland water surface temperature, ocean circulation, waves, and storm systems, as well as chemical changes such as salinity content, oxygen concentration, and acidity in the aquatic environment. One out of every four marine species' habitats are at danger due to an increase in coral reef bleaching. Different fish species are already moving poleward, which hastens the "tropicalization" of systems at mid- and high latitudes. It is predicted that there will be a significant shift of the world's potential marine fish harvest, with a loss of up to 40 percent in the tropics and an increase of 30 – 70 percent in high- latitude regions. It has been noted that invasive species from lower-latitude regions have been moving into the Mediterranean in recent years at a rate of one new introduction every four weeks. The amount and variety of riverine fish species are particularly susceptible to changes in water flow quantity and timing, and notably to drops in water levels during dry seasons. Human efforts to store water in reservoirs and irrigation channels may increase pressures on river flows (Food and Agriculture Organization of the United Nations, 2015).

To mitigate the impact of climate change on food security, the World Bank through The World Bank Group's Climate Change Action Plan (2021 – 2025) is stepping up support for climate-smart agriculture across the agricultural and food value chains, and via policy and technological interventions to increase productivity, strengthen resilience, and lower greenhouse gas (GHG) emissions. Additionally, the World Bank also supports nations in managing flood and drought risks as well as food loss and waste. For instance, a Bank-funded initiative in Niger intends to assist 500,000 farmers and herders in 44 communes by distributing improved, drought-tolerant seeds, improving irrigation, and increasing the use of forestry for farming and conservation agricultural methods. The project has helped 336,518 farmers manage their land more sustainably and changed farming practices on 79,938 hectares so far (The World Bank, 2022).

The Global Food System

A functioning global food system is necessary for achieving food security. Drought, violence, or trade disruptions in one region of the world can have an impact on the availability and cost of food around the world. Recent years have seen a sharp increase in the price of food. The conflict in Ukraine, which has driven up energy prices even more, and the Russian food embargo in the Black Sea are two examples of the interconnected elements that have contributed to this state of affairs. As the largest fertiliser supplier, fertiliser supplies from Russia have also been severely constrained by the war, and supply chains and logistics are unable to resume normal operations to meet the accumulated demand following protracted shutdowns brought on by the global COVID-19 epidemic (Arumugam, 2022). Based on the United Nations (UN)

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report on June 8, 2022, titled "Global impact of the war in Ukraine: Billions of people face the greatest cost of living crisis in a generation", the situation of Russia – Ukraine conflict is described as the "largest cost of living crisis of the 21st century to date". Food availability will be reduced at the worst possible time if the Russia-Ukraine conflict continues, and high prices of grain and fertilisers persist into the next planting season. Additionally, the current crisis in maize, wheat and vegetable oil could spread to other staples, affecting billions more people (Arumugam, 2022).

The Russia - Ukraine conflict is causing an agriculture crisis that has not been witnessed since World War 2, according to the United Nations World Food Programme. The global food supply network was already in danger of collapsing before the war broke out in February of this year because of the Covid-19 pandemic and other natural calamities that have affected the whole supply chain. It has increased the cost of goods and the prices paid by businesses, forcing consumers to pay more for basic foods including rice, wheat, poultry, vegetables, and fruits. According to MalayMail (2022), at least 30 nations have taken action to limit food exports since the commencement of the war in Ukraine, with agricultural protectionism at its highest level since the food price crisis in 2007 and 2008 (MalayMail, 2022).

The unprecedented global supply chain disruptions occurring recently as a result of rising trade tensions, protracted COVID-19 pandemic lockdowns, and Russia-Ukraine conflicts have led several countries to look for ways to become more independent and less dependent on international trade, particularly for food. The production of food supplies and internal resilience are being strengthened as part of protectionism strategy. Thailand and India are good examples as these countries have imposed higher taxes on staple food like wheat, grains and rice to imported countries as part of their protectionism strategy in order to ensure sufficient food for domestic consumption. As a result, food costs will rise.

Malaysia is also affected by the unprecedented global chain disruptions caused by trade wars, the prolonged COVID – 19 pandemic and the Russia – Ukraine conflict. The Department of Statistics Malaysia (DoSM) estimates that the agriculture sector only contributed 7.4 percent to Malaysia's overall GDP in 2020 compared to 28.8 percent in 1970, as 60 percent of the food is now imported. The statistics also show that Malaysia's imported food items are estimated to be around RM 55.5 billion in 2020 compared to RM 33.8 billion in exports. The trade deficit for food goods reached RM 21.7 billion in 2020, a rise of 24.9 percent over the previous year as a result of the fastest increase in imports relative to exports. Over a 28-year period (1987– 2015), Malaysia's reliance on agricultural imports to meet domestic demand rose from 7.3 percent to 13.7 percent. Additionally, it is noted that during the past ten years, food imports totalled RM 482.8 billion while exports came to RM 296 billion (MalayMail, 2022). The effect of the trade war and the Russia – Ukraine conflict on Malaysia's food security can be seen in terms of disruptions to the chicken supply, with producers struggling to produce chicken meat for sale at the RM 8.90/kg price ceiling after imported chicken feed increased from RM 500/tonne to RM 1,900 in some instances (Morden, 2022).

Summary

To sum it all up, the challenge of food security has far-reaching implications for various aspects of society, including hunger and malnutrition, other potential health issues, poverty and economic instability, environmental impact, and the global food system. Widespread hunger and malnutrition are caused by inadequate availability of sufficient and nourishing food, particularly in developing nations. The main goal of food security measures should be to make sure that nutritious food is available, approachable, and affordable for everyone, especially the elderly, children, and vulnerable groups. Beyond malnutrition, food insecurity is also linked to a number of health issues such as increased illness susceptibility, delayed cognitive growth in children, and chronic health concerns. Thus, in order to improve overall health outcomes and lower healthcare expenditures, each country needs to ensure adequate food security available to its population. On top of that, the cycle of poverty and instability in the economy is sustained by food insecurity. Food insecurity reduces productivity and earning capacity, therefore keeping people and communities in poverty. A nation can improve its economic stability, lessen inequality, and support sustainable development by boosting food security. However, environmental effects of the existing global food system such as deforestation, water pollution, and greenhouse gas emissions also affect food security.

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The causes also include unsustainable agriculture methods which also contribute to biodiversity loss and climate change. The environmental impact of food production must be minimised by switching to sustainable and regenerative farming practises, encouraging local and seasonal food production, and minimising food waste. Lastly, the global food system faces difficulties such as unequal resource distribution, lack of infrastructure, unstable markets, and reliance on a small number of staple crops as a result of trade wars, the Russia - Ukraine conflict, as well as the COVID- 19 pandemic. Hence, a comprehensive strategy is needed to improve food security, including diversifying food production, bolstering regional food systems, upgrading infrastructure for transportation and storage, and advancing fair trade principles.

In conclusion, addressing the issue of food security is essential for eradicating hunger and malnutrition, enhancing public health, lowering poverty, fostering economic stability, reducing environmental impact, and building a more robust and sustainable global food system. To achieve a more just and secure food future for everyone, governments, international organisations, civil society, and the commercial or private sector must cooperate and collaborate in order to develop comprehensive solutions to enhance food security, particularly in Malaysia.

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