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# Solving the Issue of Food Security in Malaysia: Role of Lojing, Kelantan as a Second Vegetable Producer in West Malaysia Production

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**ABSTRACT:**
Well-known as the second vegetable producer after Cameron Highland, Lodging, Kelantan played a crucial role in acting as the second largest vegetable grower, a place for vegetable and fruit cultivation in the West of Malaysia. Nevertheless, despite this status, it is worth noting that the community in Lojing, Kelantan, needs to understand and know the operation or the agricultural practices used there. Hence, this study attempts to examine this issue based on the census data from the Federal Agricultural Marketing Authority (FAMA) that was taken in 2021 and secondary data from diverse sources. Findings show that several issues have been identified, such as lack of training among the farmers, absence of distribution and collection centers and limited production area (land for farming) among the reasons cited. Several proposals have been put forward for various stakeholders in the recommendation part.

**KEYWORDS:** Lojing Kelantan, vegetable grower, West Malaysia, census data

**MANUSCRIPT TYPE:**
Case Study

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## INTRODUCTION

In recent decades, the rapid transformation of demographic and economic expansion has reshaped economic, social, and ecological sustainability, which raises concerns about global food security (Koc et al., 1999). These circumstances have led millions of people around the world to continue to be at risk for hunger and malnutrition despite technical advancements that have updated the conditions of food production and delivery (World Health Organization, 2020). According to the Food Security and Nutrition in the World report, which was just released, nearly 690 million people worldwide experienced hunger in 2019, with an increase of 10 million from 2018 and more than 60 million in just five years (World Health Organization, 2020). With this enduring reality of hunger and the sustainability of current practices, food security is a paramount concern.

Thus, countries with different degrees of economic development have become increasingly concerned about food security. It is due to food access and availability for poor households will be negatively impacted by higher food prices and income inequalities due to increased food demand and reduced crop productivity. Besides this, there is general agreement that global food demand will increase in the coming decades, and there is uncertainty regarding global agriculture's ability to meet this new demand (Pawlak & Kołodziejczak, 2020).

Therefore, food security is a crucial component of the development of every nation, and Malaysia is no exception. By boosting food production through various methods, such as expanding the number

of agricultural areas and advancing agricultural technologies, Malaysia has been attempting to ensure food security.

### *1.1 Food Security: From the World Perspective*

This widely accepted definition identifies the following aspects of food security according to the Food and Agricultural Organization (FAO): Food access refers to an individual's access to essential resources (welfare benefits) for purchasing commodities or food for a healthy, balanced diet (FAO, 2006). It refers to the availability of sufficient amounts of food available. The concept of "stability" can describe both the accessibility and availability facets of food security. According to the Committee on Global Food Security of the United Nations, food security is based on the following three sustainable development goals: (i) first is to reduce poverty and promote sustainable development; (ii) second will be security, improved nutrition, and the promotion of sustainable agriculture and (iii) third is environmental improvements as to ensure healthy lives and improve wellbeing for people of all ages (FAO, 2006).

Agriculture is one of the main methods used to support food security in terms of availability. Several agricultural improvements can help with this. In the end, there is "food security" when everyone always has physical and financial access to enough food that is safe, nourishing, and meets their dietary needs and preferences for an active and healthy life (FAO, 2008).

### *1.2 Food Security in Malaysia*

Food security is a critical issue in Malaysia as the country continues to face various challenges in ensuring sufficient and affordable food. With this, agricultural production, food demand, and supply were some challenges hitting the nation, particularly concerning COVID-19 (Rashidi et al., 2021).

According to a Department of Statistics (DOSM) Leading Index Report 2021, for the reference month of February 2020, Malaysia's economic growth would be slower in the second quarter of 2020 because of the COVID-19 pandemic from January 23 through December 31, 2020. (DOSM, 2021). The DOSM report also highlights how COVID-19 has significantly impacted the world's economy, public health resources both locally and globally, and, most importantly, people's health.

The Malaysian government implemented the Security Action Plan 2021–2025 after becoming aware of the situation and its potential social unrest ramifications (Tapsir et al., 2019). The main goal of this action plan is to build a sustainable food system (Daim, 2021). One of the topics addressed in the national security action plan was the country's readiness to deal with food security crises. Other issues included increasing local food production, lowering reliance on food imports, and minimising the need for foreign labour (New Straits Times, 2021). The action plan also emphasises the four aspects of food security—availability, access, consumption, stability, and sustainability—outlined by the Food and Agricultural Organization of the United Nations (FAO).

In the national security action plan, food accessibility and affordability in the market, improving domestic food production, apart from reducing dependency on food imports and foreign labour, thus ensuring the country's preparedness in facing food security crises were some of the issues being highlighted (Sani et al., 2019). The action plan also focuses on all four food security dimensions, namely availability, access, consumption, and stability and sustainability, in accordance with those outlined by the United Nations' Food and Agriculture Organization (FAO).

The Malaysian government also provides several additional incentives to ensure the nation's food security. One of the measures is to encourage sustainable farming and a healthy food system. Conservation tillage, intercropping, cover crops and mulches, crop rotation, organic fertilisers and composts, and the development of integrated pest management are a few examples of sustainable

agriculture practices (Tapsir et al., 2019). The food system's role consists of farmers, food processors, distributors, retailers, consumers, and waste management to ensure a sustainable agricultural system (Tapsir et al., 2019). Another strategy to enhance food security in Malaysia is through diversifying food sources. While it will improve the food production system, diversifying the food supply can also help the agriculture supply system.

## EXPLANATION OF CASE STUDY

### *2.1 Lojing, Kelantan*

Lojing is a district located in the state of Kelantan, Malaysia. It is in Peninsular Malaysia's northeast. The district has a population of about 24,000 people and a total area of about 1,395 square kilometres.


After Cameron Highland, it is Malaysia's second-largest vegetable grower. However, the primary region for growing highland vegetables is the Cameron Highlands. Around 25% of Malaysia's vegetable supply was estimated to come from Cameron Highlands.

The Lojing area is renowned for its highland farming, and its farmers grow a wide range of fruits, vegetables, and flowers. Cabbage, broccoli, cauliflower, carrots, and strawberries are just a few crops grown in Lojing. The area's high altitude, cold climate, and fertile soil make it the perfect location to produce various products.

### *2.2 Agriculture Activities in Lojing, Kelantan*

Lojing, Kelantan primary activities are agriculture. Lojing is consider the second-largest vegetable grower after Cameron Highland. In Malaysia, Cameron Highland is the primary region for growing fruit and vegetables due to its soil and climate. Cameron Highlands is a source of approximately 25% of Malaysia's vegetable supply.

This place is also a region that is primarily covered in beautiful tropical rainforests, and its rich soil and favourable climate make it suitable for agriculture. The region is ideal for producing various goods because of its high altitude, chilly environment, and rich soil.

#### *2.2.1 Vegetable Cultivation*

Lojing produces many vegetables, including long beans, cucumber, and leafy greens. Farmers in Lojing use organic farming methods, avoiding harmful chemicals and pesticides.

#### *2.2.2 Fruit Cultivation*

Lojing is also home to several fruit orchards, including durian, rambutan and mango orchards. These fruits are harvested, sold in local markets, and exported to other parts of Malaysia and neighbouring countries.

## PROBLEM STATEMENT

After Cameron Highland, Malaysia's second largest production is in Lojing, Kelantan, Malaysia; however, there needs to be more understanding and knowledge on the operation, or the agriculture practice used there. Hence, understanding and operations in Lojing, Kelantan, is the subject of limited research. Developing plans to enhance further and sustain Lojing, Kelantan will be complicated because of this information gap. A complete analysis of agriculture production and its marketing channels is required to recommend increasing production and more sustainable practices.

## OBJECTIVE OF THE STUDY

The study's primary goal is demonstrating that Lojing is the second-largest production after Cameron Highland. As a result, the study's specific objectives are as follows:

1) To identify the agricultural produce in Lojing and compare it to Cameron Highland.
2) To identify the marketing channel of the agricultural produce in Lojing.
3) To examine the contribution and economic impact of the agriculture sector in Lojing, Kelantan.
4) Investigate viable methods for enhancing agricultural output in Lojing, Kelantan, while preserving the sector's long-term viability.

## METHODOLOGY

The production and yield of Lojing, Kelantan in Malaysia were analysed in this study using a quantitative research design. This study aims to provide insights into the production and yield of agricultural output and their marketing channel.

The study used census data from the Federal Agricultural Marketing Authority (FAMA) and secondary data from diverse sources. The FAMA census was taken in 2021 and divided into two phases: September 20 to October 7, 2021, and October 25 to November 12, 2021. The Market Information Department, FAMA, in collaboration with the Department of Orang Asli Development (JAKOA), Gua Musang, the Gua Musang District Council, and the Cameron Highlands Vegetable Producers Association, conducted this census. The secondary data was gathered from academic journals, government documents, reports, newspapers, and websites.

The statistical program software SPSS (Statistical Package for Social Sciences) was used to analyse the FAMA census data. The data were summarised using descriptive statistics, such as means, medians, cross-tabulations, and standard deviation. Correlation and regression analysis were utilised to ascertain the relationship between various parameters and the production and yield of Lojing, Kelantan.

## RESULTS

Based on the observation in the Lojing area, due to geographical factors and lack of logistics development, mainly the outskirts, such as Kuala Betis, Balar, and Hau. It made it difficult for the farmers to transport and market their products. It results in dumping seasonal fruits, especially in lowland areas such as Kuala Betis. It would result in wastage and loss of income for the farmers.

Lack of marketing facilities like collection and distribution centres to gather all the agricultural produce to undergo the post-harvest procedures, namely grading, packaging, and labelling, before being sent to intermediaries or specific locations.

Apart from that, most lowland farmers, such as Kuala Betis, Balar, and Hau must apply the proper planting methods and techniques to enhance their product quality and quantity. They would plant, leave, and harvest their crops or plants without taking care of them by fertilising or applying pesticides in order for them to grow healthily. It shows that they need proper agronomic training, knowledge, and post-harvest handling.

Based on census reports among the farmers, who are private entities and organisations, 60% of them are cultivating leased or rented lands. Sigar has the highest number of farmers or producers, totalling 121, whilst Kuala Betis comes second with 38. A total of 1,451.26 hectares are planted with 77,975 tons in a year as of March 2022. Out of the total, 95% are vegetables, followed by cash crops (3%) and fruits (2%). Tomatoes are the most planted vegetables, with a total of 43,095 tons (58%) in a year, followed by mustard (16%) and brinjal (7%). The most planted cash crops and fruits in Lojing are corn, which comprises 85% out of 1,795 tons and the King of Fruit, which is durian, with 58% out of 1,566 tons.

These highland agricultural products were distributed to domestic and international markets to ensure food security. Due to a limited production area, highland vegetables are in high demand. The most significant portion (58%) of the produce is a channel to intermediaries in Cameron Highlands before being allotted accordingly based on demands. Other than products being distributed by the intermediaries in Cameron Highlands, it is also sent directly to the markets in other states (15%), such as Johor, Kuala Lumpur, Pahang, Pulau Pinang, and Kelantan and exported to Singapore (8%).

### *Key Recommendation*
### *Department of Agriculture (DOA)*

Several recommendations have been put forward. This recommendation focuses on a specific target group to ensure optimal results are achieved. Firstly, to take an in-depth look at a very high-quality product to work on, such as herbs and forest products, to increase the farmer's income; to conduct agronomic training for the farmers since there is a sufficient workforce, spacious land, and fertile soil to grow agricultural products.

### *JAKOA*

Road construction, especially to connect two main areas or villages and to the town; To take an in-depth look at a very high-quality product to work on, such as herbs and forest products, to increase the farmer's income.

### *FAMA*

To build a Collection and Distribution Centre for the farmers to gather all their products for the sorting, grading, packaging, and labelling process before being collected by intermediaries or buyers. To conduct post-harvest training, which includes handling, grading, labelling, packaging, and promotion – to improve the farmers' standard of living by getting better quality, quantity, and price, plus to educate on the market demands and business prospects – to expand their market.

### Farmers

They need to accept changes by enhancing knowledge and skills through training and working with the government to develop the area.

### Stakeholders

Identify high-value agricultural products to be planted and marketed To optimise agricultural machinery operations so that they are not under capacity and can meet local farmers' needs.

## LIMITATION

One of the study's limitations is that the census data from FAMA might need to accurately reflect the current production and yield of Lojing in Kelantan. The precision and dependability of the data collected may also be constrained.

## CONCLUSION

According to the research of this study, agricultural production and its marketing channels are present in Lojing, Kelantan. These variables include weather elements like temperature and rainfall, agricultural techniques like fertilisation and irrigation, and economic indicators like market demand and pricing.

The results indicate that while economic indicators are essential, environmental conditions and agricultural practices significantly impact productivity and yield. Also, the data demonstrates that Lojing Kelantan's production and yield have been consistently rising for the previous few decades.

The study's findings offer insightful information about Lojing Kelantan's output and yield. The results of this study may aid in improving policymakers' and farmers' understanding of and response to opportunities and problems in the Lojing Kelantan.

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