

Bold to Bowl: The Malaysia's Battle for Food Security

Introduction

Rice, being a fundamental staple for nearly half of the world's population, holds immense significance in sustaining global food security especially in Asia. In Malaysia, the cultivation of rice emerged in the early 1960s through modest-scale farming and gradually evolving into an essential food crop for the nation. However, the Malaysian rice sustainability and security has navigated through a series of challenges, ranging from unpredictable weather patterns to suboptimal soil fertility management. Additionally, limited awareness among farmers, resistance towards genetically-modified crops, and an underutilization of available technology have further compounded the hurdles faced.

In most parts of the world, small-scale farmers cultivate paddy fields, with exceptions found in Australia, the United States of America, and several South American countries. This form of cultivation sustains the livelihoods of millions of families of small-scale farmers and landless agricultural workers across Asia. Malaysia's paddy cultivation, involving approximately 194,000 farmers, takes place on moderate plots of land, typically less than two hectares, categorizing it as small-scale farming.

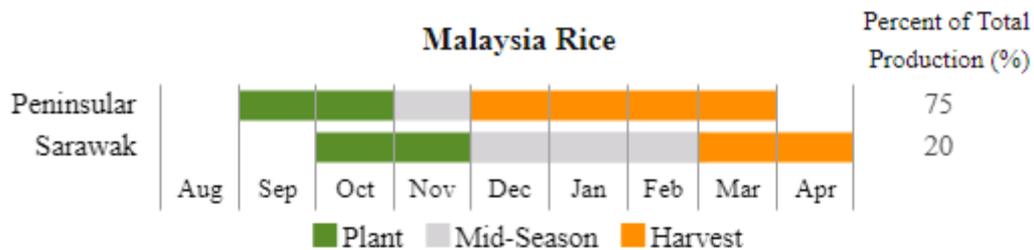
This smaller land size leads to lower productivity and higher production costs. The absence of economies of scale puts the nation at a relative disadvantage in achieving a 100% self-sufficiency level (SSL). Notably, Malaysia is home to eight main paddy granary areas, often referred to as the nation's rice bowl and a cornerstone of its food security. The deliberate designation of these primary granary areas as designated wetland paddy zones under the National Agricultural Policy (NAP) of 1984–1991 represents a strategic intervention aimed at fortifying the development of the paddy and rice sectors while safeguarding the nation's food security.

Sustainability Challenges for Malaysia

Malaysia experiences a consistent equatorial or tropical rainforest climate, with daily temperatures averaging between 26°C to 28°C throughout the year. Rainfall patterns play a significant role in shaping seasonal weather variations due to the limited temperature fluctuations. These patterns are closely tied to monsoon winds that sweep

across Peninsular Malaysia at different times of the year. However, the agricultural sector, particularly rice, faces significant challenges from the impacts of climate change.

Figure 1: Rice Crop Calendar



Source: Food Security Snapshot 2023 Food and Agriculture Organization of the United Nations.

Figure 1 illustrates Malaysia's rice farming schedule and generally in Peninsular Malaysia, which serves as the primary rice-producing region, planting typically begins in September. Conversely, in the smaller producing Sarawak State, rice planting is projected to start in October. Approximately 85 percent of the primary rice crop is grown with the aid of irrigation in the northern regions of Peninsular Malaysia. Nevertheless, the water levels in five dams have reached warning level¹, with the Muda Dam even reaching a critical level¹. It's worth noting that most of these dams are located in the northern parts of Peninsular Malaysia.

Climate shocks and extreme weather events have the potential to severely disrupt crop production, leading to cascading effects on the food supply chain. The emergence of El Niño, characterized by unusually warm Pacific Ocean waters, exerts dominant effects on many Asian countries. This includes abnormal precipitation patterns, heightened droughts, and floods. El Niño weather patterns can cause heavy rainfall, floods, extreme temperature variations, and droughts, significantly affecting food production. This, in turn, leads to reduced agricultural output and lower yields of key food staples, particularly rice.

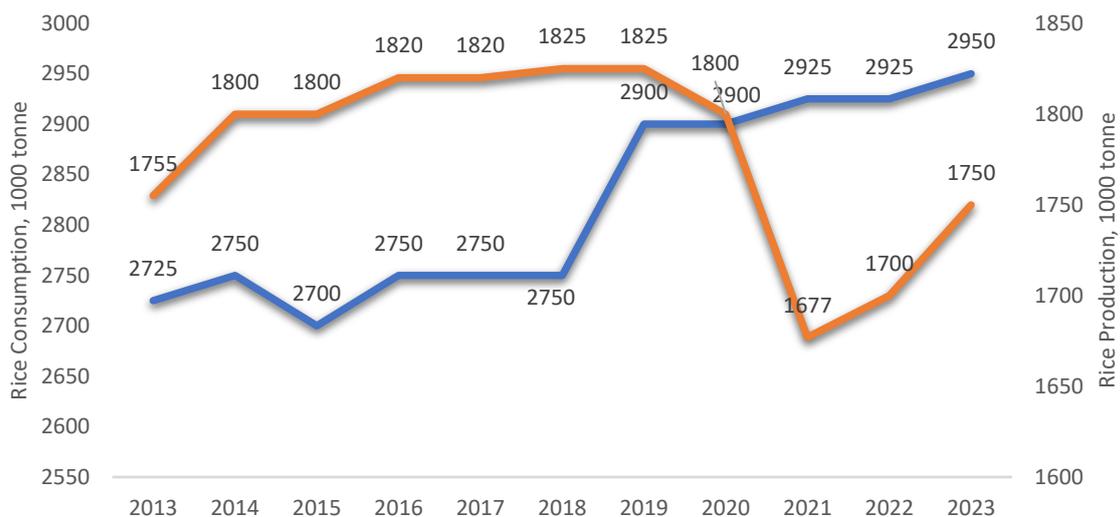
Furthermore, Malaysia's rice sector has experienced substantial reductions in paddy fields attributed to land conversions and a notable decrease in paddy yield. These

¹ Five dams nationwide at warning level, one critical
<https://www.thestar.com.my/news/nation/2023/07/04/five-dams-nationwide-at-warning-level-one-critical-says-span>

factors have contributed to a shortage of domestic rice, leading to increased reliance on imported rice and higher prices for consumers. According to Dr Tey Yeong Sheng of Universiti Putra Malaysia (UPM), Malaysia has lost approximately 50,000 hectares of paddy areas over the past five years due to the reclassification of land for other purposes, such as urbanization and industrial development². This reduction in paddy acreage has directly impacted rice production capacity.

The Malaysia Farmers Organisation Authority (LPP) reports that, on average, paddy yields per harvest can reach up to seven metric tonnes per hectare. However, in the last season, this figure dropped to only four metric tonnes. The shortage of locally-produced white rice became more pronounced following the surge in imported rice prices. Consequently, some consumers have switched to local white rice due to affordability.

Figure 2: Malaysia Rice Domestic Production Consumption



Source: United States Department of Agriculture 2023

Presently, the existing volume of rice production falls short in meeting the demand for this vital staple within the Malaysian market. Rice consumption in Malaysia surged to approximately 2.9 million metric tons in 2023 (Figure 2) compared to the rice production with just 1.75 million metric tons in the same year. Remarkably, nearly 38 percent of this demand is met through the importation of rice from foreign sources. The nation's reliance on imported rice could potentially pose a significant challenge to

² 50,000ha paddy land lost in 5 years <https://www.dailyexpress.com.my/news/225187/50-000ha-paddy-land-lost-in-5-years/>

its food security, particularly in the aftermath of the COVID-19 pandemic and the unpredictable landscape of global politics, which may introduce disruptions to critical supply chains.

The El Niño Effect

Malaysia is currently facing a critical food security crisis that demands immediate government intervention. This crisis was set in motion when Russia withdrew from the Black Sea wheat agreement, and the Indian government imposed a ban on the export of non-basmati white rice since July last year, 2023. As it stands, our nation can only sustain 67% to 70% of the rice supply for local consumption.

The Malaysian rice market has been thrown into disarray in recent months, with the price of imported rice skyrocketing by 36%. This sharp increase is a consequence of a confluence of factors, including a global supply shortage triggered by India's export ban, reduced local production due to extreme weather events, and a surge in demand for both imported and domestic rice. To bridge this 38% rice deficit, Malaysia must act swiftly to compete for and secure local rice supplies. This urgency arises from the fierce competition expected from Indonesia, which is currently facing a 42% shortage in local rice supply, and the Philippines, the largest rice importer in Southeast Asia, with imports valued at approximately USD 1.3 billion in 2021.

India, a major rice exporter, imposed an export ban in September 1st 2023 to safeguard domestic food security amid concerns over rising global rice prices. This ban, affecting nearly 40% of global rice trade, has sent shockwaves through the international market, pushing prices higher and exacerbating existing supply chain disruptions. The ban has also had a significant impact on Malaysia, which relies heavily on rice imports. This abrupt increase will make it even more challenging for the low-income worker groups to afford their daily carbohydrate needs, exacerbating the concerns of the Malaysian population during these trying times.

The consumer is not only grappling with the sudden surge in rice prices and the anxiety of securing sufficient supplies, but they are also burdened by the prices of goods that have not been aligned with inflation rates. To address the issue of food safety and security in our nation, it is crucial for us to strengthen our position in importing rice

from other exporting countries like Vietnam, Thailand, and Pakistan, promptly. This is because countries like Indonesia and the Philippines are currently seeking alternative sources to meet their rice demands due to the export ban imposed by India, which has significantly impacted the global rice market, particularly in the Southeast Asian region.

Government Intervention

Since 2010, the Malaysian government has prioritized domestic rice production through The National Agrofood Policy (NAP, 2011-2020). This policy goes beyond just production by equipping rice farmers with the skills needed to succeed in a modern agricultural environment. Programs like MARDI's AZAM Tani initiative (launched in 2010) provide education and support in IT-based technologies like precision agriculture and smart farming techniques, alongside mentorship and knowledge sharing to improve overall farming practices.

The Malaysian government is taking proactive measures to fortify local rice production, aiming to autonomously supply 75 percent of the nation's total consumption by the year 2025. This strategic initiative reflects a commitment to ensuring the resilience and sustainability of Malaysia's rice supply, ultimately fortifying the nation's food security in an ever-evolving global landscape.

To ensure food security and support the agricultural sector, the government should ensure that Padiberas Nasional Berhad (BERNAS)³ profit contribution directly benefits low-income farmers⁴. Continuing government assistance for paddy farmers should incentivize higher yields and improved paddy quality and Malaysian Agricultural Research and Development Institute (MARDI) role in this regard needs to be strengthened to align with these goals. The budget 2024's irrigation upgrades in Kedah and Perlis should be complemented by the adoption of Agri-tech and modern farming techniques to enhance crop yields and quality as well as to explore alternative supply channels and consider import exemptions for manufacturers to ensure a stable rice supply for essential food production

³ BERNAS is a company that manages the local rice and rice industry. BERNAS was privatized on January 1, 1996 and replaced the National Rice and Rice Board (LPN)

⁴ Profit sharing with farmer stakeholders <https://themalaysianreserve.com/2023/03/03/bernas-to-share-profits-from-rice-imports-with-farmers/>

The Ministry of Agriculture and Food Industries (MAFI) in Malaysia has set an ambitious goal to increase the country's self-sufficiency in rice production to 75% by 2025⁵. This target, which will be detailed in the 12th Malaysia Plan (12MP), is crucial for safeguarding the nation's food security and reducing reliance on imported goods. A pressing agenda for the transformation and modernization of the agriculture industry is imperative to achieve this objective.

As Malaysia's rice sector moves forward, it is anticipated to encounter various challenges. These include the complexities of shifting climatic conditions and the impacts of climate change, limited arable land, social and economic transformations, the influx of competitively-priced rice from neighbouring countries, insufficient property assets, and a dependence on smallholder agriculture. Addressing these challenges will be essential for the sustainable growth of Malaysia's rice production industry.

Conclusion

Malaysia's rice, a cornerstone of national food security, faces a precarious balancing act. Despite its historical significance as a key crop, cultivated by the nation's 194,000 small-scale farmers, challenges abound. Limited land sizes hinder productivity, and self-sufficiency hovers around a concerning 62%. Global uncertainties further complicate the picture. Reliance on imported rice, reaching nearly 38%, exposes Malaysia to the whims of international supply chains, vulnerable to disruptions like the COVID-19 pandemic. Rising political tensions add another layer of risk.

However, hope persists. The Malaysian government, recognizing the gravity of the situation, has set an ambitious target: 75% self-sufficiency by 2025. This proactive stance highlights a commitment to bolstering domestic rice production, strengthening resilience, and ultimately safeguarding the nation's food security in the face of a volatile global landscape. Achieving this target demands a multifaceted approach. Embracing advanced technologies, improving soil management, and empowering farmers through knowledge sharing are crucial steps. Additionally, protecting designated paddy granaries, the nation's "rice bowl," is vital.

⁵ Govt sets SSL target for rice output at 75% by 2025 <https://themalaysianreserve.com/2020/11/25/govt-sets-ssl-target-for-rice-output-at-75-by-2025/>

Securing Malaysia's rice future requires collective effort. Farmers, policymakers, and the public must work in unison to nurture sustainable practices, ensure fair trade, and cultivate a deep understanding of the importance of this precious grain. Only then can Malaysia truly savour the fruits of its labour, ensuring a bountiful harvest not just for today, but for generations to come.

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