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Development Of A Framework For the Food Availability For Rice Cultivation In Peninsular Malaysia

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Abstract

Food security is of utmost importance for various reasons, such as ensuring economic stability, national security, and the well-being of the population. In this regard, food security remains a frequently discussed topic in Malaysia, particularly rice being the national staple food and a strategic commodity under various governmental policies related to the agricultural sector. Food availability, as one of the dimensions of food security, plays a fundamental role in indicating the supply of food within the country. Hence, this paper develops a framework for the Food Availability Index (FAI) specifically for rice, aiming to assess food availability of rice throughout the states in Peninsular Malaysia for amplifying food security. The framework was developed by comparing the Global Food Security Index (GFSI) and the UK Food Security Assessment, selecting relevant components and indicators that are appropriate within the context of Malaysia. From the framework produced, the index for the eleven (11) states of Peninsular Malaysia has been calculated by using a composite index according to the scoring given based on data gained from the Department of Agriculture and PLAN Malaysia. The findings indicate that Perak and Pulau Pinang achieved the highest FAI scores of 29. Spatial mapping has also been produced to understand the disparities between rice production within the states in Peninsular Malaysia. The results reveal significant variation among states, with certain regions demonstrating high dependence on external supply sources, posing potential risks to their food security resilience. The study contributes a practical and replicable index framework for state-level food availability assessment, providing useful insights for policy formulation, resource allocation, and long-term national food planning.

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