

UMS dons suggest growing padi the aquaponic way

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KOTA KINABALU: Alternative rice cultivation systems should be introduced to Malaysia, especially Sabah, to ensure the adequacy of supply in the country.

"To ensure national food security, innovations in rice cultivation methods based on hydroponic and aquaponics concepts or integration between the two need to be introduced," said Prof Dr Kawi Bidin and Dr Fera @ Nony Cleophas from the Universiti Malaysia Sabah's (UMS) Faculty of Science and Natural Resources.

They said in a joint statement that to maximise land space, vertical crop sites either in staged strata or towers are also suitable.

"This method can overcome common problems encountered in conventional and traditional paddy cultivation such as irrigation systems, limited cultivation area, control of nutrient inputs, and control of pests and loss of community interest especially the new generation towards paddy cultivation," they said.

They said the aquaponics system of rice cultivation has been widely adopted by the Indonesian community and was widely reported on social media, citing the Mimpil Malang Workshop.

"Although applying only one strata crop site, the Mimpil Malang Workshop claims that their paddy harvest is gone up to four times higher than traditional planting methods," they said.

Earlier in, they said although located in



Aquaponics system of rice cultivation has been widely adopted by the Indonesian community.

the Southeast Asian region known as the centre of the global rice economy, Malaysia is the country's leading importer of rice to meet the country's rice needs.

Malaysia only produces about 67 per cent of the 2.7 million metric tonnes of rice consumed annually by Malaysians while the rest is imported from countries such as Thailand, Vietnam and Pakistan.

They said a report by the Khazanah Research Institute (2019) found that Sabah is among the top states in Malaysia that use rice at an average of RM 73 per month from household income to buy rice.

Malaysia's dependence on foreign countries in food security especially rice

is particularly worrying during the Covid-19 pandemic.

In line with the global economic crisis, demand for rice is expected to increase especially for countries like Malaysia where rice is a staple food.

"If rice producing countries stopped exporting for a period of time after the Covid-19 pandemic crisis, this would have a direct impact on national food security. Therefore, appropriate steps should be taken immediately," they said.

Sabah's largest paddy fields are located in Kota Belud and Kota Marudu. However only 2,000 acres out of the 6,000 acres of paddy fields in Kota Belud are cultivated,

the rest (4,000 acres) can be considered difficult to develop due to irrigation problems.

Similar problems have been experienced in Kota Marudu where thousands of acres of paddy fields have been abandoned.

One of the challenges in the development of the rice-farming sector is the discrimination of infrastructure development projects which has led to the decline of paddy fields especially in urban areas.

In addition, the rice cultivation sector is also competing with other crop cultivation especially palm oil, which is considered to be more profitable.

In recent times, farmers who have cultivated family land on a smaller scale have also lost interest in growing rice.

This is due to irrigation problems, reduced land area and traditionally cultivated methods that do not attract new generations.

The crisis of quantity and quality of rice fields and the new generation's interest in rice cultivation have had a devastating negative impact on national food security.

The Young Agricultural Development Authority reports that the gross production of rice in 2015 and 2016, respectively, was 5725 kg/ha and 6194 kg/ha, respectively, at 0.57 kg/m² and 0.62 kg/m² (Mada, 2017).