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S'pore can use research to boost food security: don

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Rice Bowl Index framework

[SINGAPORE] Singapore, as a major food importer, has much to gain from helping other countries grow more food for export, said a

leading researcher on food security.

Where it can lend a hand is not in the fields, but in the labs. Singapore should build up capabilities in agricultural research and share that knowhow, said Paul Teng, a senior fellow at the S Rajaratnam School of International Studies' Centre for Non-Traditional Security Studies.

One of Prof Teng's latest projects is the Rice Bowl Index, a tool which assesses how robust a country's capacity is in withstanding and addressing food security challenges. It is the result of a collaboration with agricultural technology firm Syngenta and consultancy Frontier Strategy Group.

The index focuses on Asia Pacific, a region facing tough food security challenges. While Asia houses over 60 per cent of the global population, it has only 34 per cent of the world's arable land and 36 per cent of its water resources.

Fourteen Asia Pacific countries were rated using more than 20 measures split into four categories. Farm-level factors indicate if farmers are able to be productive, while policy and trade factors indicate if the country encourages open markets, investment and innovation. There are also environmental and demand and price factors.

The study does not rank the countries, but it found that farm-level factors are most important for food security in places where agriculture contributes substantially to GDP. Myanmar, for instance, would be able to improve its food security by raising cereal yield.

For countries which are net importers of food, policy and trade factors are especially crucial - they need open markets and good infrastructure to make sure they obtain food supplies quickly.

Singapore was not part of the study but it would score well for policy and trade factors, Prof Teng said. Apart from ensuring that food import channels are open and sufficient, it also has food reserves and has been trying to increase local food production.

But there is more that Singapore can do to boost food security, by first helping other countries with theirs. "National food security depends on regional and global food security," Prof Teng said.

He believes that Singapore should develop skills in agricultural research to help other countries improve crop and animal productivity. When they have surplus food for export, Singapore stands to benefit.

"It doesn't mean that we have to grow the animals and crops ourselves," Prof Teng said. "We can lead to new discoveries because of our strength in R&D, that we can then patent and license out for use to other companies or countries for that matter to help them grow more food."

Singapore's Temasek Life Sciences Laboratory has been doing work in this area. It has a research programme with the National University of Singapore that aims to develop new rice varieties with features such as built-in protection against diseases.

With the Rice Bowl Index, Singapore can also keep track of countries' agricultural performance and diversify its food sources, Prof Teng said. He gave an example: if Singapore can help Myanmar improve farm level factors in the country, "then I think we have a foot in the door" in getting another food supply.