

Fuelling a food nation

Professionals in the agricultural sector must ensure that changes are in place to enhance yield and productivity.

RICE shortage hit an all time high during the global food crisis in 2008 when the price of Thai white rice soared to US\$1,000 (RM3,100) per tonne compared to US\$360 (RM1,119) the year before, triggering panic in Asian nations where rice is the most important staple food.

Malaysia imports 30% of its rice needs from Thailand, Vietnam and India while the remaining 70% is sourced from local farmers.

The current unprecedented drought in the United States (US) has led to huge drops in the production of corn, soy bean and cattle, setting off alarm for a repeat of the 2008 global food crisis episode.

It was reported in *Bloomberg Businessweek* that corn and soy production may fall 6.1% and 5.3% below estimates this year.

Close to 30% of the corn crop in the US is used for biofuel production while corn and soybeans are the main ingredients in livestock feed. Reduced corn and soybean supplies in the US directly affect the production of livestock in the country and South America.

Still, Universiti Putra Malaysia (UPM) Agriculture Faculty dean Prof Dr Mad Nasir Shamsudin is hopeful as he says it is too early to tell if the impact of the ongoing drought could be on such a large scale as that of the situation in 2008.

The global food crisis in 2008 was contributed in part by the hike in oil prices when the price of a barrel of oil escalated to US\$147 (RM457).

The cause for concern, Prof Mad Nasir points out, is that the growth of food production is declining even though production is actually increasing.

He believes that the slowdown in the growth of production is not only unique in Malaysia, but also globally.

"Looking at the global landscape of food security, the per capita food consumption increases significantly when the world population grows to seven billion.

"On one hand, while there are more people to feed, there are also concerns about dietary habits and the type of food that people consume," says Prof Mad Nasir.

He reiterates that food security is an imminent issue since the world has not witnessed a big jump in agriculture yields after the Green Revolution in the 1960s.

Agriculture and Agro-based Industry Minister Datuk Seri Noh Omar says that Malaysia has been spending RM92mil a day on food imports between January and October last year. The self-sufficiency levels for other food items such as beef, mutton and dairy are 25%, 10% and 5% respectively.

"We are not only the net importer of food but the percentage growth in food imports is higher than the growth in food exports. This puts us in a very risky position as we have to depend on other countries for food security," says Prof Mad Nasir.

On top of that, Malaysians spend 34% of their average income on food. Prof Mad Nasir agrees that the margin of consumption of the lower income group would be affected greatly if there is an imported inflation.

Transforming agriculture

When it comes to the agricultural sector in the country, Prof Mad Nasir says it must be understood that there is a “duality” in the sector — food production agriculture and plantation agriculture.

“More pertinently, the food production agriculture needs to undergo a transformation in order to ‘bulk up’ the food security of the nation,” he says.

Being the oldest institution offering agriculture studies in the country, Prof Mad Nasir says UPM wants its graduates to be entrepreneurs rather than workers in the agricultural sector.



Concerned: Prof Mad Nasir feels that the food production agriculture needs a transformation.

To date, all UPM Agriculture Studies undergraduates are required to complete agri-entrepreneurship courses and present a business plan. Those who are outstanding are given grants by the Government to kickstart their projects.

"It is true that we need more scientists to increase production in tackling the food security issue. At the same time, we also need entrepreneurs in farming to give the *kampung*-style agriculture a breath of fresh air," says Prof Mad Nasir.

"As long as the entrepreneur farmers are able to earn income that is on par with their other graduate friends, we will be able to attract more graduates to the agriculture industry," he adds.

His colleague, Prof Dr Mohd Khanif Yusop, opines that research findings in agriculture is void if it is not applied at the farm level.

"Farmers with entrepreneur characteristics are more likely to adopt technology when growing the crops.

"A modern day farmer-entrepreneur needs



Tech time: Prof Mohd Khanif believes that technology plays an important role in better yields.

to be business savvy and open to applying farming technology to get a better harvest," says Prof Mohd Khanif.

He adds that technology in food production agriculture involves the whole value chain, starting from the seeds, irrigation and harvesting techniques to ways of cutting post-harvest losses and optimising harvest in unpredictable weather conditions.

In terms of cutting-edge technology, precision agriculture is the "in" thing in farming as farmers seek to reap more "crop per drop", as Prof Mohd Khanif puts it.

The fertigation technology which supplies water and fertilisers directly to the roots of the plant is widely used to grow rock melons in the local farms.

"With the aid of modern technology, it is not difficult to control the ripening and size of the fruits based on the demand of the market. The Japanese consumers, for instance, prefer smaller fruits while some housewives also like the melons to be of smaller sizes so that it can be easily stored

in the refrigerator," says Prof Mohd Khanif.

The professional edge

Prof Mohd Khanif however adds that it is not feasible for all farmer entrepreneurs to handle high-tech farming without the support of agricultural professionals.

With regards to precision agriculture, soil analysis needs to be done at suitable intervals to determine how much fertiliser is needed in the soil. As a matter of fact, most regular farmers are unable to do that and they need to send the soil samples to the laboratory.

"It is high time that agricultural professionals play a more active part in transforming the food agriculture sector.

"While there is a need to change the status quo to create more entrepreneurs among farmers, we must also remember that the collaboration between agricultural professionals and farmers is key to sustaining a growing food agriculture industry," says Prof Mohd Khanif.

A group of international scientists and agricultural professionals will address the food security issue at the biannual International Agriculture Congress at Putrajaya Marriot Hotel held from Tuesday to Thursday (Sept 4 to 6).

Among the speakers in the congress include South Asia International Food Policy Research Institute director Dr P.K. Joshi who will deliver the keynote address titled *Transforming agriculture for ensuring food and nutritional security: challenges and opportunities*.

Other notable lectures are the plenary sessions titled *Climate change and agriculture: the indicators, adaptation and preparedness* by Prof Monique Leclerc from University of Georgia, United States, and *Addressing the Nutrient Challenge: Role of the global partnership for nutrient management (GPNM) in promoting sustainable nutrient management* by Dr Anjan Datta from the United Nations Environment Programme (UNEP), Nairobi, Kenya.

For more information, please visit www.agri.upm.edu.my/congress2012.



Staple food: The hill paddy (*padi huma*) planted at the research farms in UPM.