Need to step up agriculture research

Move will help address food price crisis, say scientists

By Ooi Tee Ching
bt@nstp.com.my

Malaysian Society of Soil Science immediate past president Dr Shahrakbah Yacob (left) and MSSS president Dr Ahmad Husni Mohd Hanif stress the significance of soil and crop research in the interest of food security

KOTA KINABALU: As food prices escalate throughout the world, scientists say it is time for Malaysia to pay more attention to soil and crop research.

"The crisis of high food prices has never left us. Although food prices dipped in 2009 from 2008's high, they remain worryingly beyond the reach of the poor in developing nations," Malaysian Society of Soil Science (MSSS) immediate past president Dr Shahrakbah Yacob told Business Times in an interview recently.

Referring to the United Nations Food and Agriculture Organisation (FAO) price index of 55 food commodities, he said current food prices are almost 40 per cent higher than a year ago.

The magnitude of the food crisis in developing nations, is actually quite alarming. The spike in food prices has led to the deepening of poverty for 1.2 billion people who are already living below the extreme poverty line of US$1.25 (RM3.75) a day, and who spend a large share of their income on food.

Since June 2010, an additional 44 million people live below the poverty line set by the World Bank —US$1.25 per day. In its latest food security report, the bank proposes an expansion of the agricultural sector in developing countries. Among measures it highlighted to step up productivity is greater investment in agricultural research.

This is in line with FAO records that show since 1970s, rising yields alone accounted for 70 per cent of the increase in crop production in the developing world.

Malaysia and Indonesia both supply 85 per cent of the world's demand for palm oil, which is mainly consumed as cooking oil, margarine, soaps and biodegradable detergent. Therefore, the progress Malaysia can make in agricultural productivity will be crucial to continued security in the supply of palm oil for the world.

As Malaysia moves toward a knowledge-based economy, Shahrakbah said the agriculture sector will depend heavily on engineering, technology, biological and physical sciences.

Irrigation, drainage, conservation, sanitary engineering and mechanisation, each of which is important in successful farming, are some of the fields that require the specialised knowledge of engineers. Chemistry and biology deal with other important farming concerns, such as the application of fertilisers, pest controls, fungicides and soil nutrition.

In looking after crops planted in different blocks of agriculture land, Shahrakbah said soil and crop researchers assess the potential yields, fertiliser usage and manage disease outbreaks. Crop improvement, meanwhile, is spearheaded by plant breeders and biotechnologists.

"This is the most time-consuming and expensive part in agriculture research. Generally, a life-time commitment is needed from the scientists before a new breed could be confidently planted on a large scale," he said.

Computer programmers, too, are enlisted by planters to collate and analyse huge amounts of data from the fields.

"Malaysia needs to pump in more money into agricultural research. Since we focused on industrialisation in the 1980s and 1990s, this sector had been left under-invested," he added.

A case in point is there are now some 50 practising agronomists looking after 4.85 million hectares of oil palm estates in Malaysia. But there are more than 500 scientists and engineers in the downstream activities of the palm oil industry, working on new and better use of palm oil, palm kernel oil, palm kernel shells and palm oil mill effluents.

"The oil palm industry is actually facing chronic shortage of qualified and experienced soil and crop scientists," Shahrakbah said.

He estimated that for one scientist in the upstream, there are at least 10 in the downstream of the palm oil value chain.

"If we don't have enough researchers looking after the soil and the crop, how can we be sure the trees will be able to produce enough oil for downstream activities?" he said.

Newly-elected MSSS president Dr Ahmad Husni Mohd Hanif, who was also at the interview, emphasised a need to revisit the significance of soil research in the interest of food security.

An associate professor at Universiti Putra Malaysia (UPM), Husni said there are far more students studying the downstream process of food processing compared to that of soil and crop science.

It is also a well-known fact that the ratio of female students to male at local universities, including UPM, is 65:35.

That, according to Husni, could be a leaning factor where the fairer gender prefer to pursue a career in the downstream value chain of food processing, manufacturing or engineering, where the job is mostly in an air-conditioned environment and pays higher.

"Agriculture is often perceived to be dirty, difficult, sometimes dangerous and lowly-paid," he said.

It is time for all stakeholders to prioritise agricultural research as a crucial contributor to our economy, he said, adding that agriculture is essentially food production.