



Malaysian Agricultural Research and Development Institute (MARDI)

An exclusive report to be distributed with ***THE INDEPENDENT***

Transcript of the interview with:

DATUK DR ABDUL SHUKOR BIN ABDUL RAHMAN

Director General (DG)

WORLD REPORT (WR): As an introduction I would like to talk about the Malaysian economy and more specifically, the recently announced budget, which has major implications for the agricultural sector. Can you tell us what the recent budget announcement means for agriculture research and development (R&D) within the sector?

DATUK DR ABDUL SHUKOR: The total budget for 2010 is 6 billion ringgit for agriculture alone. A major portion of it is for the Ministry of Agriculture and Agribusiness Industries. The allocation relates to the advancement and improvement of agriculture in that it is spread out across the development of farm infrastructure, irrigation facilities and drainage requirements, particularly in the rice-growing areas. If we talk about food security in Malaysia, rice is the number one food crop. The target is to increase productivity through the allocation of funding to improve basic farm infrastructure. Secondly, funding is devoted to a number of growing sectors such as aquaculture for example. Aquaculture is gaining importance and we are quite competitive in that field. We are embarking on high impact products in aquaculture.

The resources and funding go into the improvement of basic infrastructure for livestock. We import a lot of meat, as our self-sufficiency is only 20%. The basic infrastructure is still not present, especially in raising animals for large commercial farming. Funding goes into building up the grazing areas and fodder supply for cattle and goat, for the development of new services where R&D comes in. That is the investment in the development of new breeds of cattle and goat through conventional breeding. An example that is related to R&D, we are bringing in superior breeds of Boer goat from South Africa in the form of live animals, semen and embryos. A portion of the money is allocated for technology development in livestock.

Other than that, the investment also goes into training facilities and advisory activities, especially in developing new groups of farmers who are receptive to technology and skill. This is where we need to go forward. We are talking about moving up into a higher economy, so we need to have an allocation from the budget for training new farmers. The new university graduates who go into agriculture can be involved in large-scale, intensified production. There is also the issue of water availability. Although Malaysia is rich in the so-called supply of water, at times we face drought. Water is irregular in supply. That is why a portion of the money is invested into the acquisition of irrigation as well as the provision, refurbishment and maintenance of dams meant as a source of water for agriculture. That is how the money is to be spent next year,

In my case, I am more concerned about technology development. There is a portion of the funding going into technology development, especially in relation to technology transfer. The transfer is highly important because we need to transfer new, innovative technologies to the end user and targeted groups. This is an area that needs to be further emphasised and improved. This is where the role of MARDI comes in, in terms of transferring technology to the farmers as well as the extension workers.

(WR): You touched upon a very interesting point in that one of your priorities here at MARDI. Within the agricultural sector in Malaysia, there is the training of new, technologically dependent farmers focused on R&D

as a means of development. In that sense, the best way is to collaborate internationally and draw on the experience of farmers throughout Europe, Africa and Asia. How do MARDI and the agricultural sector collaborate internationally?

DATUK DR ABDUL SHUKOR: MARDI works closely with research institutions overseas, such as in the Netherlands, in food production. We also work with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) of Australia and some universities in the United States such as the University of California at Berkley and at Davis. With the private sector that uses the technology, we work closely through many mechanisms; whether bilateral, country to country or government to government, or through our interactions when we attend seminars and conferences through networking and other business opportunities. We have to follow our private sectors in a number of activities where they have promotion overseas. This is where interactions take place and a number of good technologies have been adopted. The role of MARDI is to acquire, adapt and adopt technology. We do not have the luxury of time. My point is that if there is technology elsewhere, why not acquire, adapt and adopt it here? That is one approach. But at the same time, we are not forgetting basic research for the purpose of competitiveness in the future, in frontier technology.

We have adopted a number of mechanisms through our research here as well as through our association with international organisations. Currently I am Chairman of the Asia Pacific Association of Agriculture Research Institutions (APAARI). We just had our meeting in Taichung, Taiwan. We are looking into improving and enhancing our collaborations. It is not only a collection of research scientists but also working together with partners from the industry sectors. We are putting a big emphasis on working together with our international partners, especially in China. China has very simple, cheap technology that we can adopt very fast. They are very receptive to collaboration and are more than willing to work here in Malaysia. Right now in Malaysia, we have a number of Chinese researchers working on bio-sensitive technology,

Russian researchers working on natural sweeteners and Canadian students researching biotechnology. That is the kind of networking we are embarking on.

(WR): Networking, knowledge exchange and creating platforms where you can trade experience is an extremely important component of developing a high tech and sustainable agriculture sector. Such an agriculture sector would undeniably be a fantastic way to reduce poverty levels within a country, by employing the workforce and making farming more productive and profitable. In that sense, do you believe that R&D within the agricultural sector can be adopted as a means of combating poverty?

DATUK DR ABDUL SHUKOR: What comes out from the laboratory is not readily taken up by the farmers. This is a challenge to us, the scientists; to package it so it can be taken up and understood by the farmers. Most of the farmers in our region are still considered to be poor. To tell them new things is like Greek and very difficult for them to understand. Back to your question on how our R&D outputs will contribute to poverty eradication, we are playing our role in this area. We have to package the technology so it can be understood and taken up by the farmers. This is an important area where we need to have farmers involved with us in addition to us being involved in the farms and working with them to understand what they need and so they understand what they are supposed to get from us. This is where the process of teaching and technology transfer help improve their production system and perception of something new. The majority of farmers are difficult to change and that is where we need to put our emphasis.

(WR): How does MARDI contribute to the goal of reducing Malaysia's reliance on imported food?

DATUK DR ABDUL SHUKOR: Our balance of trade is negative 9 billion ringgit and increasing. MARDI has made a number of contributions to reducing the volume of imports. The major imports are food crops. For instance, we still have to import rice, to the tune of 30%. We also import about 1.2 billion ringgit a year of livestock feed and corn. However, returning to our staple food, rice, our R&D

programme identifies and develops new varieties which are high yielding, high quality and resistant to pests and diseases. Since MARDI was established in 1969, we have developed more than 30 new varieties of rice. There are 2 or 3 varieties which are popularly used by the farmers right now. More than 90% of the paddy farmers in the country use varieties produced by MARDI. Our responsibility and role as an organisation is to supply high quality breeder and certified seeds to the farmers.

We are also importing a large amount of meat to the country. Our contribution in the meat industry is to reduce the import of corn. Corn is highly required for poultry. Although we can grow corn in Malaysia, it is not competitive enough due to the high production costs and lack of continuous land for mechanisation. The climate has some effect as well. We look at crops alternative to corn, as a source of energy for animals. We embark on the development of new varieties of cassava and tapioca for animal feed to replace corn. We are considering rice which is not acceptable or good for consumption with a high percentage of broken grains, which will be dedicated to animal feed to replace corn. In the cattle industry, where we are also importing animal feed, we have to look into an alternative source of fibre. We have developed technology for the production of oil palm leaf into animal feed, in palletised form, as a source of fibre and energy for cattle and goats. We have to look into alternatives to corn. To some extent, we convert the agro waste in animal feed. Rice straw can be converted into a source of fibre for cattle and goat. These are some MARDI's initiatives to increase local production and reduce food imports. We also use a lot of imported pesticides. But we want to use fewer pesticides and go into organic farming with bio-fertiliser. It very important to reduce the importation of pesticides and chemicals, considering their cost and affect on our environment.

(WR): It is very important that you are active in the environmental sustainability aspect of R&D, especially when Western markets and increasingly so, the world, are turning towards organic products in the hopes of creating a more environmentally friendly global economy. Now, a more personal question to you as the leader of MARDI here in Malaysia; it is an organisation with many goals and challenges ahead. In the near and

long term future, what role would you like MARDI to be fulfilling? Furthermore, where do you see Malaysia's agricultural sector in the future?

DATUK DR ABDUL SHUKOR: The role of MARDI in the future is a continuation of what we are doing currently, but in a more refined way. Of course, we would like to position MARDI as an important player in terms of assisting, realizing and achieving the objectives of the government towards attaining this high income capacity, as well as transforming agriculture into a dynamic, viable sector, as one of the contributors to the engine of growth for the country. We can do that by further enhancing our technology development to new areas. At present, our approach is to address the competitiveness of our agriculture sector. This is a Red Ocean strategy but people are looking at the Blue Ocean kind of strategy. We have to position MARDI to play a lead role in generating cutting-edge technology at par with international organisations. MARDI has to be prominent enough to work with them and stand shoulder to shoulder with important allies and research institutions all over the world. That is a tall order but we are building up our human resource capacity in specific new areas, which we foresee as important in 15-20 years. This is how we hope MARDI will move forward.

The Malaysian economy is also moving towards that direction. Our country is small. We do not have as much as land as Indonesia so we have to go into high tech farming and adopt new technologies. We need our farmers to be technology savvy. I would imagine that in 15-20 years, we will be moving into the mechanisation of farm operations like we are doing now for paddy. We would also like to see other sectors moving into heavy mechanisation because right now labour is expensive. We have to compete with the manufacturing sectors so it is difficult to get labour for agriculture. We need to have skilled labour; not labour as in a labourer, but I am driving at key labour. We need to develop our local, skilled labours other than a labourer from a neighbouring country, who will come here for training and leave. We have to build the capacity of farmers in the country to be skilled. This is an era when Malaysian agriculture is moving forward.

The other aspect where I see Malaysian agriculture going in line with our technology and human resource development is in value adding. I see a lot of opportunities in value adding. Our country is small so the only way for us to remain competitive is by going into high quality products and value adding downstream processes. For instance, in the oil palm industry, we know we cannot compete with Indonesia in terms of production. Therefore we must go into refined products, downstream and pharmaceutical industry. This is the area where I foresee Malaysia moving forward in terms of diversifying agriculture products. The research culture in MARDI has to go along with what we aspire to be 10-15 years from now.

(WR): What would be your final message for the readers of *The Independent*?

DATUK DR ABDUL SHUKOR: I am very appreciative of the opportunity you have given me to promote agriculture in this country, to sell Malaysia and MARDI as the prominent figure and leader in agro-technology. We will continuously ensure that MARDI will be a prominent organisation and that as we move forward, MARDI will play a dominant role in the transformation of agriculture in this country.