

World experts enlist to help Malaysia mitigate problem of poorer nutrition as incomes rise

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With health problems like obesity and diabetes on the rise due to changing diets in emerging economies, Malaysia is forging new linkages between domestic and international scientists and institutions in hopes of mitigating the problem.

It will also team with world experts to further secure its domestic food supply from anticipated shocks due to climate change and [global supply chain](#) disruptions.

Food security and nutrition research are among the main topics under discussion by Malaysia's Global Science and Innovation Advisory Council (GSIAC)—a unique assembly of all-star international and Malaysian experts and leaders created to support sustainable development for Malaysia chaired by Malaysian Prime Minister Datuk Seri Najib Tun Razak.

Statistics presented show the percentage of calories Malaysians derive from cereals, starchy roots, fruits and vegetables has dropped from roughly 60% in 1960 to just under 50%, the dietary difference being made up by more meat, fish, eggs, milk, sweeteners, oils and fat. Meanwhile, the availability of sugar and sweeteners in Malaysia was almost 50 kg per capita in 2007, second only to the USA at 67 kg.

And the health impacts are significant. Compared with a population

snapshot in 1986, almost twice as many Malaysians are now considered overweight (29.4%) and obesity has almost quadrupled (to 15.1%). The percentage of Malaysians with [high blood pressure](#) has more than doubled to roughly one in three while Type 2 [diabetes patients](#) have more than tripled to 22%.

At the meeting, Malaysia's health ministry formalized a [partnership agreement](#) with the international Sackler Institute for Nutrition Science, providing the country's health officials and scientists with access to extensive new global resources.

In December, Malaysia will participate in the launch of the Sackler Institute / World Health Organization's collaborative "Global Research Agenda for [Nutrition Science](#)" in New York.

Said Dr. Mandana Arabi, Director of the Sackler Institute, based at the New York Academy of Sciences: "The evidence is loud and clear: A healthier economy does not necessarily translate into healthier people. As GDP increases and incomes go up, there is a change in food habits and the types of food consumed. Nutrition interventions are needed to make sure populations make wise choices about how to use their increased income and how to benefit from a new-found availability of different types of food."

"The wisdom of the past and traditional foods get lost," said Dr. Arabi. "Dietary diversity with lots of fruit and vegetable consumption is not as good as it should be. People tend to move to consumption of more animal-sourced foods and lower nutritional value foods high in calories and salt, which puts people at risk of diseases like obesity and, later, diabetes."

Achieving good nutrition has many behavioral and educational aspects to it, said Dr. Arabi, adding there is no "one-size-fits-all" national

approach. A strategy needs to be customized to every nation, with studies to understand variables such as the key family decision-makers in a particular culture.

Maternal education and child nutrition are closely correlated, she adds. "Children need good nutrition to be ready to enter and finish the school system, and this in turn affects income into adulthood."

Worldwide, malnutrition (both under and over-nutrition) accounts for 11 percent of the global burden of disease. It is the number one risk to health worldwide according to a 2008 Lancet series on maternal and child undernutrition.

More than one billion people worldwide are overweight and at least 300 million are obese (BMI >30). Overweight and obesity cause, worldwide, 2.8 million deaths, so that today 65% of the world's population live in a country (all high-income countries and most middle-income countries) where overweight and obesity kills more people than underweight.

Dr. Arabi noted that the nutritional challenges in Malaysia are shared by countries like Mexico, India and China, all going through the same "nutritional transition."

But Dr. Arabi highlighted that Malaysia will be the first national government to join The Sackler Institute—the growing global network that includes the [World Health Organization](#) focused on the identification of gaps in knowledge about food and nutrition and coordination of research worldwide.

"In order to figure out how to design a program with optimal impact you need to do your research. That's what we're hoping to achieve in our collaboration with Malaysia—to come up with specifics to address the problems effectively."

Meanwhile, with people worldwide facing the prospect of sharp spikes in the cost of groceries, the food security of Malaysia has also been adopted as a major focus of the nation's GSIAC.

Food security ranks among the Najib administration's top national priorities, and the PM welcomed the input of GSIAC experts—leading education, economics, business, science and technology experts from Malaysia, China, India, Russia, Japan, Korea, The Netherlands, the UK and the USA, including two Nobel laureates, each volunteering to help the Asian country achieve an environmentally-sustainable, high-income economy driven by knowledge and innovation.

In a presentation to the Council, agricultural experts of the National Science and Research Council Malaysia (NSRC) warned that, after decades of declining in real terms (constant dollars), prices are forecast to jump due in part to dropping world agricultural production in 2012—a decline estimated at 1.7% by the UN Food and Agriculture Organization—caused largely by severe droughts and floods.

Ministry of Agriculture figures show Malaysia is self-sufficient in, fish, eggs, pork and poultry but depends increasingly on producers in other nations for such staples as milk, mutton, beef, vegetables, fruits and rice. Between 1990 and 2011, the difference in value between Malaysia's imports and exports rose 1,400% - from 1 billion to 14 billion Ringgit (US \$0.33 billion to \$4.6 billion).

Such dependence makes Malaysia vulnerable to price shocks, as experienced in the global food crisis in 2008 when the price of rice jumped almost 75% and wheat soared 130% due to supply shortages and strong demand from a growing world population.

"Malaysia must now put a higher priority on R&D on strategic crops such as rice, utilizing the latest techniques from modern biotechnology,"

said Zakri Abdul Hamid, the Science Adviser to the Prime Minister and a trained plant breeder himself.

Added Datuk Sri Zakri: "In December, Malaysia will hold talks with world experts, including a group from the renowned Norman Borlaug Institute, on securing our rice supply. This dialogue will seek ways to build further on Malaysia's commitment to agriculture research, demonstrated in a very tangible way last June when the Prime Minister launched the new Crops for the Future Research Centre (CFFRC), creating knowledge of value to be applied here at home and shared worldwide as well."

Food security requires double production by 2050

Earlier this year, Aalt A. Dijkhuizen, a renowned international agricultural scientist from the Netherlands, told fellow GSIAC members that Malaysia, like countries worldwide, will need to double food production by 2050 due to population growth and rising living standards.

Dr. Dijkhuizen, President and Chairman of the Executive Board, Wageningen University and Research Centre, says meeting that daunting challenge is possible but results will be gradual and efforts must begin now. And he detailed ways to secure the future of the country's food supply through seed research, a more sophisticated universal system of forecasting relevant crop prices, and high-tech assisted "precision farming." (See also: www.eurekalert.org/pub_release...5/migf-aeo051612.php)

The NSRC, a council of experts from various universities, research institutions, private sector and NGOs, likewise struck an optimistic note on achieving food security, saying Malaysia is blessed with strong research and development capabilities, rich biodiversity, abundant agricultural biomass and by-products, and supportive government

policies and regulations in key areas such as biotechnology, nanotechnology and biosafety.

While intensive research is underway in several areas (such as securing the nation's production of rice), the NSRC tabled at the meeting 15 top national food security research priorities, clustered around four themes (as suggested in Global Food Security: Strategic Plan 2011-2016):

Economic Resilience

- Sustainable economic development
- Risk management mechanism
- Social safety nets

Sustainable Food Production and Supply

- Climate change adaptation and mitigation
- Higher quality seeds and fertilizers
- Sustainable agriculture
- Safeguarding health of crops
- Safeguarding health and welfare of animals
- Maximising local agriculture by-products as feedstuff

Resource Efficiency

- Promoting productivity
- Conservation of natural resources
- Unlocking the richness of biodiversity

Sustainable, Healthy, Safe Diets

- Enhancing safety of food
- Improving nutrition and health
- Halal food production

To improve availability, accessibility, and utilization - the three pillars of food security - Malaysia has earmarked agriculture as a National Key Economic Area and has already allocated more money to water and soil management in 2013.

At the GSIAC meeting, NSRC cited a definition adopted at the 1996 World Food Summit: "Food Security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."

They also, however, quoted a recent Science Academy of Malaysia statement: "[Food](#) security is not just about producing enough rice; it covers the need for adequate sources of protein, vitamins and minerals, and dietary fibre to ensure a healthy and balanced diet. Problems such as obesity and certain cancers can be addressed with a proper diet, which includes eating more [fruits and vegetables](#)"

Provided by New York Academy of Sciences

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