



CACCI

Food & Agriculture Newsletter

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Chairman's Message

It gives me great pleasure to issue a statement for the 2nd edition of the CACCI newsletter.

At a time when Asia leads global recovery and the growing prosperity driven by India's and China's increasingly affluent population puts the world resources demand at notice, the prospect of feeding the increasing global population looms a head. The global population would reach 8 billion in 2050. We need to feed nearly 2 billion additional people on the same or diminishing land area. Unless a concerted effort is taken by the organized agriculture industry to bring the farming community into the main stream areas, this problem cannot be overcome. The bridge of technology has to be put across to the farming communities, in order to increase their productivity and also to add to the value chain facilities, so that products could be brought to market.

Continuous investment needs to be focused on Research and Development in order to increase productivity. The role of Chambers of Commerce and Industry would be to act as match makers between the community businesses which are looking for partners for production. If effective channels could be built, the future world would have a holistic development. That is a role which is imperative for the trade chambers of these regions.

My Best Wishes

*Mr. Samantha Ranatunga
Chairman
Asian Council on Food and Agriculture*

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Asian Council on Food & Agriculture Conducts Fruitful Discussions

Mr. Harin Malwatte, Secretary General/CEO of the Ceylon Chamber of Commerce, chaired the breakout session of the Asian Council on Food and Agriculture (ACFA) held on March 14 in Cebu City in conjunction with the 27th CACCI Conference. The session had a big turnout with over 40 delegates representing most of the countries that attended the CACCI Conference.

The session started with a brief welcome remarks from the session Chairman followed with his presentation on the current state of food and agriculture in Asia Pacific. In his presentation, Mr. Malwatte covered the following topics: (i) agricultural population in 2011; (ii) labor force in agriculture; (iii) agricultural land in 2009; (iv) prevalence of undernourishment in 2010-2012; and (v) prevalence of children under-five suffering from moderate to severe underweight in 2006-2010. In addition, Mr. Malwatte emphasized the importance of food security which in the Asian region is projected to be stable in the next decade, with the number people that may have no food security projected to decline from 398 million in 2012 to 388 million in 2022. He stressed that due to declining investment in agriculture and the climate change, the need to strengthen food and nutritional security should be taken seriously, with additional focus on enhancing equitable, productive and sustainable natural resource management and utilization.

Mr. Roberto Amores, Chairman for Agriculture at the Philippine Chamber of Commerce and Industry followed with a presentation on the status and prospects of food and agriculture industries in the Philippines and the opportunities for CACCI countries to network and share best practices, among others. In his presentation entitled “Maximizing Synergies Towards a Competitive Agriculture Sector.”

Mr. Amores mentioned the areas for cooperation defined under “ASEAN 2015” namely, (i) food security; (ii) food handling; (iii) crops; (iv) livestock; (v) fisheries; (vi) agricultural training and extension; (vii) agricultural cooperatives; (viii) forestry and joint cooperation in agriculture; and (ix) forest products promotion scheme.

From the local point of view, Mr. Amores indicated that there is a need to institutionalize Philippine’s national marketing efforts through regular local and foreign trade fairs, trade missions, the development of an electronic export marketing system and the putting up of a state trading company. As Philippines is one of CACCI’s member countries, Mr. Amores urged CACCI to serve as a platform to: (i) advance its advocacy on economic policies and on sectoral issues; (ii) organize export promotion business matching and trade missions; (iii) formulate capacity building programs; (iv) extend CACCI’s network of business assistance centers;



Mr. Malwatte makes a presentation on the current state of food and agriculture in Asia Pacific.



Participants pay attention to the presentations and take down notes.

and (v) implement campaign promotions through CACCI publications.

The open forum that ensued mainly focused on the way forward and the options for strengthening the Asian Council for Food and Agriculture (ACFA). Reference was made to the presentation made by Mr. Amores where he clearly identified a role for the CACCI Secretariat to follow.

Some members who attended the session expressed their desire to become members of the Council and they agreed to inform the CACCI Secretariat and Cebu Chamber of Commerce and Industry on their willingness to in due course.

The session also discussed the CACCI policy paper on Ensuring Food Security that was earlier circulated to members. The paper identified a set of five action points that can be taken by CACCI to ensure food security in the region – which the breakout session endorsed for implementation.

The session also noted that the maiden issue of the Asian Council on Food and Agriculture has been published and circulated to members. Members remarked that the Council has made considerable progress in the short period of less than two years since it was conceived during the 25th CACCI Conference held in March 2011 in Istanbul, Turkey. ■

CACCI Council Endorses Policy Paper on Ensuring Food Security



The CACCI Council during its 82nd meeting endorsed a policy paper that highlights actions to address the massive challenge of ensuring food security for nine billion people in the year 2050.

The paper encouraged governments across the world to allow and support human ingenuity to prosper and rise to this future need.

It appealed to governments to not prevent countries with supply from trading with countries with demand, stressing that freely operating markets, underpinned by appropriate social policies and without trade distortion, will be the most efficient way to assure human survival.

The paper called on CACCI members to take action by expressing their support and gratitude to the people and organizations specializing in the maintenance of food production systems and supply chains around the world.

CACCI members were asked to encourage their respective governments to urgently conclude the Doha Development Round or Doha Development Agenda (DDA). DDA is the trade-negotiation round of the World Trade Organization (WTO) which was launched in November 2001, with the aim of lowering trade barriers around the world to facilitate global trade.

Talks among WTO member governments have stalled over a divide on major issues such as agriculture, industrial tariffs and non-tariffs barriers, services and trade remedies. Differences have risen between developed nations led by the European Union, the United States, and Japan, along with other major developing countries Brazil, India, China, South Korea and South Africa.

Successful conclusion of the DDA will address developing countries' needs and contribute to the achievement of the United Nation's Millennium Development Goal 8 (MDG 8), which aims to develop a global partnership for development. Therefore, the policy paper urged CACCI members to support the International Chamber of Commerce (ICC) in its efforts to assist the WTO to reach a conclusion.

To foster trade and investment and create greater opportunities for both farmers and consumers, the policy paper asked CACCI members to push their governments to implement free trade agreements (FTAs) and unilateral trade reforms outside WTO. Furthermore, the paper called on CACCI members to assist, where possible, their governments and local industries to embrace modern and novel food production techniques, as well as the sharing of knowledge across farmers throughout the CACCI area of influence.

In a 2009 report by the UN Food and Agriculture Organization (FAO) entitled "How to feed the world in 2050," the organization indicated that "The world has the resources and technology to eradicate hunger and ensure long-term food security for all, in spite of many challenges and risks. It needs to mobilize political will and build the necessary institutions to ensure that key decision on investment, and policies to eradicate hunger are taken and implemented effectively. The time to act is now."

The CACCI Council is one with FAO, along with other agencies and organizations, in offering its recommendations to help provide a solution to feed the growing population. ■



BOPMA Advocates Food Security and Food Safety through Organic Agriculture

By Mr. Abdus Salam

President, Bangladesh Organic Products Manufacturers Association

Bangladesh Organic Products Manufacturers Association (BOPMA) was founded by the manufacturers of organic fertilizer, pesticides, and foods products and by organic farmers in 2008 aiming to reestablish (1) safe agriculture (2) safe foods (3) healthy environment.

This Association is working to save the nation and the

environment from the harmful and toxic chemical fertilizers, pesticides and hormones. The main objectives of this association are –

- * To propose to the Govt. formulating National Organic Policy (NOP)
- * To resume all organics (agriculture, fertilizer, pesticides, foods and other products)
- * To inform about merits and goodness of organic agriculture and foods
- * To inform about more production through organic agriculture

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BOPMA Advocates ... Continued from page 3

- * To support establishing required processing and preserving plant
- * To support establishing required laboratories throughout the country
- * To guide the members how to process and preserve their produced crops
- * To guide the members marketing their products locally and globally.
- * To propose for cash incentives for exportable organic products
- * To discourage producing environmentally hazardous crops (tobacco, maize etc.)
- * To encourage the farmers resuming lost varieties indigenous crops
- * To make understand the merits, profits and benefits of petting domestic animals.
- * To inform the demerits of toxic chemical fertilizers, pesticides and GMO products

Finally, Bangladesh Organic Products Manufacturers Association is working and will be working to resume and establish safe foods and food security through organic agriculture.

WHAT IS ORGANIC?

Organic products are grown under a system of agriculture without the use of harmful chemical fertilizers and pesticides with an environmentally and socially responsible approach. This is a method of farming that works at grass root level preserving the reproductive and regenerative capacity of the soil, good plant nutrition, and sound soil management, produces nutritious foods, rich in vitality which has resistance to diseases.

PRODUCTION

Bangladesh is bestowed with lot of potential to produce all varieties of organic products due to its various agro

climatic regions. Bangladesh Organic Products Manufacturers Association has brought only 5,000 hectares of land scatteringly throughout the country under organic agriculture by this time. They are producing cereal crops, potatoes and vegetables on these lands. But they are very happy that the numbers of organic farmers as well as the numbers of organic products consumers are increasing day by day rapidly. Their target is to bring one million hectares of land under organic farming / cultivation by 2020.

MARKETS

The Bangladesh Organic Products Manufacturers Association and its respectable members are selling their organic products locally throughout the country presently. They are able to export certified organic products and looking for customers in the global markets.



ORGANIC BANGLADESH LIMITED follows its own following methods for Organic Agriculture/ products –

1. The soil must be free from chemical fertilizer and pesticides for 3 years.
2. The soil must be well protected by drain or fence or bar
3. The Organic Farm land must be free from chemical fertilizer and pesticide minimum 10 metres surroundings.
4. Land preparation without emitting GHG
5. Only organic fertilizer and organic pesticides usage
6. Inter cropping, mixed cropping and relay cropping
7. 1/3 crops residues to be left for soil
8. Crops rotation
9. Perching
10. Nourishing friend insects, protecting harmful insects
11. Light trap, Areal net
12. Organic seeds
13. Safe water for irrigation
14. Green House Gas emission less harvesting
15. Laboratory tests for heavy and harmful metals ■

Organic Agriculture in Bangladesh



Tilling without emitting green house gas



Promoting rural women employment



Organic paddy field: 15-20% more yield

Zero Hunger Challenge Launched in Asia-Pacific Region

The United Nations launched the Zero Hunger Challenge in Asia and the Pacific here yesterday evening before heads of governments and UN agencies as well as ministers and national leaders. Speakers called on governments, farmers, scientists, business, civil society and consumers to join in the struggle to end hunger in the region where a majority of the world's undernourished people live.

"We cannot rest while so many people go hungry in a world where there is enough food for all," United Nations Deputy Secretary-General Jan Eliasson told the launch ceremony which was attended by the Prime Minister and Minister of Defense and Security of Timor-Leste, Mr. Kay Rala Xanana Gusmão, the Prime Minister of Solomon Islands, Mr. Gordon Darcy Lilo, and the Deputy Prime Minister and Minister of Agriculture and Cooperatives of Thailand, Mr. Yukol Limlamthong.

"Sustainable development and inclusive growth will not happen on empty stomachs," said Dr. Noeleen Heyzer, United Nations Under-Secretary-General and Executive Secretary of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).

"It is unacceptable that in the 21st century, with all of our technological and agricultural expertise, more than 870 million people globally wake up hungry every morning, try to find the energy to make a living for their families through the day, and then still go to bed hungry at night," the ESCAP Executive Secretary added.

Hiroyuki Konuma, FAO Assistant Director-General and Regional Representative for Asia and the Pacific said: "Despite efforts to reduce hunger, and even with the rapid economic growth seen in much of Asia, progress in eradicating hunger has been very slow. "One in every eight people in Asia-Pacific lacks the most basic human right because they are victims of chronic hunger. The vast majority



Dr. Noeleen Heyzer, United Nations Under-Secretary-General and Executive Secretary of ESCAP talks to the delegates.

live in developing countries and they are increasingly vulnerable to food price increases and external shocks."

But Konuma also said: "I believe the MDG Goal of reducing the proportion of extreme hunger by half by 2015 and eradicating hunger within our lifetime are achievable goals if we work harder, doubling our effort as a team."

Konuma warned that micronutrient malnutrition, or so-called "hidden hunger" is also affecting an additional two billion people worldwide with serious public health problems, especially for children in developing countries.

FAO estimates that the world would need to increase food production by 60 percent or by 77 percent in developing countries alone by the year 2050 to meet the needs of population growth. This has to be achieved from arable land, which has very little potential for future expansion. There is also a declining amount of water available to agriculture.

Konuma called on the global community to address a number of critical challenges such as the declining investment in agriculture, stagnation of agricultural productivity growth, and high post-harvest losses and food waste. He warned of the negative impacts of climate change and natural disasters, and the increasing competition between food production and bio-energy production as additional challenges that need to be resolved.

"Our history shows that the Asia and the Pacific Region has successfully reduced the proportion of hunger from 34 percent in 1970 to 17 percent in 2000 through the Green Revolution. Zero Hunger is not a dream, but our obligation to new generations to come," Konuma said.

The global Zero Hunger Challenge was proposed by UN Secretary-General Ban Ki-moon during the United Nations Conference on Sustainable Development (Rio+20) in June 2012. It has five objectives:

1. 100 per cent access to food for all, all year round;
2. end to stunting among children under two because of a lack of nutrients during pregnancy and in the early days of life;
3. ensuring sustainable food systems;
4. doubling smallholder productivity and income; and
5. reduction in food loss, at the farmer level, through lack of suitable storage and reduction of waste of food by retailers and consumers.

Source: Food and Agriculture Organization, United Nations, April 30, 2013



ADB, Japan Seek Affordable Crop Insurance for Bangladesh Farmers

The Asian Development Bank (ADB) and the Government of Japan will fund the trial of innovative new crop insurance products that will give small-holder farmers in Bangladesh income protection from increasingly severe storms and natural disasters.

A \$2 million grant from the Japan Fund for Poverty Reduction for the Pilot Project on Weather Index-Based Crop Insurance was recently approved by ADB, which will administer the grant. The Government of Bangladesh is providing in-kind support of \$420,000.

“Small scale farmers with few resources are typically unable to insure their crops against extreme weather events and can lose their entire income every time a storm hits,” said Rezaul Khan, Senior Natural Resources and Agriculture Economist. “Extreme weather events are on the rise and the goal of the project is to develop a new affordable type of insurance product which will allow and encourage more farmers to protect their livelihoods.”



Bangladesh is one of the most climate-vulnerable countries in the world due to its geography, and there are estimates that agricultural gross domestic product from 2005 to 2050 will be 3.1% lower each year as a result of climate change. In addition, no crop insurance has been available in Bangladesh recently due to huge financial losses incurred in the traditional agricultural insurance.

Weather index-based crop insurance, which incorporates historical weather and crop production data, is considered to be more cost-effective and efficient than traditional agriculture insurance as it reduces farm-level monitoring and transaction costs. Several countries in Asia, including India, Indonesia, Mongolia, the Philippines, Sri Lanka, and Thailand, have begun piloting or providing these products but this is the first time they are being trialed in Bangladesh.

The project will design and pilot crop insurance products over a three year period in selected districts, with the goal of providing coverage to at least 12,000 farm households.

High transaction costs and poor outreach networks can make it costly to distribute insurance in rural areas—up to 40% of premium costs in some cases. This makes traditional crop insurance less affordable, leading to lower uptake and an unviable product.

This project will collaborate with different partners such as agricultural banks, multilateral financial institutions, and farmer cooperatives and try models of distribution that reduce

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Farmers in Kazakhstan to Enjoy Steady Income with Loan to Beverage Maker

Local dairy and fruit farmers in Kazakhstan are expected to secure long-term supply contracts from the country’s leading beverage company as it expands production facilities and improves its delivery system through financial assistance from the Asian Development Bank (ADB).

The \$40.2 million loan to RG Brands group – one of the leading producers of milk, juice, and tea in Kazakhstan – will fund its capital expenditures from 2013 to 2015 to expand its milk and juice production facilities as well as purchase coolers and delivery trucks.

“To transcend its middle-income country challenge, Kazakhstan needs to diversify its economy and increase its productivity and competitiveness. The private sector will ultimately lead this transformation,” said Martin Lemoine, ADB Senior Investment Specialist.

Agro-industry has been identified by the Government of Kazakhstan as a target sector that can help reduce economic dependence on the oil and gas sector, which have been the country’s main exports and engine of growth.

The investments will help RG Brands increase the local content of its major products, improve production and distribution efficiency, expand direct access to customers in rural areas, and increase exports to neighboring Central Asia countries.

RG Brands will enter into long-term procurement contracts with local dairy farmers in the northern Kostanay region. It will also provide critical equipment to small retailers in rural areas, enabling them to participate in the high-quality beverage value chain.

RG Brands also plans to upgrade its juice production facilities in Aksengir and build a juice production line in Kostanay. About 25% of the concentrates and purees used in RG Brands are sourced from local farmers supplying peaches, tomatoes, and apples.

RG Brands is expected to raise the production of its ultra-high temperature (UHT) milk from 25 million liters in 2011 to at least 50 million liters in 2017, while juice production is expected to double to at least 120 million liters in 2017, from 60 million liters in 2011.

This is ADB’s first private sector agribusiness project in Central and West Asia.

Source: Asian Development Bank, April 22, 2013 ■



Mekong Countries Seek Greater Cooperation on Green Agriculture

Senior agriculture and environment officials from the six Greater Mekong Subregion (GMS) countries met today to discuss environmentally sustainable agriculture and natural resource management in the region.

Agriculture remains the backbone of economies in the GMS and directly supports the livelihoods of nearly 200 million people. However, agriculture gains have come at the expense of the environment, causing forest and biodiversity loss, water pollution and shortages, soil degradation, and greenhouse gas emissions.

“Agriculture cannot afford to continue undermining the healthy natural ecosystems it relies on. We must create opportunities to use more environmentally friendly approaches that simultaneously conserve land and water resources and at the same time increase the productivity and profitability of agriculture, particularly for small-holder farmers,” said Javed Mir, Director of the Environment, Natural Resources and Agriculture Division for the Asian Development Bank’s (ADB) Southeast Asia Department.

Delegates discussed opportunities for increased collaboration between the Working Group on Agriculture and Working Group on Environment, co-hosts of the event and two of nine working



groups under the ADB-supported GMS Economic Cooperation Program. Both working groups must work together to tackle the growing concern for water scarcity, climate variability and volatility, and consequent rising risks of food and ecosystem service supply disruptions.

More than 130 participants attended the meeting, including officials from energy, transport, and tourism ministries, as well as representatives from ADB and development partners, national development organizations, and other stakeholders.

On Wednesday the two working groups will hold their annual meetings, followed by a joint field trip on Thursday to visit environmentally friendly agriculture projects in Xiengkhouang, one of the ‘green’ provinces in Lao People’s Democratic Republic (Lao PDR).

In late 2012, both working groups began implementing the second phase of their flagship initiatives: the \$14 million Core Agricultural Support Program, and the \$23.1 million Core Environment Program.

The six Mekong countries are Cambodia, People’s Republic of China, Lao PDR, Myanmar, Thailand, and Viet Nam.

Since 1992, the GMS Program has invested more than \$15 billion in subregional roads, airports, railways, power facilities, tourism infrastructure, and disease prevention.

Source: Asian Development Bank, April 2, 2013 ■

ADB, Japan Seek

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transaction costs and make the business sustainable.

To improve the accuracy of weather data, the use of space technology through remote sensing will be explored in collaboration with the Japan Aerospace Agency. The project will also upgrade at least 20 weather stations, and provide training and education on weather-indexed insurance to at least 400 staff from government and meteorological agencies, insurance companies, agricultural institutions, and civil society groups.

Along with reduced premiums and improved distribution, the planned insurance scheme will provide other benefits to farmers, such as income support during lean periods, access to credit, and a buffer against loan defaults. Insurance literacy and climate risk awareness seminars will be targeted at least 6,000 small and marginal farmers. The project will also support the development of a regulatory and legal framework to accommodate the new ‘untraditional’ insurance products.

The project will be linked to the ADB-assisted Second Crop Diversification Project with the new products to be bundled with microcredit supplied by microfinance institutions to farmers shifting into higher value-added crops.

Source: Asian Development Bank, April 22, 2013 ■

New Milestone in Australia-China Collaboration on Food Security

At the launch of the University of Sydney’s new Centre for Carbon, Water and Food by Australian Prime Minister Julia Gillard on March 6, 2013, two memoranda of understanding were signed by representatives from the Chinese Academy of Agriculture Science and Nanjing Agricultural University, in the presence of the Ambassador of the People’s Republic of China in Australia, His Excellency Yuming Chen.

The Centre for Carbon, Water and Food is Australia’s first multidisciplinary research centre dedicated to tackling the nation’s and region’s biggest food security and environmental challenges through the integrated study of carbon, food and water. The University of Sydney and the federal government have together invested more than \$20 million in the purpose-built facility, which draws upon the University’s already established world-class expertise in areas such as soil science, ecology and ecophysiology, and plant breeding.

The first memorandum of understanding between the University of Sydney and the Chinese Academy of Agriculture Science will see a Sino-Australia Joint Laboratory

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for Sustainable Agro-Ecosystems established and housed at the Centre with a mirror facility in Beijing.

The second memorandum of understanding between the University of Sydney and Nanjing Agricultural University will see a Sino-Australian Laboratory for Food Security established and housed at the Centre with a mirror facility in Nanjing.

These new agreements will enable joint research in areas such as crop protection, food and soil security and the mitigation of climate-change effects on agricultural eco-systems, including the reduction of greenhouse gas emissions. The bilateral effort will include research projects for external agencies such as the World Bank and Gates Foundation, creating further international benefit from the collaboration.

Professor Mark Adams, Dean of the Faculty of Agriculture and Environment and Head of the Centre for Carbon, Water and Food, said the longstanding relationship between University of Sydney researchers and China celebrates a new phase of development with the signing of the two agreements.

“These agreements are the culmination of several decades of collaboration already undertaken between University of Sydney researchers and Chinese colleagues from a multitude of institutions,” said Professor Adams.

“Australia and China face many of the same challenges in food security. In China, for example, water yield and quality in major river systems and the land base for agriculture are threatened by both degradation and alternative uses, much like in Australia.”

“We both face the same problems with respect to water, soil, pests and disease.”

“By comparing research approaches and collaborating on research we are able to learn from each other and redouble our efforts to address these mutual areas of concern.”

The Joint Sino-Australian Laboratory for Food Security will focus on four areas of research:

- * crop protection and improvement - plant breeding for resistance to biotic and abiotic stress and for improved yield

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APEC says More Investment and Less Waste is Vital to Asia-Pacific Food Security

The APEC Policy Support Unit (PSU) report, presented to APEC officials and agri-business representatives in Jakarta, concluded that greater agricultural investment and a reduction in waste are needed to ensure adequate food supplies reach the Asia-Pacific.

Opening the APEC Policy Partnership on Food Security meeting, Indonesian Agriculture Minister Suswono praised the declaration’s emphasis on the spirit of equity and inclusiveness, and agreed with the sentiment that any gains should be widely felt.

The report found that many APEC economies have already adjusted their policies towards agricultural self-sufficiency in response to price spikes in recent years. As a result, agricultural tariffs have decreased less rapidly when compared to figures in sectors like manufacturing.

This said, volatile commodity prices are expected to remain high until the end of the decade. “This situation will make it more difficult to enhance food security in the future”, Suswono warned.

Agricultural trade accounted for just 8.3 percent of the value of global goods trade in 2011. However, Intra-APEC trade of agricultural goods comprises 68% of total agricultural export value from member economies.

The report identified the main issues facing the agriculture sector; underinvestment in agricultural infrastructure such as machinery and equipment, irrigation systems, storage facilities, and roads and ports was listed as contributing to the slower production growth of many staple food crops.

Additionally, more than 220 million tons of food is wasted during consumption annually by developing economies, according to the report.

“Limits to land development and the increasing frequency of extreme weather associated with climate change are adversely impacting the capacity to expand production,” added PSU Director Dr. Denis Hew.

APEC economies are working closely with the private sector in pursuit of a food system structure by 2020, sufficient to provide lasting food security in the region. The goal is to provide food supplies that are sufficient, nutritious and safe.

In support of this effort, APEC economies and agri-business representatives are exploring ways to promote investment in agriculture and ensure effective global food data standards to facilitate trade.

Source: Information Daily, February 26, 2013



Black eggs and ripe guava lead Taiwan's tech revolution

By Katia Moskvitch

A traditional Taiwanese hat casts a shadow over a smiling, wrinkled face, weathered by the sun, wind and rain of this remote place.

Lovingly turning around a ripening guava, the farmer nods to her husband working nearby.

This elderly couple tending their plantation in Changhua County in southern Taiwan would probably not have looked much out of place decades ago.

But in reality, they are at the forefront of the island's agricultural revolution.

Like many fruit farmers here, Mr Zai-Lang Jiang and Mrs Xiao-Wen Yang have to battle one of guava's biggest enemies - fruit flies.

The larvae of these tiny insects infest ripe fruits, making them unsellable.

Most farmers use traps containing pheromones - chemicals that attract the flies - and then hand-count the dead insects every 10 days.

But Mrs Yang and Mr Jiang have something extra up their sleeve: artificial intelligence.

Laser beams

Developed by scientists at National Taiwan University, a small box-like device uses infrared lasers that scan the farm. Every time a fly gets inside and breaks the beam, it gets counted.

The number is radioed to a monitoring station. When a trap counts more than 10 flies in 30 minutes, or when the

forecast model predicts a rapid surge in the fly population, it triggers an alert and sends a text message with the warning to farmers' mobile phones.

The alerted farmers will then increase the number of fly traps, wrap up fruits, or - as last resort - use pesticide.

"We've achieved about 90% accuracy," says Dr Chen-Long Chuang, one of the scientists who developed the sensing and forecast technologies.

So far, only a handful of farmers around Taiwan are taking part in the trial, but the researchers aim to expand the project.

"Fruit flies are a common pest in places like California and Latin America, and you can use our device with any kind of fruit farm, it is not limited to guava," says Dr Chuang.

Intelligent traps are just one example of innovation which has been trickling into the agricultural sector of Taiwan, this island of just 23 million people, known as a high-tech manufacturing hub.



Agriculture contributes a mere 3% to the island's gross domestic product (GDP), with the rest coming primarily from exports - which explains why farming remains relatively low-tech and many Taiwanese rice farmers still wander barefoot through paddy rice fields.

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New Milestone

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- * precision agriculture - new technologies to improve efficiency of land and resource management
- * climate change - securing soil and water resources and managing the atmosphere
- * food security - development of economic and social policy to secure food supply.

The Joint Sino-Australia Laboratory for Sustainable Agro-Ecosystems will focus on research in:

- * adaptation and mitigation of climate change effects on agro-ecosystems including reduction of greenhouse gas emission from the agriculture sector
- * improvement of soil quality, especially the soil carbon and nutrient content
- * reduction of water consumption in agriculture production
- * prevention and reduction effects of plant pests and diseases on cereal production

- * treatment and recycling of poultry litter and livestock manure.

Professor Adams said each partnership will deliver for both Australia and China over the coming decade and both Australia and China would use their partnership to help build further and stronger bridges with other institutions and countries.

"We are excited about what is possible - we expect more than 100 PhD graduates to work with the Centre, to produce technologies that increase production while improving efficient resource usage, and to create new knowledge in key fields that underpin food security including research on water, greenhouse gases, biodiversity, and plant and animal breeding," Professor Adams said.

"We will also produce better skilled and more broadly trained researchers able to work on more resilient food systems and higher quality and safer food."

Source: *The University of Sydney*, March 6, 2013

Black eggs

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High-tech orchids

But this is slowly changing, says Bao-Ji Chen, Taiwan's minister of agriculture.

He believes the government encourages farmers to use new technologies, and the efforts are paying off. More farmers are turning to what is known as precision farming: determining the exact location where the seed is to be planted with the help of a satellite navigation system.

Keeping up with traditions is one thing, but increasing profits with the use of innovation is quite another, he says, sitting in a room decorated with beautiful orchids.

These flowers mean a lot to the economy of Taiwan - the island produces one third of the world's orchids.

Since 2005, it has been the world's largest orchid exporter, according to the Taiwan Floriculture Exports Association.

And it has achieved this with the help of technology.

Automated greenhouses, for example, have flower beds equipped with wireless sensors that help them "know" when orchids need to be watered and whether the temperature or illumination are right. If something is amiss, the system sends a text message to the farmer.

Right now there is only one such fully automated greenhouse, but Dr Joe-Air Jiang from the National Taiwan University says more and more farmers are now interested in using new technology.

Innovations include gene modification in fish farming to produce fluorescent aquarium fish, fully-computerised indoor farms that cultivate a highly-sought after mushroom, and new methods which help produce perfect "century eggs".



Black eggs

A century egg is a delicacy that is usually produced in the south of Taiwan, and I visited a farm there to see how technology has transformed the traditional way of checking the eggshells.

Tap, tap, tap, and a farm worker gently knocks three eggs together.

Tap, tap, tap - head cocked slightly to the right, ears



focused on the slightest change in sound the eggs make.

If there is even the tiniest crack in the shell, she needs to hear it. If she misses it, harmful salmonella could infect the egg.

These eggs are called century eggs, or pidan - they may look ordinary, but underneath the shell there is no regular yolk and white.

Instead, the white is jelly-like and amber-brown and the yolk is smoky-black.

The eggs are not for the faint-hearted; the flavour of ammonia and sulphur was unlike anything I've ever tasted before.

In China and Taiwan, pidan are a delicacy, made by preserving duck or chicken eggs in a saline solution for about a month.

"Manually knocking the eggs together is the way [the quality test] is done traditionally," the farmer tells me.

However, on this farm the centuries-old traditional listening method has been replaced by technology, developed by Prof Ching-Wei Cheng from the National Chung Hsing University.

It's a machine with a conveyor belt and an endless stream of eggs on it.

On its journey, each egg passes through a special acoustic chamber where robotic fingers simulate human ones, delicately tapping the shell all around.

The sounds are then analysed to reveal even the tiniest flaw.

"Without our technology, cracks are easy to miss, and even the best farmer could not check more than about 6,000 eggs a day," says Prof Cheng.

"Our inspection system makes sure that cracks are checked with 98% accuracy, and at a rate of about 50,000 eggs in eight hours."

But despite all the innovation developed by Taiwan's scientists, the government still has an uphill battle to convince more people to actually start using it. After all, the majority of farmers on this tiny island are still using the methods of their great-grandfathers.

Source: BBC News, 29 March 2013

Farming in Japan: Field Work

Mutsuo Banba's rice farm in Ishikawa prefecture, on the north-west coast of Japan's main island, is a mosaic of plots, many separated by land belonging to others. In the season, Mr Banba, a full-time farmer, takes care to water his rice every day. Others, he says disapprovingly, do not. These part-time farmers, he complains, "stay inside with their air-conditioning, while their rice dries out and cracks". This angers him, because their harvest is mixed with his when the local co-op picks up the crop for sale.

Part-time farmers mounding their tractors in their spare hours are a much-loved part of the Japanese landscape. Often elderly, they have other employment too, or their families help them financially: either way, farming is not their sole source of income. The sheer number of such farmers drags down the sector's productivity. Of Japan's 1.5m farmers, only 420,000 are engaged in farming full-time. Part-timers tend not to invest, and often farm badly.

Yet by force of numbers, they wield political influence, through the national network of local farm co-operatives called Japan Agriculture (JA). With its tight links to the Liberal Democratic Party (LDP) and the agriculture ministry, and employing an astonishing 240,000 staff in Tokyo and around the country, the JA is probably Japan's most powerful lobby. It campaigns to keep high import tariffs on farm goods: the tariff on rice is 777.7%, that on butter is 360%, while sugar attracts a 328% levy. So the announcement in March by the prime minister, Shinzo Abe, that Japan intends to enter talks to join the Trans-Pacific Partnership (TPP), a free-trade grouping, came as a shock. The LDP is expecting a backlash. Farmers may prove the biggest barrier to entering the TPP. The farm ministry will also object, claiming that nine-tenths of Japanese rice production would go with the TPP, and 3.4m jobs overall.

Letting in cheap foreign rice is the most controversial part of entering the talks. Rice, says Kozo Watanabe, who until recently represented JA interests in the Diet, is a "spiritual cornerstone". The communal efforts that were required to grow it shaped Japanese culture and identity. Moreover, says Mr Watanabe, Japanese small-scale farming will collapse in the face of American agribusinesses sowing seed from planes. Yet, in the case of rice, an aim of protection is to keep the domestic price high by restricting production. That is fine for farmers paid to grow less, as well as for the JA, but a lousy deal for consumers.

Rice cultivation has the highest concentration of part-timers. Elsewhere, farming has diversified towards other crops, market gardening and livestock. There, professionals dominate. But, apart from in livestock, their farms are small, with an average size of 1.5 hectares.

The farm lobby argues that tiny farms are a natural result of Japan's history and mountainous landscape. After 1945 a

crucial land reform redistributed land from large landlords to tenants, with an average plot size of around 3 hectares. Under the devoted care of the small landowners, agricultural yields shot up, laying a crucial foundation for growth.

The hope was that small farmers would before long take other jobs as new industries were born, says Masatoshi Wakabayashi, who was agriculture minister in 2007 during Mr Abe's first term as prime minister. They were expected to sell their land to other farmers seeking scale and efficiency. But as the value of land soared during the bubble era, he says, farmers preferred to hang on in the hope of selling their plots for development. Today, with rural areas increasingly depopulated, perhaps a tenth of all plots are abandoned to weeds. Farmers are often old: in 2010, the average age was 70. Few offspring want to follow them into farming. Yet tight land laws make it hard for just anyone to come in and buy. Japanese agriculture, says an official at the agriculture ministry, has a choice to make between improvement and decline.



Joining the TPP and lowering tariffs is just the medicine, says Mr Banba, who is 56 and once won a government award for his farm management. "Strong farmers", he adds, "are not afraid of the TPP". Entry would allow professionals like him to amass more land. He has a point. A 74-year-old neighbour with three small fields says that on the day Japan signs up to the TPP to let in cheap American rice, he will quit and lease his land to Mr Banba, who has plans to join up with a fish company and start selling frozen sushi to California.

If Japan joins the TPP, it is likely to insist on being given several years to dismantle protection for its farmers, especially for key products such as rice. Yet radical steps towards agricultural reform, says Masayoshi Honma, an economics professor at the University of Tokyo, need to be taken before then. Entering trade negotiations, he says, might help hasten such steps. Japan needs policies to concentrate farmland into the hands of capable farmers. Newcomers, including companies, should be allowed to buy, not just rent.

Mr Abe's team is currently studying options for agricultural reform, to be announced later in the year. Trying to negotiate TPP entry and introduce wider farming reforms at the same time will be politically hard. Yet lowering tariffs without taking steps to boost competitiveness might prove disastrous.

With both the TPP and wider reforms, the main hurdle will be JA. Its influence and profits depend on the size of its membership. So it has an interest in maintaining something like the current distribution of farmland. Yet new co-ops are also springing up that do a better job of serving the needs of full-time farmers like Mr Banba, as well as of urban consumers who want more choice and competition. And all the while the JA's members are ageing. Japan's most powerful lobby is losing its potency along with them.

Source: *The Economist* April 13, 2013

First Global Plan of Action for Forest Genetic Resources Adopted by FAO members

The first Global Plan for Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources was adopted last week by FAO's Commission on Genetic Resources for Food and Agriculture.

The Commission has asked FAO to develop an implementation strategy for the Plan of Action and to ensure mobilization of adequate financial resources for its implementation, particularly in support of developing countries.

Conserving forest genetic resources is vital for the future

Estimates of the number of tree species worldwide vary from 80 000 to 100 000. Forest ecosystems remain essential refuges for biodiversity, and 12 percent of the world's forests are designated primarily for the conservation of biological diversity.

The contribution of forests and trees to meeting the present and future challenges of food security, poverty alleviation and sustainable development depends on the availability of rich diversity between and within tree species. Genetic diversity is needed to ensure that forest trees can survive, adapt and evolve under changing environmental conditions. It also maintains the vitality of forests and provides resilience to stresses such as pests and disease.

Furthermore, genetic diversity is needed for artificial selection, breeding and domestication programmes for the development of adapted varieties or to strengthen useful traits. In many countries, the prospects for sustainable development in rural areas will be greatly influenced by the state of diversity in forest ecosystems and species.

Priority areas for action

The efforts to sustainably manage forest genetic resources at international and national levels need to rely on solid and coherent information. The country reports on the State of Forest Genetic Resources as developed following FAO guidelines are the main source of comparable information. It is also the basis for the identification of priority areas for action.

The key priority areas for action include improving the availability of and access to information on forest genetic resources; development of the worldwide conservation strategy; sustainable use, development and management of



forest genetic resources; establishing and reviewing relevant policies and legal frameworks to integrate major issues related to sustainable management of forest genetic resources, and strengthening institutional and human capacity.

The proposed Global Plan of Action is now set for final approval by the FAO Conference, which will take place in Rome in June 2013.

Source: Food and Agriculture Organization, United Nations, 22 April 2013

ABOUT CACCI

The Confederation of Asia-Pacific Chambers of Commerce and Industry (CACCI) is a regional grouping of apex national chambers of commerce and industry, business associations and business enterprises in Asia and the Western Pacific.



It is a non-governmental organization serving as a forum for promoting the vital role of businessmen in the region, increasing regional business interaction, and enhancing regional economic growth. Since its establishment in 1966, CACCI has grown into a network of national chambers of commerce with a total now of 29 Primary Members from 27 Asian countries. It cuts across national boundaries to link businessmen and promote economic growth throughout the Asia-Pacific region. CACCI is a non-governmental organization (NGO) granted consultative status, Roster category, under the United Nations. It is a member of the Conference on NGOs (CoNGO), an association of NGOs with UN consultative status.

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