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Forward Thought Leadership Series: Prof. Paul Teng on Food Security

With food security a pressing issue globally and especially in the Asia-Pacific Region, finding ways to solve food challenges is moving up the political agenda. But how can an island city-state like Singapore take major action with its urban population and land limitations? On the sidelines of the International Conference on Asian Food Security 2011, our latest Forward Thought Leadership Series interview explores steps to solving the crisis with Prof. Paul Teng.



Prof. Teng is Dean for Graduate Programmes and Research, National Institute of Education (NIE), and Senior Fellow and Advisor to the Food Security Programme in the Centre for Non-Traditional Security (NTS) Studies at S. Rajaratnam School of International Studies (RSIS) at Nanyang Technological University (NTU), Singapore.

Forward Thinking: Prof. Teng, perhaps to start off you could give us a quick snapshot of where the Asia-Pacific Region is at grappling with food security.

Prof. Paul Teng: Well, with over 60 per cent of the global population, half the world's urban population, and more than 60 per cent of all undernourished, Asia's food security challenges are formidable to say the least. It's a challenge that will require a very holistic approach.

FT: Could you shed some light on the complexity of the challenge and how people are affected by food insecurity?

PPT: There are four basic dimensions: availability, physical access, economic access, and utilisation. For availability, it's all about the supply—is there enough to go around? This is determined by production, stock levels, food aid, and net trade. Productivity is a big issue, but it's not sufficient to ensure household food security. Physical access to food is also another key consideration—households must have access to healthy, nutritious food. Conflicts, poor infrastructure, logistics issues, and market imperfections can all become barriers. Economic access is likewise critical, and purchasing prices must be in line with real income so people can actually afford to buy food. And of course, while a household may have the capacity to purchase all the food it needs, it may not have the ability to utilize that capacity to use it to the fullest. This relates more to the nutritional status of an individual—think in terms of feeding practices, food preparation, storage, etc. People living in slums may have living conditions affect nutritional status in the form of malnutrition and poor health. In the bigger picture, is also related the issue of investment. Are governments especially investing enough into agriculture and reserves, the mechanisms to alleviate potential for food security crisis?



FT: And governments of course take some pretty steep risks if they don't adequately address risks posed by food security. We've seen this recently with riots in response to food price hikes in many countries around the world.

PPT: Indeed. As Kenyan MP Ruth Oniang'o recently put it "A hungry person with low blood sugar is a very angry person—virtually ungovernable." Egypt recently showed us that surging food prices were one of many causes for the fall of President Mubarak.

FT: Turning to the local context, how do you think the issue of food security factors among the priorities of the local political establishment here in Singapore?

PPT: I think it ranks quite high. The National Security Council is funding a lot of think tank activity, the Agri-Food and Veterinary Authority (AVA) recently released another \$5 million fund in addition to a previous \$10 million fund to improve domestic farm productivity. National Research Foundation also has \$50 million for centres of excellence to create new technology to help tackle food security issues.

FT: Funding is good, but is that enough? [What else could the government be doing](#) in your view?

PPT: There could be lots more done to support regional and international action. Currently there are no Asian funders

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at the Food and Agriculture Organisation (FAO) and other similar bodies. Our government could take a leadership role there. Singapore could also be encouraging entrepreneurs to go overseas to produce more food and perfect new technologies. [HLH Pte. Ltd.](#) is currently one such company going into Cambodia to explore improving corn production. And of course Singapore could lead the way when it comes to finance, funding, and mobilising resources as investment is a key issue in agriculture and food security.

FT: So in this context there would be a lot of opportunity for business.

PPT: Absolutely. Beyond overseas opportunities, Singapore can be used as a knowledge hub to do a lot of the upstream work like breeding new varieties of seeds. There are world-class R&D facilities and support for this kind of work.

FT: Could you give some examples?

PPT: There has been some great work done through an AVA partnership with [Skygreens](#) to create new vertical farming infrastructure. The prototype is quite promising and will soon be tested in an urban context. Likewise, [Aerogreen Technology](#) has been perfecting technology to grow vegetables locally using air as well.



FT: Beyond the technology, at the conference you raised interesting points about the urban context of Singapore and finding techniques and technologies that are practical here. Given the geographic constraints of the country, what are some key considerations when it comes to land use?

PPT: There are surprisingly a lot of excess land zoned for agro-parks across six areas, some 700 hectares in total. This could be producing a lot more. Likewise, rooftops, HDB estates, aerobridge greenhouses integrated into buildings—there are many applications to be explored for agriculture in the urban context. But so far the political will is just not there yet.

FT: So what do you think needs to be in place to help support development of urban and peri-urban landscape to improve food security?

PPT: More cohesive campaigns and incentives by government. We could build off existing social infrastructure like Communities in Bloom and the People's Association to go after food security like we've worked on water conservation. There also needs to be the availability of technical advisory and support services—a lot of this expertise isn't currently on the ground here. And of course we need hands-on experienced professionals, improved community gardens—like we see in many overseas cities globally—and better supplies and pricing for small inputs of things like fertiliser.

FT: So Singapore could learn a lot from countries like Cuba that have had to tackle their food security issues head-on in innovative ways, including with community focused agriculture.

PPT: Sure, and there are many other examples of how urban and peri-urban agriculture (UPA) are used to increase food security, reduce poverty, and enhance urban environmental management—there have been success stories in Hanoi, Shanghai, Beijing, Mexico City, and many other places. Likewise some great community garden projects in the US, UK, and the Netherlands.



FT: How might Singapore engage more immediate neighbours like Malaysia, Thailand, or Indonesia?

PPT: Through ASEAN and also community to community deals between the different countries.

FT: To conclude Prof. Teng, with the complexity of food security in Singapore taking so many dimensions that we've discussed today, do you think it's time for Singapore to have its own Agriculture Ministry to champion the cause?

PPT: To date the AVA has been doing a great job, but if anything, perhaps a coordinating government agency could be created at the higher level to take a bird's-eye view of the issue and work across the many players that need to be involved to tackle food security. Australia has recently proposed this, and I think to really get at a holistic solution, this is a great way to go for the future. [There really is no silver bullet to this complex issue](#) and its going to need a broad-focused response.

posted @ Thursday, 11 August 2011 2:30 p.m. by Chris Tobias

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