

Food Security in the season of moon cakes

With Hong Kong's annual orgy of mooncake eating just behind us, perhaps the most calorie-intensive festival on earth, the question of global food security must undoubtedly be far from our minds. But while you were indulging mooncakes, I was in Tokyo with hundreds of APEC officials, wringing their hands about how to prevent a future global food crisis.

The backdrop for trying to ensure food security in the region by 2020 could hardly be worse. Just about every indicator is headed in a bad direction: while production of grains has continued to rise (about 70% since 1997), grain stocks have fallen continuously and not for decades have reserves been so thin; grains needed for human consumption are being diverted into "lifestyle consumption" – mainly meat for consumption in richer communities – and into ethanol and biofuels; volatile weather is disrupting supplies more extremely than ever; the world's population of "undernourished" people spiked horribly in 2009 at 1.03 billion, and is only now getting back to the 2008 level of 930 million people.

As world population presses relentlessly towards 9 billion, pressure to provide nourishment to the world's population – in particular in Africa – remains acute. Food price forecasts all gloomily point upward, even from current high levels. Expect rice prices in 2020 that are 40% higher than today in real terms. Other grains are expected to be 10-20% more expensive. And an alarming "food trade polarization" continues apace, with North and Latin America becoming progressively more competitive as exporters, and Asia and Africa importing steadily more and more.

The simple conclusion must surely be that, mooncakes or no mooncakes, the future global food challenge is real, and needs urgent attention. It was also clear in Tokyo that there can be no conversation about world food security without a conversation about

China. In fact, one can be even stronger: there can be no global food security without food security in China. When you are the world's number one producer of meat and poultry, rice, apples, citrus, pears, peaches – even grapes! And the world's number 2 producer of bananas!! – then even slight changes in China's supply or demand have massive impacts on the global balance. Producing 28% of the world's rice, 20% of the world's maize, and 16% of wheat, and around half of the world's fruit and vegetables, then China's annual harvests are of food security concern to us all.

While China's leaders have been successful over the past couple of decades in raising farm incomes, and lifting grain output, the sense of angst among Chinese leaders over meeting relentlessly rising food needs is palpable:

- Despite rising Chinese grain output, the supply of grains remains under acute pressure because of diversion into meat and poultry production, and other “lifestyle food” eating patterns.
- Urbanisation across the country – and in particular in the south and east – has taken millions of hectares of land out of production. Today, 122 million ha are under cultivation – down from 130 million a decade ago. The government has set a benchmark minimum of 120 million hectares – which is no doubt already squeezing the supply of land for house building.
- Substantial food surpluses in the north and east of the country are offset by chronic shortages in the south and west resulting in growing demand for meat, milk and grain to be transported from north to south, and large quantities of poultry and eggs moving east to the centre and west.
- While grain productivity (measured in terms of yield per ha) in wheat and maize is good by world averages, productivity for soya is very poor – about 35% below world averages of 2,360 kg/ha. This means the country has developed huge deficits of soya beans (imports now amount to almost 53 million tonnes – around four times domestic production – and cost just under US\$30 billion a year).

- As a result, the country has become a net food importer since 2004, and is expected to stay that way. The country's food trade deficit was US\$34 billion in 2011, and continues to grow. While soya, milk powder, wool and leather account for the lion's share of imports, the country is also the world's largest importer of barley (feedstock for the world's largest beer-drinking nation). Leading exports are fruits, vegetables and aquatic products - astonishingly China last year exported more garlic (US\$1.93bn) than tea (US\$970m).
- Water shortages for agriculture are acute in many parts of the country, with intensifying diversion for industrial use. The water shortage last year was estimated at 30billion cu.m..
- The intensity of fertilizer use to sustain output is causing huge environmental problems: fertilizer use per hectare is around four times the world average.
- Carefully regulated domestic food prices have risen steadily (though not with the volatile lurches the world food markets have seen). Rice and wheat prices have risen 30% over the past 5 years, while Maize prices have risen 50%.

Against this daunting backdrop, China's leaders seem reconciled to the impossibility of food self-sufficiency, and a rising reliance on food imports even in sensitive areas like soya. They are worried about the scale of reliance on the US (28% of food imports) and Latin America (27% of imports) - in particular their reliance for soya imports from a small number of giant American companies.

But they are adopting a wide range of policies aimed at ensuring food security - increasing investment in agriculture and rural areas; increasing minimum grain purchase prices; abolishing agriculture taxes and providing agricultural insurance policies; agricultural R&D, and subsidies for farmers; and "trade policies".

R&D, farm investment and subsidies are likely to generate controversies, given global trade rows in these areas: farm investment has risen from around US\$35 billion in 2005

to over US\$150 billion in 2012, and China's farm subsidies have risen strongly. Central Government subsidies alone will amount to RMB163 billion this year (about US\$22 bn), spread between direct grain subsidies, subsidies for breeds and seeds, subsidies for agricultural machinery and general subsidies for "agricultural production means". Expect those egregious farm subsidizers in Japan, the EU and the US to complain vehemently about this, and for angst about global food supplies to rise unabated – however self-indulgent we are with our mooncakes.

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