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Opportunities and challenges for organic food and agriculture: China and Australia

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Introduction

We cannot poison our way to prosperity. This is the foundational premise of organic agriculture. Organic food is food grown without the use of synthetic pesticides and fertilisers, without genetically modified organisms (GMOs), nanotechnology or irradiation. Such agriculture has a proven track record over millennia. An industrial process demonstrated by Fritz Haber and Carl Bosch in 1909 changed the practice of agriculture (and warfare) by producing cheap and abundant synthetic fertiliser (and explosives) (Smil 2001). The Haber-Bosch process captures nitrogen from the air, commonly referred to as ‘fixing nitrogen’, and ushered in an era of high external input chemical agriculture. There soon developed a call to reject the use of synthetic chemical inputs in the production of food.

The call for an agriculture that eschews chemical inputs dates from the Agriculture Course presented by Dr. Rudolf Steiner in the summer of 1924 at Koberwitz (now Kobierzyce, Poland) (Paull 2011a; Steiner 1924). Steiner called for his farming ideas to be experimentally tested,

developed and refined and, after that, disseminated. This injunction culminated in the publication of Ehrenfried Pfeiffer's book *Bio-dynamic Agriculture and Gardening* (Paull 2011c; Pfeiffer 1938).

The term 'organic farming' was coined by Lord Northbourne in his book *Look to the Land* (Northbourne 1940; Paull 2006) and this coincided, according to the World Health Organisation account, with the first use of synthetic pesticides, also in 1940 (WHO 2008). Northbourne had been a lecturer in agriculture at Oxford University, he was a biodynamic farmer, and he invited and hosted Dr. Pfeiffer to present a conference on biodynamics at his estate in Kent in 1939 (Paull 2011b). Northbourne's manifesto of organic agriculture *Look to the Land* followed shortly after that biodynamics conference. His book posited a contest of two mutually exclusive food production philosophies, of 'chemical farming' versus 'organic farming'. Northbourne was under no illusions that this would be a quick victory for the organics idea: "it is a task for generations of concentrated effort, slow and laborious ... And those engaged will be fighting a rearguard action for many decades, perhaps for centuries" (Northbourne 1940: 115).

The International Federation of Organic Agriculture Movements (IFOAM) was founded in Versailles, France, in 1972 to represent the interests of the organics sector. From the outset it brought together the diversity of kindred associations including organic and biodynamic associations, and the Soil Association (Paull 2010). The proposer, Roland Chevriot, of the French organic association *Nature et Progrès*, made it clear, in his proposing letter, that diversity was welcomed, where he wrote of "this federation respecting all particularities and individualities" (Chevriot 1972). There are currently 732 IFOAM affiliated organisations from 114 countries (Willer & Lernoud 2014). National and international standards have been developed and third

party certification provides assurance to consumers and facilitates the international trade in organic food.

Australia and China are both global organic leaders. When pitted against the more than 160 countries that report organic agriculture statistics, both countries regularly score in the Organics Olympiads (Paull 2011e, 2012). Australia with 12,001,724 hectares, and China with 1,900,000 hectares, together account for 37 per cent of the global total of 37,544,909 certified organic agricultural hectares (Willer & Lernoud 2014). Australia is in first position and China is in fourth position in terms of certified organic agricultural hectares from a total of 164 countries reporting organics data (with Argentina and USA in positions two and three). The top ten organics countries account for 80 per cent of global certified organic agricultural hectares. Australia and China have led the world in organics growth over the past decade (2001-2011) with decadal increments of 4,346,800 and 1,844,361 hectares respectively, and together account for 32 per cent of the global growth over the decade (Paull 2011f).

Globally there are 4.6 million tonnes of chemical pesticides delivered annually into the environment, just one per cent of these are effective while “99 per cent of pesticides applied are released to non-target soils, water bodies, and atmosphere, and finally absorbed by almost every organism” (Zhang, Jiang & Ou 2011: 133). This global dispersal of synthetic pesticides is scandalous, wasteful, and dangerous. In China there are a reported 100,000 deaths to pesticide per year (Zhang et al. 2011). The goal of organic agriculture has always been to be part of the solution rather than to be part of the problem. China and Australia have very different strengths and weaknesses and the advancement of the organics enterprise can best be progressed by playing to their different respective strengths. Some comparative data are presented in Table 3.1.

Table 3.1: Australia and China compared

Parameter	Australia	China
Country Area	774.1 m ha	960.0 m ha
Agricultural Area	409.7 m ha	519.1 m ha
Arable Land	47.7 m ha	111.6 m ha
Forest	148.4 m ha	209.6 m ha
Population	23,340,000	1,416,670,000
Rural Population %	10.5%	46.2%
Total Labour Force	12,320,000	850,580,000
Labour Force in Agriculture	460,000	502,210,000
Labour Force in Agriculture %	3.73%	59.04%
Agricultural Land per person working in agriculture	104.3 ha	0.25 ha
Fertilizer Use on agricultural land	46.3 kg/ha	548.3 kg/ha
Food Imported value	US \$705 m from China to Australia	US \$7,775 m from Australia to China
Certified Organic Agriculture	12,001,724 ha	1,900,000 ha
Certified Organic Agriculture % of agricultural land	2.93%	0.36%
Certified Organic Wild Collection	0 ha	982,400 ha
Organic Retail Sales	€927.0 m	€790.8 m (but maybe >US \$2b)
Organic Exports	€101.6 m	€235.5 m

Sources: FAO, 2014a, 2014b; FAOSTAT, 2014a, 2014b; Willer & Lernoud, 2014; World Bank, 2014.

The majority of consumers who purchase organic food do so for health reasons. In a global survey (N=21,100), “Over two thirds of

survey respondents think that organic foods are healthier for them and their children” (Nielsen 2005b: 4). A global survey across 38 countries reported that the reasons for purchasing organic are “healthier for me” (51 per cent), “healthier for my children” (17 per cent), “better for the environment” (15 per cent), “kinder to animals” (seven per cent) and “other” (10 per cent) (Nielsen 2005a).

Organic China

China has long been presented as an example to the world of how to farm organically. While Haber and Bosch were developing their process for producing synthetic fertiliser, a US Professor of agriculture, Hiram King, was pursuing a very different path, travelling through China and carefully documenting and recording its traditional agricultural practices. In his resulting book *Farmers of Forty Centuries* he praised the practices that he witnessed. He declared that “China ... long ago struck the keynote of permanent agriculture ... it remains for us and other nations to profit by their experience” (King 1911: 274). Many editions of King’s groundbreaking book have appeared in the century since it first appeared. *Farmers of Forty Centuries* is regarded as an organic agriculture classic (Paull 2011d) and the book has recently appeared in a Chinese translation (King 2011).

In the latter part the twentieth century, the traditional farming practices of China were supplanted by the so-called Green Revolution and the widespread embrace of chemical agriculture. There was a parallel increase in farm mechanization, with the power of agricultural machinery growing by a factor of 28 in the years 1970 to 2003 (Li 2005). These innovations produced a surge in food production, but close on the heels of this were the dysfunctional manifestations of the Green Revolution. Even in a totalitarian state, accounts of “poisoned

food” (Zong 2002: 55), the deaths of farmers from pesticides (Giovannucci 2005), and the deaths of consumers from poisoned produce (McKinna 2006) are news that is beyond suppression. Events such as the exclusion of Chinese produce from the Japanese market because of pesticide residues (Latner & Lei 2006) and the melamine-in-baby-formula scandal in which at least six children died, 300,000 were sick, several senior managers were executed, and others imprisoned for life (Associated Press 2009), have been wake-up calls for China.

The then Communist Party General Secretary, Jiang Zemin, had urged a “vigorous adjustment of agricultural structure” and, as a “top priority ... establish quality standards for farm produce, and move to a system for examining and testing farm produce and to develop organic and pollution-free food” (*People’s Daily* 2001).

China was been a late-comer to the international organics movement. Organics in China dates from 1990, with the first certified organic export from China being tea exported to the Netherlands and certified by the Dutch certifier, SKAL (Zong 2002). In 1990 the Ministry of Agriculture (MoA) created the Green Food programme, and in 1992 set up the China Green Food Development Centre (CGFDC). Following a separate path, the State Environment Protection Administration (SEPA) set up the Organic Food Development Centre (OFDC) in 1994 (Paull 2007). The philosophies behind these two moves were different. Green Food is a local certification scheme focused on certifying the process of production and testing the product for reduced pesticide residues. SEPA with its organic programme had an eye on gaining a premium for exports and encouraging more sustainable on-farm practices.

The CGFDC certified to two standards, Green Food Grade A and Green Food Grade AA, and the latter was incrementally converged

with international organic standards. One advantage of this scheme is that there is a pathway to organic certification which recognizes the intermediate achievement of Green Food Grade A, and there is thereby a defined pool of potential candidates for conversion to organic.

The Certification and Accreditation Administration of China (CAAC) in 2005 issued the first national organic standards for China, the Chinese National Standards for Organic Produce. Since 2005 there has been a single organic logo for China, which is a bilingual logo, Chinese and English, and comes in two versions, “Organic” and “Conversion to Organic”. In China, ‘Organic’ is a controlled term and it cannot be applied to food unless it is certified organic (Paull 2007).

China has come into the organic stream after the long evolution of the concept elsewhere. In the West organics has evolved over the past ten decades from Rudolf Steiner’s 1924 call for a differentiated agriculture, through the development of biodynamic agriculture in the 1930s, Northbourne’s manifesto of organic farming of 1940, the founding of IFOAM in 1972, and the development of standards and certification.

China has leapfrogged this evolutionary process which the organics movement has travelled in the West, and biodynamics, the specific practices of organic farming instigated by Rudolf Steiner, have come only recently to China. The purchaser of a 40 acre long neglected farm in China “hopes to show by example a more natural way of farming to the surrounding rice farmers, who use chemicals heavily, as well as providing food to the [Steiner Waldorf] school at which he is a parent” (Watkin 2013: 13).

A policy of Mao Zedong, Communist Party Chairman, was of “Letting a hundred flowers bloom and a hundred schools of thought

contend” (quoted by Hubei Museum of Art, 2013). There are high hopes that China will not just adopt organic agriculture in its diverse manifestations, but along the way adapt and develop the practices, including growing, storing, processing, packing, and marketing to suit its own circumstances.

Organic Australia

Australia was an early adopter of the organics idea. The world’s first ‘organic’ association was the Australian Organic Farming and Gardening Association (AOFGS), founded in 1944. The world’s first ‘organic’ journal by an organics association was the *Organic Farming Digest* which appeared in 1946. The world’s first set of organic farming principles was developed and published by the AOFGS (AOFGS, 1952; Paull 2008b).

Australia has ten decades of experience and development of organics dating from 1928 when an Italian artist and farmer, Ernesto Genoni, recently returned to Australia after a decade in Europe, joined the Agricultural Experimental Circle of Anthroposophical Farmers and Gardeners (AECAFG), headquartered at the Goetheanum in Switzerland (Paull 2013). In Europe, Genoni had met with Steiner, stayed at the Goetheanum, and left when Steiner became terminally ill in September 1924. Genoni worked with the leading advocates and practitioners of biodynamic agriculture including Ehrenfried Pfeiffer and Ernst Stegemann (Genoni c.1955).

There have been four waves of the development of organic agriculture on Australia starting with the Anthroposophists in the 1920s and 1930s, The second wave were the organics pioneers of the 1940s and 1950s during which time there was a proliferation of organics advocacy groups, beginning with the AOFGS of 1944, the

Compost Society in Victoria founded in 1945, and the Living Soil Association of Tasmania founded in 1946.

Rachel Carson's book *Silent Spring* injected new life into the organics movement worldwide and the 1960s and 1970s witnessed a wave of disseminators. This period saw the publication of the mass-market mini self-help book *Organic Gardening* by Audrey Windram (1975), and also the first popular organics periodical to achieve national distribution, the *Organic Farmer and Gardener* published by the Organic Gardening and Farming Society of Tasmania (OGFST).

The explosion at the Chernobyl nuclear reactor in Ukraine in 1986 and the worldwide diffusion of radioactive contamination, especially across Europe, focussed the world on the safety of food supply with worldwide restrictions placed on the movement and importation of food along with the radiation testing of imported food. Soon after, the National Association for Sustainable Agriculture, Australia (NASAA) and the Biological Farmers of Australia (BFA) (now Australian Organic) were founded, in 1987 and 1988 respectively, and have grown to become Australia's two leading organics certifiers (Paull 2013). Australia hosted the Organic World Congress, IFOAM's triennial conference and showcase of organics research and developments, in Adelaide in 2005. An Australian, Andre Leu, is currently the President of IFOAM.

Australia has long held number one position for the total of certified organic agricultural hectares (12,001,724 ha), well ahead of the second and third place getters, Argentina (3,637,466 ha) and USA (2,178,471 ha) (Willer & Lernoud 2014). The total value of the organic industry in Australia is estimated to be A\$1.276b (€855m) (Monk, Mascitelli, Lobo, Chen & Bez 2012). Farm gate sales are estimated at A\$329m (€220). The farm gate value is dominated by five categories of product which account for 76 per cent of the total value, namely,

beef (22 per cent), fruit (19 per cent), vegetables (18 per cent), dairy (nine per cent), and wool (eight per cent) (derived from Monk et al. 2012). Australian exports of organics are put at A\$152 m (€101.6 m) (Willer & Lernoud 2014) and imports at A\$220 m (€147 m) (Monk et al. 2012).

The term ‘organic’ is not controlled in Australia, so the figures for certified organic hectares will underestimate the farms actually practicing organic agriculture. Supermarkets will generally only sell organic products that are certified but such a constraint will generally not apply at farmer’s markets. Under fair trading legislation there is a requirement that claims are not false and misleading so goods described as ‘organic’ by a seller must be thereby accurately described. Australian organic standards can be freely downloaded from the web (but not from the pay-to-view standard sold by Standards Australia) so that a producer can determine that their production practices meet an organic standard.

Organic opportunities and challenges for Australia and China

The opportunities to grow the ‘organic pie’ are substantial for both China and Australia. However the challenges and the opportunities are far from identical, although the goals of growing the production area, increasing the market awareness, fostering consumer confidence in certification and labeling, broadening the product offering and availability, and increasing sales are shared issues. Some of the aspects of organics opportunity and challenge are examined below.

Area

It has been said that the ‘room for improvement’ is a big room, and it is certainly the case that there are great opportunities for both

Australia and China to grow their organic sectors. Australia has 2.93 per cent of its agricultural land certified as organic as a proportion of its total agricultural land. This is well above the world's 0.86 per cent of agricultural land certified as organic, but it is well below the global leaders of the Falkland Islands (Malvinas) with 36.34 per cent, Liechtenstein with 29.60 per cent, Austria with 19.70 per cent, and thirty other countries rank ahead of Australia. China has 0.36 per cent of its agricultural land certified as organic. This is well below par for the world, and China is outranked on this measure by 86 countries (Willer & Lernoud 2014). The hectareage figures suggest that there is massive potential for growing the organics sectors of both Australia and China.

Pollution

“The food is not contaminated and that creates high demand in China” declared Yongbei Tang about produce from Tasmania, Australia's island state (quoted by Hanson 2014: 16). Australians take it for granted that their air is crisp and clean, that their water is safe and drinkable straight from the tap, and that their environment can be fairly described as ‘clean and green’, and by extension that their food is by and large ‘clean and green’. One consequence is that, for most, the imperative for seeking organic food is a somewhat distant imperative, without a pressing in-your-face urgency. This complacency produces something of a brake on the growth of the domestic organics sector. On the other hand, the clean green image of Australia can be harnessed to market Australian produce in export markets.

As the CEO of Apple and Pear Australia Limited (APAL), John Dollisson, recently stated on the occasion of a first shipment of Tasmanian apples to Shanghai: “China is a huge potential market for Australian apples and pears because our fruit has a unique clean,

green and safe image that is becoming increasingly popular among high-end consumers in the country” (Acres 2014).

In contrast to the situation in Australia, China has a serious pollution problem, some would say catastrophic, with air pollution frequently at ‘hazardous’ levels (AQICN, 2014). China has experienced food scares, including fatal events, which have shaken consumer confidence in the safety of the food chain. With palpable pollution evident on a daily basis this creates an impetus to seek unpolluted food. There are three food eco-labelling certification systems in China: certified organic, Green Food, and Hazard-free food (No-harm food) (Paull 2008a). The current pollution levels in China will require nothing less than a massive and protracted effort to remedy, and in the meantime the pollution awareness of consumers can create demand for organic food, subject to price, availability, and consumer awareness of organics.

Better reportage

Measuring progress and identifying trends relies on accurate valid, reliable and timely data that are regularly reported. The organics data sets for both Australia and China leave much to be desired. The accounts of certified organic agriculture hectares in Australia report the deceptively precise figure of 12,001,724 hectares, unchanged over the past four years (Willer & Kilcher 2011, 2012; Willer & Lernoud 2014; Willer, Lernoud & Kilcher 2013). The corresponding figure for China is reported as 1,900,000 hectares, unchanged for the past two years (Willer & Lernoud 2014; Willer et al. 2013). Australia has not reported the number of organics importers or exporters, and China has not reported producers, processors, importers, or exporters (Willer & Lernoud 2014). Retail sales of organic food in Australia is reported as €927m and in China variously as €791m and over US

\$2b (Willer & Lernoud 2014); these figures are best taken as rough estimates or, probably more fairly, as rough guesstimates rather than 'bankable' figures.

Better engagement

Australia and China are not as engaged with the diversity of the global organics enterprise as some other countries. Neither Australia nor China report any data for organic aquaculture or organic forestry, while the global figures are 33,844 hectares and 44,013 hectares, respectively (Willer & Lernoud 2014). Australia does not report any organic wild collection area, while China reports 982,400 hectares, and the global total figure is a massive 30,359,009 hectares. Forestry is highly contentious activity in Australia, and especially Tasmania. Credible third party certification would be welcomed by many, and why not the gold standard of certified organic forestry?

Brand

Organics is a sector with weak brand presence. It is a phenomenon that applies in both Australia and China where organic brands lack recognition, market penetration and consumer awareness. This weak brand presence for organics contrasts with, say, cola drinks where in Australia, for example, that space is 'owned' by Coca Cola and Pepsi, with fast food hamburgers where that space is dominated by McDonald's, with breakfast cereals which is dominated by Kellogg's, and chocolate where the space is dominated by Cadbury.

It could be argued that 'organic' is the brand, but that ducks the issue and is proposing that a certification mark take on the role of brand. 'Organic' is ill suited to such a task for which it was never designed. Organic-as-brand sidesteps the important issue that readily

identifiable brand marking and livery can deliver consumer loyalty and habituation by simplifying the shopping process and promising a consistent product experience to a consumer, and for neither of which is a certification mark a substitute.

There is the opportunity for organic brands to develop and grow and to stake a claim to some market niche. The challenge in this is exemplified in the case of the Tasmanian organic apple brand, Willie Smith. The brand is new and is currently applied to organic apple cider, as well as the Willie Smith Apple Museum nearby the apple orchard at Grove. But the orchard's organic apples, which are available nationwide at Coles stores, are home branded as "Coles Organic" (Coles 2013). This home-branding strategy has great advantages for a supermarket company which can switch suppliers, leaving consumers none the wiser, as the product branding and livery remains unchanged, and the consumer's loyalty to the product is unwittingly transferred.

Premium

Certified organic food sells at a price premium. This is the main impediment for consumers to purchase organic (Nielsen 2005b), and the flip side is that it is a motivating factor for farmers. 'Certified organic' is the gold standard for producing clean food, and so there should be no surprise that certified organic food is priced at a premium. It is the size of the premium that is the issue.

In a study of Australian consumers, respondents valued 'certified organic' at 16 per cent over undifferentiated product (Paull 2009b). Actual price premiums for certified organic in Australia average 80 per cent (Halpin 2004). The price premium needs to capture the costs of certification, the higher labour demands for producing organically where applicable, a lower yield if that is the case, the savings on

chemical inputs, and perhaps some reward to the producer for the intrusion of the extra scrutiny and oversight over the production.

There are consumers who are price buyers and will always opt for 'cheapest', and at the other end of the scale there are buyers who are relatively price insensitive, but most purchasers are making price-considered purchasing trade-off decisions most of the time. With a value of 16 per cent to Australian consumers, but frequently with an actual premium over that, this means that the price premium is for many consumers, for much of the time, failing a good value test. It is expected that as the market share increases the premium shrinks.

In China price premiums for certified organic are much greater than in Australia, Europe or North America. For organic fresh vegetables premiums of 206 per cent to 408 per cent are reported (Xu, 2008). Such premiums take the organic option out of the orbit of most potential purchasers, and, given the global experience of organic production, they smack of price gouging. It may be a case of 'charge what the market will bear', and there are also issues, such as that the market for certified organic in China is still an immature market, that certification may be cumbersome, and that the choice of retail outlets are limited. Nevertheless, it is a reasonable expectation that organic premiums in China will drop to more manageable proportions and fall back to the 0-100 per cent range that we witness elsewhere in the world. And, hand in hand with shrinking premiums, we can expect to see rising sales.

Logo

China has had a mandated national logo for organic since 2005, and this is a desirable state of affairs which enables a consumer to readily identify an organic product. Imported organic products to China must also bear the Chinese organic logo which serves as an aid to consumer

identification of organic. The logo is bilingual, Chinese and English, and that is most helpful for the expat community and visitors within China, and also helpful where Chinese organic products are exported.

The Chinese organic logo is itself rather odd, a cross between a stylized Saturn with rings and a football passing through a hoop. The logic of the graphic escapes the present author and is equally elusive to the Chinese shoppers, sales staff, and others whom I have asked. By way of contrast, there is also a standardized Green Food logo. It is readily identifiable, is also bilingual (but not always), is coloured green which is logical, and the graphic element of the logo is of a stylized plant, all of which fits nicely with the intent of the certification.

Australia has a proliferation of organic logos. Each certifier has their own logo. The most commonly seen are, firstly, the Organic Australia 'bud' logo, bearing the text "Australian Certified Organic" with a stylized germinating plant, and secondly, the NASAA logo with text "Certified Organic" and two leaves. The Australian Government issued a national logo, which was radioactive-orange in colour and altogether quite ghastly; it bears no discernible salience with the organic brand, the word 'organic' is entirely absent, and the uptake of which was voluntary and appears to have faltered, which can only be described as 'for the best'.

A national logo was the right decision for China where there was an uncontrolled proliferation of logos and which was confusing and corroding trust. Europe has adopted a compulsory logo which has no text at all, so it is best to be a mind reader. It is a green star-spangled banner which was chosen by a committee from a public competition. It can be described as a weak logo which appears to have mislaid its core message someplace, and whether it is an indictment of committees or competitions cannot be stated without more data.

A national logo for Australia that could appear alongside existing

certifier logos might be a worthwhile idea to collectively identify the diversity of organic produce. On the other hand, no logo is better than a poor logo, committees and competitions may be fraught, either or both, and there is currently no imperative for a common logo in Australia.

Consumer awareness

It is probably fair to say that, in China, consumer awareness of pollution and food scares is high while awareness of organics is low. News of food scandals spreads rapidly, even in a totalitarian society, bad news sells newspapers, whereas the organics message is a harder sell. In marketing there is a maxim that people will do more to avoid a loss than make a gain. Chinese consumers (N=94) are more likely to purchase Green Food if they were young (under 25 years) or well educated (completed College or University) (Wang, Xiang & Xing 2013), and the same may very well apply to organics purchasers.

Some supermarkets in China, for example the Carrefour chain, display explanatory banners of text and graphics outlining the organic difference and extolling the benefits. Some supermarkets have in-store promotional displays, for example for organic dairy products which are dressed up as luxury goods with elaborate packaging, and may be accompanied by promotional staff. Green Food is more familiar to Chinese consumers and is more readily available. For awareness raising and the promotion of Green Food it has been suggested that TV and radio be used, and that “public organizations should cooperate with producers in holding public benefit activities” (Wang et al. 2013: i). For the promotion of organic food in China, “There is a need to clearly explain the meaning of the term ‘organic’ ... Educational campaigns need to be organised to raise awareness of and clarify the term ‘organic’” (Chen 2012: 210).

The United Arab Emirates (UAE) have recently reported success with an organics awareness raising amongst consumers. “The organic food market in the United Arab Emirates is booming and supply cannot meet demand ... The growing demand for organic food is due to a number of reasons: one of them being that the Ministry of Environment and Water has launched awareness programs addressing organic farming ... Moreover the ministry launched a number of organic farmers markets to not only help farmers sell their products but also to increase awareness among consumers about organic food” (AlShara 2014: 181). The UAE market has similarities to the Chinese market in that, in both, ‘organic’ is a relatively new idea and it is a foreign idea – although the idea of healthful and wholesome food is already very familiar and the populations are already very food-aware, and the UAE has adopted a bilingual organics logo, in Arabic and English.

The essence of an awareness raising program is: tell them and they will buy. The message needs to include the points of difference, and the benefits need to be explained so that they outweigh the off-putting price premium.

An awareness raising strategy in Australia is the introduction of the Organic School Gardens Program. It has received funding from the Victorian Department of Education and Early Childhood Development and is underwritten by BFA Ltd. (Monk et al., 2012). The idea is not a new one, it was proposed in Australia by the founder of the Living Soil Association of Tasmania, Henry Shoobridge, in 1944 (Paull 2009a). Organic school gardens is a simple idea that appears worthy of expansion to all schools – not only in Australia but why not also in China and, in fact, where is the country that would not benefit from such a program?

Provenance and transparency

For a certification system to credibly work it requires traceability – and organics certification is a mature certification system that incorporates traceability. But, and it is a big but, this traceability is data tightly held by the certifier and often veiled or concealed from the consumer, which is convenient for all parties other than the consumer who is left in the dark.

The game proceeds like this: organic produce is sourced in a low cost market, say China. Australian retailers are aware that Australian consumers value down, and may avoid altogether, food from China, for example nominating food scares as their reason (Paull 2009b). The product is certified by an Australian certifier, frequently by Organic Australia, and that scores it an “Australian Certified Organic” logo which will then appear prominently on the front of the pack. Meanwhile, on the back of the pack, a consumer may get lucky and find “Product of China”, but frequently will find nothing more informative than “Packed in Australia from imported ingredients” or some such attribution which dupes the consumer, even if it may not trigger a claim of being false and misleading under the Trade Practices Act.

For China where consumers have suffered too many local food scandals, and are somewhat wary of the integrity of current local production methods, “imported” is a valued attribution on food products, but this is not the case in Australia for Australian consumers.

The organic sector relies on consumer trust. There is a premium to be paid, that is almost a given, and the certification logo attests this added value of the product. The logo is the only tangible indicator of the added value, since a consumer cannot tell an organic from a chemical product by the look and feel. To make an informed choice, and to not be gyped, the consumer needs the provenance data. We

may have political reasons for boycotting the goods of a country, for example, or we may value up some countries products and value down others on the basis of the provenance and quite independently of the organic claim. The consumer is entitled to know what the certifier knows, data that would impact on the consumer purchase choice were it known. At present in Australia, it appears that even the weak provenance labeling prescribed by the Government is flouted; examples can be found in any major Australian supermarket selling organic labeled foods. This is a scandal in the making, and an opportunity to do better, and while this shoddy behavior persists it damages the good standing of the organics sector.

Transnational processing

Australia has, on the one hand, the advantage of having arguably the best growing environment for organic food in the world and, on the other hand, the disadvantages of having some of the highest wages in the world, along with a small market. In contrast, China has some of the world's most polluted air, water, and soil for growing, but abundant cheap labour with sound food and agriculture skills, and a massive market. When we add to this mix of comparative advantages and disadvantages, the fact that travel and transport are cheaper, easier and more reliable than they have ever been, the scene is set for the potential of transnational food.

Transnational food is food where food has made three or more national stops in the production, processing, and sales, and so it goes beyond 'imported ingredients'. Local food is (in the broadest definition) where food is produced and sold within a single country (for example "Product of Australia" which is sold in Australia). Imported food is where food is produced in one country (or several) and sold in another (for example "Product of Italy" sold in Australia

or China). An example of the emergence of transnational food, is cashew nuts grown in Australia (Northern Queensland where the growing conditions are right and the environment is clean), they are shipped to Vietnam where they are dehusked (using low-cost skilled labour) (Straight 2011), and they are shipped back to be sold in Australia as “Product of Australia”. This has the advantage of generating work for skilled low wage Vietnamese food processing workers. The downside is that those consumers who are purchasing on the basis of ‘food miles’ are deceived into imagining that these cashews have travelled from an Australian farm to them somewhat directly, and certainly not transnationally. While there is the option for a producer to state on the pack: “Product of Australia” and “Processed in Vietnam” there appears to be no requirement to do that (FSANZ 2006) and it is unlikely to achieve a marketing benefit, quite the contrary, a fact of which marketers will be well aware. This is a shortcoming, among many, of the food provenance labeling in Australia, which often conceals more than it reveals, and it presents an opportunity for improvement.

Australia has the capacity to expand its agricultural production, especially organic, while China is witnessing a shift of rural population to urban areas. This offers opportunities for food growing in Australia, then food processing and transformation in China, and food marketing wherever. To achieve organic certification on the end product, all stages of the growing and processing must be under organic certification. That is why some products in Australia, for example, will state “grown organically” or “grown biodynamically”; they may lack organic certification because the processing facility was not organically certified. As transnational food production becomes more nuanced, the provenance labeling prescriptions need to evolve to keep pace and reflect the new realities, and thereby maintain the trust of consumers who care to know where their food has been.

Green food

Green Food is a Chinese eco-agricultural innovation of the Ministry of Agriculture and dates from 1990. Green Food is a step down from organic agriculture and a step up from full-blown chemical agriculture. There are four environmental criteria for Green Food certification: good air quality, good quality water and soil, drinking quality water for processing, and reduced and restricted synthetic fertilizers and pesticides. Two grades of Green Food, Grade A and Grade AA allow for a guided and controlled pathway to organic production and certification.

An inventory of China's agricultural land reported 3.1 million hectares as organic, 10 million hectares as Green Food, and 21.1 million hectares as Hazard-free (Paull 2008a). This puts China at the forefront of global eco-food labeling, with the total hectares under China's three eco-labeling schemes (34.2 m ha) being comparable to the world's total under organic agriculture certification (37.5 m ha) (Paull 2008a; Willer & Lernoud 2014).

The area under Green Food certification in China is more than three times the area under organic certification. This offers a large reserve pool of farming land and farmers that have a history of third party scrutiny and certification, and which can progress, with some adjustments to their production and oversight practices, along the path to organic certification. The triggers for such a progression may kick in when the incentives are right, perhaps government incentives, rising consumer demand, or improved marketing and distribution opportunities, including export opportunities. Green Food puts China in a unique position to have a large pool of farmers and farm land well on the way to being 'organic-ready'. Green Food is reported as more frequently purchased by younger (<25 years) and better educated (College or university educated) Chinese consumers (Wang

et al. 2013) and these are potential target demographics to also engage with organic food.

Free trade

Australia signed free trade agreements with Japan and Korea in April 2014 (DFAT 2014), and a free trade agreement between Australia and China is currently under negotiation. Such an agreement has the potential to facilitate the flow of organic food between the two countries. Australian organic product entering China needs to be certified to China's organic standard and bear China's organic logo. The situation has been described as follows: "The Chinese market, while offering great future potential for Australian businesses, has more recently made growth difficult due to regulatory and standards divergences ... specific market requirements, including additional certification requirements, are adding cost and complexity to exporters interested in serving this market" (Monk et al. 2012: 11).

These challenges have been substantially addressed by NASAA, a leading Australian organics certifier, which recently concluded an agreement with a Chinese certifier. "The agreement was signed in Adelaide between NASAA Certified Organic and Beijing WuYue HuaXia Management and Technique Centre (CHC). This is the first time a foreign organization has been approved to inspect organic products for export to China as well as to certify Chinese organic operators to USDA NOP and Japanese Agricultural Standards in China" (Abad 2014: 1).

Chinese organic produce exported to Australia appears to generally have been exported in bulk and packaged in Australia, certified by an Australian certifier, and, it seems, most commonly by Australian Certified Organic (ACO). The drawback of this practice is that the ACO logo typically appears prominently on the front of the

packaging, while the provenance declaration of “Product of China” or the opaque and reprehensible “Packed in Australia from imported ingredients” appears on the rear, as mini-text and buried in a forest of other text. Australian consumers deserve better.

Australian boutique organic producers, such as Willie Smith organic apple cider and Mole Creek organic leatherwood honey, can benefit from easier access to the Chinese market. These are premium organic products with a very modest premium (in the Australian market) that can showcase the taste and terroir of Tasmania, in particular, and Australia in general. A boost in demand for their products along with their continuing successes can entice other orchardists and apiarists to convert their own operations to organic using, for example, Willie Smith and Mole Creek as exemplars.

Conclusion

China’s Premier Li Keqiang recently declared a “war on pollution” and this was quickly followed by the passing of the long awaited Environmental Protection Law (EPL) on 24 April 2014, and which comes into force in 2015. The new environmental law has been in the drafting and amendment process since 2001 (Jianqiang 2014) and it replaces the previous weak version of 1989. These fresh developments are cause for optimism and bode well for the future of China which is currently burdened with the world’s worst pollution and is urgently in need of a successful “war on pollution” (Wubbeke 2014). China’s State Council has announced an unprecedented move to address air-pollution with an action plan costing 1.7 trillion yuan (A\$293m, €196m) with similar action plans promised for water and soil pollution (Lin 2014).

Organic agriculture has a role to play in reducing China’s soil, water, air, and produce pollution. China’s new EPL and the declared

“war on pollution” can be instruments to refocus farmers, consumers, and administrative authorities that organic agriculture is an ‘off the shelf’ tool to help China along the path to a cleaner and greener future. Visitors to China are noticing that the most obvious index of pollution, air pollution, is worsening from visit to visit. The tide needs to turn. A dirtier and browner future for China does not bear thinking about. An opinion poll conducted by China Youth Daily put environment as the public’s number one concern (Lin 2014). The continuing uptake of organic agriculture offers real environmental dividends, and is a move in the right direction.

By way of contrast, in Australia there is little compelling pressure to increase organic production. There is a lack of food scares. There is a lack of engagement of the media with pesticide issues which are, of their very nature, multifaceted, somewhat complex and convoluted, and rely on scientific and philosophic perspectives that do not lend themselves to ten-second sound bites and nor to light writing or light reading. Added to this there is no push from the organic sector or the government to inform the public or proselytize on behalf of the organics sector. Australian organic farmers, producers and manufacturers continue to sing their own praises with the sound button turned to mute, or nearly so.

A surety of price premiums, the awareness of success stories, and increasing consumer demand from home or abroad, can potentially drive the Australian organics enterprise forward. There has been considerable chatter that Australia, and even Tasmania, can be the “food bowl of Asia” but such talk is mostly hocus-pocus springing from bogus analysis and wishful thinking. More likely, and more plausibly, is that Australia can provide a premium food platter for Asia. No matter what efficiencies are put in place, there is the stark reality that Australian labour is some of the most expensive in the

world. A consequence is that Australia can move away from selling commodities and competing on price, and shift into the premium food space and compete on quality. Embracing this new reality can be a boon for the growth of organics, especially as Asian consumers become more savvy and discerning, as well as more cashed up.

Alongside the upbeat rhetoric of foreseen food exports to China with which newspapers and politicians regale us, Australian producers always need to bear in mind that China can feed itself. It has more than a thousand farmers for every one in Australia. China has a great depth of farming expertise, and farmers who can draw on a history of millennia of sound ecological agriculture. China has one of the great food cuisines of the world and its population has a deep food culture. China can feed itself, farm itself, and with the right will, can lead the world in organic agriculture, and even enjoy some organic delicacies and premium foods from Australia in the process.

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