

## **A CHINA ENVIRONMENTAL HEALTH PROJECT RESEARCH BRIEF**

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### **The Spread of Organic Food in China**

Although global market demand for “green” foods began booming in the late 1980s, it was not until the late 1990s that Chinese farmers and food producers found economic and environmental promise in organic farming. The turn towards organic was initially fueled by growing problems with Chinese agricultural exports—with the European Union and Japan banning tea and other crops due to excessive pesticide residues. Recently, demand for organics has received a domestic boost by the rise of an affluent urban middle class and increasing concern over the dangers of excessive pesticide and chemical residues on food.

The growing interest in organic food is part of a larger public and government concern about growing food safety problems. Recent food safety scares, resulting in sickness and death, have included contamination of basic Chinese food products such as noodles, soymilk, and duck eggs, as well as poor quality infant formula that led to fatalities.<sup>1,2,3</sup> In 2004, the Chinese Ministry of Agriculture reported that between 20,000 and 40,000 people fall ill to food poisoning every year and in 2007 the Ministry of Health reported that 196 people died of food poisoning in China in 2006.<sup>4</sup> In terms of farming chemicals, the Chinese government estimates that 53,300 to 123,000 people are poisoned by pesticides each year.<sup>5</sup>

Since the “tainted pet food” incident in early 2007, where Chinese melamine-contaminated wheat gluten was found in U.S. pet foods, China’s food safety and regulation has faced worldwide media attention and public criticism.<sup>6</sup> The government has responded with drastic measures, including crackdowns on illegal food industries; the execution of its former Food and Drug regulator, Zheng Xiaoyu, on corruption charges; the establishment of a food safety commission headed by vice premier Wu Yi; and implementation of a “quality seal” to ensure food safety standards.<sup>7, 8, 9</sup> Some of the moves to improve standards and create a food quality safety seal could build on nearly a decade of work in China to create organic food certification. China currently produces somewhere between 250 and 300 different organic products throughout the country.<sup>10</sup>

#### **MARKET FOR EXPORTED ORGANIC GOODS**

In the mid-1990s, there was virtually no domestic market for organic food, and so the industry began as an export-only good.<sup>11</sup> Some of China’s main organic agricultural exports, largely destined for Europe, include sunflower seeds, pumpkin seeds, kidney beans, and black beans, which dominate their European competitors.<sup>12</sup> The United States and Japan are also major importers of Chinese organic produce.

The hunger for organic products is growing worldwide with consumers spending \$27 billion annually on such foods.<sup>13</sup> China’s agricultural sector has “seen the green” and responded with a rapidly growing supply of pesticide-free certified organic foods.<sup>14</sup> China’s organic food exports more than doubled between 2003 and 2005, growing from \$142 million to \$350 million.<sup>15</sup> Additionally, a recent CNCA report found that 12,000 operators in China are registered applicants for permits to export organic food.<sup>16</sup> Despite this marked growth, China’s organic food exports are only one percent of

total food sales and remain a small percentage of the total demand for organic food products worldwide.<sup>17, 18</sup> Central to the growth of the export and domestic markets was establishment of Chinese organic food regulation and certification that meets international standards, as established by the International Federation of Organic Agricultural Movements (IFOAM).<sup>19</sup> The growth in organic foods has also been catalyzed by international assistance and domestic pilot projects (**See Fact Sheet here**).

#### DOMESTIC INTEREST IN ORGANIC FOOD

Like their counterparts in other countries, China's growing middle class is beginning to view organic products as safer and healthier food. In response, stores in Beijing, Shanghai and other cities began offering organic alternatives in fruits, vegetables, meat and soaps.<sup>20</sup> There is also a boomerang effect, in that some organic food sold to international food suppliers and distributors such as Wal-Mart and Carrefour return to be sold within their stores in China, where they are marketed as westernized, higher-quality, and usually more expensive goods. Notably, organic food sales have increased by 50 percent at Carrefour in China since last year as China's food safety weaknesses were exposed, underscoring the growing public demand for organics.<sup>21</sup> A 2003 study polled over 900 Chinese customers visiting four supermarkets in Beijing and Shijiazhuang and found that over the past year a majority had purchased "green food products" (*lǜse shípín*)—a term used in China that are pesticide reduced and chemical additive-reduced products.<sup>22</sup> (See Table 1). Moreover, 77 percent of those surveyed were willing to pay extra for processed and fresh organic food products.<sup>23</sup>

**Table 1.** General Attitude Towards Food (Total % and % by Educational Group)

Question	Response	Total	Lower educated	Higher educated
<b>A. How do you grade the safety of Chinese food products?</b> (n = 962)	Excellent	17.2	22	15
	Good	30.9	28	32
	Not so good	41.6	38	40
	Bad	5.9	5	10
	Hard to say	4.5	7	4
<b>B. Do you buy "green" food products?</b> (n = 958)	Yes	86.1	76	90
	Rarely	6.4	10	4
	No	7.5	14	6
<b>C. Are you willing to pay more for ecological food products, produced with less chemical fertilizers and pesticides?</b> (n = 934)	Yes	39.9	34	43
	No	44.2	49	42
	Only non-processed	15.8	17	15
<b>D. Are you willing to pay more for organic food products, produced without any chemical fertilizers or pesticides?</b> (n = 929)	Yes	66.1	53	73
	No	23.0	33	17
	Only non-processed	10.9	14	10

Source: Ho & Vermeer, 2003

#### GOVERNMENT PUSHES ORGANIC FOOD

While interest in and production of organic food is growing in China, it is a relatively recent phenomenon. In the 1970s, the Chinese government viewed organic farming as a threat to economic productivity, as Zhang Lingyu, who was jailed for 102 days for promoting pesticide-free food in the 1970s, can attest. At this time, the Chinese government aimed to increase agricultural yields on its limited farmland.<sup>24</sup> Even as recently as 1990, there was effectively no domestic organic market in China, according to Li Debo, deputy-director of the Organic Food Research Centre under the State

Environmental Protection Administration (SEPA).<sup>25</sup>

According to Luo Min, an official with the China Organic Food Development Center, a contributing factor to the sudden increase in domestic consumption of organic food is increased awareness of issues regarding food safety resulting from wide media coverage both domestically and abroad of food quality problems in China.

The first investigative steps to implementing an official organic policy began in the late 1980s following joint research and study exchanges between the Nanjing Institute of Environmental Science (NIES) and IFOAM, SEPA was able to introduce the concept “organic” in the early 1990s, but at this time China’s lead environmental watchdog agency still had no clear picture of, or regulation for, organic farming. The first certified organic farm was a tea garden and processing plant in Zhejiang Province, and it was certified by an organic certification agency in the Netherlands, working with NIES researchers.<sup>26</sup>

The Organic Food Development Center (OFDC) of SEPA was founded in 1994 and today has more than thirty organic inspectors. In addition to certifying producers as organic, it runs organic food information workshops and training sessions.<sup>27</sup> Formal central government regulations did not appear until 1999, when *OFDC Organic Certification Standards* were first issued, which have been subsequently revised several times. The organic market received a major boost in October 2002 with the establishment of the China Organic Food Certification Center, part of the Ministry of Agriculture, accredited by the Certification and Accreditation Administration of China (CNCA).<sup>28</sup>

To bring greater legitimacy to organic foods in China, Chinese government legislation in the form the China National Organic Product Standard (CNOPS) came into effect in April of 2005. CNOPS works in accordance with the CNCA Rule on Implementation of Organic Products Certification (also passed in 2005).<sup>29</sup> This defined the standards, scope, and certification processes for organic products in China. All products sold in China as “organic” and/or “organic in conversion” must comply with CNOPS and be approved by inspectors certified by the China National Auditor and Training Accreditation Board (CNAT).<sup>30</sup>

China currently has certified 5.7 million acres of farmland as organic, according to an IFOAM estimate. However, this translates into only 0.6 percent of agricultural farmland devoted to organic farming.<sup>31, 32</sup> The government claims that organic farming will aid in raising the economic condition of rural China because organic products fetch a higher market price per ton. In the Eleventh Five-Year Program, the People’s Congress is promoting the creation of “organic zones” around Beijing to cater to the growing market within the capital and to serve as a model for other cities.<sup>33</sup>

In Beijing today, consumers not only can purchase organic food from the grocery store, but also from farm-to-table deliveries facilitated by the environmental nongovernmental organization (NGO) Friends of Nature, which provides in-season organic produce to their customers.<sup>34</sup> In May 2007, an organic produce fair, with foods grown in an area of China called the Great Northern Wilderness was held in Beijing, where in five days consumers purchased 20 tons of organic rice.<sup>35</sup> Certified organic tea can be purchased from several stores on Malian Road, a famous tea-selling street. At the same time, in Beijing the price of certified organic vegetables is seven times that of non-certified vegetables.<sup>36</sup>

## **ORGANIC REGULATIONS**

Organic regulation in China is unique because of competition between SEPA and the Ministry of Agriculture (WHO DO I CITE?)

To help regulate the growing market, in 2005, the Administrative Measures for Certification of Organic Products (promulgated by China’s Council of General Administration on Quality

Supervision, Inspection, and Quarantine [AQSIQ Decree No. 67 2004]) (LINK TO [http://ats-sea.agr.gc.ca/asia/4053\\_e.htm](http://ats-sea.agr.gc.ca/asia/4053_e.htm)) published a detailed regulatory document outlining guidelines for organic food production, proper certification, specifics on labeling, as well as punishment. Some of these guidelines include:

- Requirements that animal feed and organic products for human consumption comply with national standards regarding organic products in (1) production, (2) processing, and (3) marketing;
- The option for farmers to appeal certification decisions;
- Requirement that imported organic foods meet Chinese certification standards;
- A stipulation that 95% or greater quantity of foods tested at a farm or facility must pass inspection to receive the organic label (with a violation resulting in up to a 20,000 Yuan fine);
- Random inspections for quality control, both by certification boards and by government officials on certification boards with punishment for violation;<sup>37</sup> and,
- Labels in both English and Chinese classifying goods as “Organic” or “Organic in Conversion” printed in specified locations and sizes (with violation fines between 10,000 and 30,000 Yuan).

### **CHALLENGES IN EXPANDING ORGANIC FOOD DEVELOPMENT IN CHINA**

Aside from affordability, a variety of challenges continue to plague this niche market of organic foods in China, including: land availability; properly defining and certifying the organic products; and educating consumers and producers about these new definitions, regulations and practices.

#### **Contaminated Land**

Much of China’s farmland is over-exploited and pesticide-contaminated. Finding uncontaminated land for raising organic goods is thus a central challenge facing organic producers in China. In viewing the search for pesticide-free land, it is important to note that China is a country with only 13 percent arable land, which averages 0.27 hectares per capita—one-eighth of the U.S. farmland per capita and less than 40 percent of the world average.<sup>38</sup>

One solution has been to use “wastelands.” For example, *beidabuang*, or the “Great Northern Wilderness” in northeastern China’s Heilongjiang province, is 2.33 million hectares of reclaimed land that has not been treated with pesticides in the last 60 years.<sup>39</sup> Once marsh or scrubland, these reclaimed wastelands are well-suited to organic farming since they are believed free of fertilizers and pesticides and—due to the remote location—are far away from potential sources of industrial pollution.<sup>40</sup>

Another solution to the land quality problem is to grow crops without pesticides on contaminated land for several years, allowing the land to “recover.”<sup>41</sup> According to government regulation, the shift to organic farming requires a three-year conversion period, with no use of chemical fertilizers, pesticides, or herbicides on the transitioning plot of land.<sup>42</sup> Though this is the average conversion period in the west as well, whether the government mandated time period for organic transition is sufficient in cases of severe pollution remains to be seen.

#### **Feeding the Masses**

In China, food self-sufficiency is economically, as well as politically, important in terms of China’s future developmental capacity.<sup>43, 44</sup> Over the past twenty years, the Chinese government’s goals aimed at increasing agricultural production led to excessive use of chemical fertilizer to improve harvest-per-acre. As a result, much of China’s arable land has been exposed to chemical

contamination. China spreads 1.2 million tons of pesticides, covering some 300 million hectares of farmland and forests with these chemical contaminants. (See **China Environmental Health Project Fact Sheet** on pesticides.) Until recently, approximately 30 percent of the pesticides applied were highly toxic and banned in many industrialized countries. In early 2007, most of the highly toxic pesticides were banned, but they left behind a legacy of contaminated farmland, which exacerbates other forms of toxins impacting about 10 percent of China's soil, such as improper disposal of electronic and industrial wastes.<sup>45, 46</sup>

### **What is Organic?**

The Chinese definition of organic, according to the USDA, is the organisms and their products are obtained without GM technology, and without "...chemosynthetic pesticide, chemical fertilizer, growth regulator or feed additive, following natural laws and ecologic principles, coordinating the balance of crop farming and livestock breeding, and adopting a series of agricultural technology for sustainable development to maintain continuous and stable agricultural production system."<sup>47</sup> However, as noted above, the regulations for organic foods have been evolving since they were first implemented in 1999. As the government zones land areas "organic," the question arises as to what exactly defines "organic land."

The goal of government zoning is to more tightly control the organic sector and deter fraud. However, many zones designated for organic farming are in the "transitional" period, and the produce cannot yet be officially defined as "organic," but is considered to be of higher value. Foods created with stricter standards than normal face two governmental groups with two competing "natural food" gradation systems. The Ministry of Agriculture in the Chinese government has created "green food" ratings Grade A, Grade AA, while the State Environmental Protection Administration certifies food "organic" or "organic in transition." Some of the higher Grade AA Ministry of Agriculture food is also certified organic.<sup>48,49 50</sup> Most consumers do not yet understand the distinction between these food rating-systems, and the media also often confuses "green foods" and "organic foods." Thus, these categories, developed in the early 1990s, theoretically sort foods, but often confuse both producers and consumers, and other "green" foods end up competing with true organic foods in the marketplace.<sup>51</sup>

### **Implementation Concerns**

In contrast with the seemingly endless list of food safety infringements in the "standard" food production sector of China, complaints on the organic side have been relatively few.<sup>52</sup> However, the problem of fraud remains an ever-present concern in the still-chaotic organic food market, with companies falsely advertising pesticide-treated produce as "organic." Wal-Mart until recently was purchasing "organic" foods from a farm near Beijing that was later found to treat its vegetables with pesticides.<sup>53</sup> In another well-known example, spinach labeled as organic and exported to Japan was found to contain pesticide residue.<sup>54</sup>

Within the legitimate organic market, the government works to hold the reins. According to Even Pay, a fellow at the Chinese NGO Pesticide Eco-Alternatives Center in Kunming, China's organic products destined for export are usually grown on large-scale farms where farmers are organized and managed by local governments or private companies.<sup>55</sup> Moreover, decisions to go organic are rarely the farmer's decision, but rather governmental in nature, showing the continued role of the Chinese government in setting economic agendas.

### **CONCLUDING REMARKS**

If the Chinese government continues its push to halt toxins from agricultural runoff and implement food policy reforms, the currently niche-market organic sector is sure to grow. The organic sector accounts for only one percent of the food sales market,<sup>56</sup> but it is unclear how much it can expand due to the government's concern about productivity. One unanswered question is whether expansion

of the organic sector will drop productivity of farmland or raise its productivity by allowing chemical-saturated land to finally recover. Agricultural runoff from pesticides is a major pollutant of water, and lowering these forms of pollutants through increased organic farming does offer the benefit of lowering people's exposure to toxins in water.

If China becomes a bigger player in global markets for organic food, the Chinese government will come under pressure to improve its regulation of the agricultural sector and close gaps in the current organic food certification system. Domestic pressure from China's growing middle class could also prompt better regulation of organic farming. It will be imperative that the government preserve the legitimacy of its organic food sector and prevent the type of negative publicity that food contamination in exports has generated over the past few years.

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