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A fresh start with organic farming in Sichuan

The Gao family of Anlong village, in Sichuan, are blazing a trail for small organic-farming initiatives on the mainland

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In the winter of 2006, Gao Qingrong made her annual Lunar New Year trek home to the family farm, near Chengdu, Sichuan province. She was in for a surprise; her parents had turned a small corner of their farm into an organic experiment.

"I was immediately against this," she says, squatting down to examine some vegetables. "I thought it would be too much work."

A few days later, Tian Jun of the Chengdu Urban Rivers Association (Cura) stopped by and gave her a translation of Rachel Carson's *Silent Spring*, a 1962 book detailing the negative effects of pesticides on the environment - and on birds in particular - in the United States. The book sent shockwaves throughout the US five decades ago and is now beginning to have an impact in the mainland.



Gao, a 38-year-old who dropped out of high school to look for work in Jiangsu province, says the book was a revelation.

"It was frightening. As soon as I finished reading it, I completely changed my mind," says Rongrong, as she's known to family and friends. "From that day on, I have never let my parents use chemicals on our land."

Gao quit her factory job to stay at home and help out. She then convinced her brothers to do the same - a minor reversal in the mass urbanisation of the nation - and the family began transforming its four mu (0.2 hectares) of land into an exclusively organic farm. The Gaos and a handful of like-minded farmers in Anlong village, a 40-minute drive from Chengdu, are now at the forefront of an expanding, albeit still small, trend in China.

Hit hard by a string of food scandals in recent years - milk tainted with melamine, pesticide-laden chives, string beans that were found to be toxic, tainted pears and reused cooking oil, to mention a few - mainland consumers are becoming more focused on the quality of the food they eat, creating a market for organic produce - essentially that which is grown using only naturally produced fertilisers and non-chemical means of pest control.

"More and more people in China have high incomes and they're not concerned about the price," says Jennifer Hao, vice-general manager of Sichuan Xiangzhen Enterprise, a Sino-Japanese joint venture that operates several mainland farms certified to export organic food. "They feel if the price is high, the food is guaranteed safe."

"From what I can see over the past three years, people are much more aware of organic food, or at least they've heard of it," says Yinghui Zhang-Carraro, a self-appointed expert on organic farming in the mainland, who writes a blog on the subject.

However, for the time being, she says, the bulk of organic consumers are Chinese who have returned from abroad and are worried about their children's health and expatriates, such as American Janet Zawadowski, an English teacher at Chengdu's Xihua University and one of the Gaos' customers.

"With all the scandals, which everyone knows about, people are beginning to have more trust in organic products, believing they're safer than other products," says Zhang-Carraro, who grew up on a mainland farm. "So more and more people are going organic."

Chengdu, which has designs on being a "garden city", is hoping to be a leader in the field. Local agriculture officials want 200,000 mu of land to be used for organic farming within the next three years, with a target of 600,000 mu within a decade.

Liang Yan, deputy inspector of the Chengdu Municipal Agriculture Commission, says that on April 1 the city government instituted a certification system that requires all organic produce to be examined and certified before arriving in markets.

Liang says certification is important because "a growing number of people are willing to buy [organic produce], even if the goods are more expensive". Furthermore, he says, demand is outstripping production, giving the government a good reason to promote an increase in organic output, especially from large commercial farms.

The industry remains fragmented, however, with an estimated 4,000 organic farms across the mainland, most of them small holdings. The large organic farms produce mainly for export.

Gao Shengjian, Rongrong's father, says chemical pesticides were not used prior to the 1970s, when the mainland had one of the best systems of organic farming in the world. But when these products were introduced, farmers were impressed.

"Before this, farmers spent a lot of time killing pests," says Tian, a former environmental journalist who founded Cura in 2003. "But once they had chemical pesticides they had more time to rest. The production process changed." Yields improved, too.

It got to the point where "we thought we couldn't grow vegetables without using chemicals", says Rongrong. But the chemicals seeped into the land, the water supply and the food chain, and people began to get sick, she says.

"The pesticides killed the bugs but killed good things as well," Tian says. "What started as an environmental problem became a health problem."

In 2005, Cura, which evolved from the Chengdu government's effort to clean the city's waterways, discovered that some 60 per cent of the pollution in the area's rivers was the result of agro-chemicals flowing from upstream, from places such as Anlong village.

"We could not move the farms, it was their land," Tian says. "So we had to find a way to deal with the environment."

It was decided that to resolve the problem, farmers needed to be persuaded to return to the old methods of farming. Cura members visited Anlong that year.

One of the first families they met were the Gaos, who were already reluctant to use chemicals. Gao Shengjian, who had read about the negative effects of farm chemicals in a magazine while working as a migrant worker years earlier, realised the use of these products had upset the balance of nature. Furthermore, he'd been buying chemical pesticides from an unlicensed vendor and he feared the product was tainted. The problem was he didn't know how to farm without chemicals.



Cura arrived with information about organic farming and offers to help farmers get started.

"[The Gaos] are a special type of people for whom education turns on a light bulb and then they run with it," says Zawadowski.

Thus began the Gaos' experiment. Instead of pesticides, they began to use natural bug repellants - mint, coriander, basil and lemongrass - and spray crops with tobacco juice and Sichuan peppercorn juice. These herbs have a strong smell, which repels "bad" bugs but attracts "good" ones, which devour the former.

While these plants are not as effective as chemical pesticides, the concept is especially appealing to the Gaos, who are vegetarians and Buddhists, opposed to killing sentient beings.

It's nearly sunset and Rongrong is explaining this point as she walks to a field, balancing one heavy wooden bucket laden with compost on each end of a stick thrown across a shoulder. She bends down to examine a small plant, cracks a leaf with her fingernails and extends her hand, which exudes the sweet smell of mint.

After spreading several buckets of compost on the fields, she walks back to the house.



"My parents are really great," she says suddenly, with a huge smile. "They were the ones who made the decision to go organic."

Sitting in the courtyard surrounded by his children and grandchildren, Gao Shengjian says, "When I first began farming, everything was basically organic - and I knew the soil would return to a healthy condition." His confidence was not shared by neighbouring farmers, though, many of whom were quick to tell the Gaos they would fail.

Initially, the family were thinking only of feeding themselves but they later wanted to make other people aware of the importance of organic farming. They travelled to Chengdu several times a week, where they displayed their produce on the pavement. They could not call their vegetables "organic" because of tough government certification rules - which are expensive to satisfy - and so had to call their vegetables "healthy" and "natural".

"But people didn't believe us," says Gao Yicheng, Rongrong's older brother, "so we had to sell at a very low price.

"We believe actions speak louder than words, so we continued to farm organically," he says, "and gradually more and more people learned about us."

Farmers dropped by and saw how much conditions at the farm had improved, while city folk came to place orders.

With the encouragement of Cura, some 20 Anlong families began to experiment with organic farming in 2007. However, when output dropped by up to two-thirds in the first year, many became discouraged and 11 pulled out.

"Farmers were losing money," says Rongrong. "But we asked them, 'What's more important? Money or your health?'"

"It was too difficult," Tian says. "There were too many pests and the amount of labour that was required was too much. People just gave up."

After three years, however, the situation began to improve for those who had persevered and yields began to increase.

Matthew Hale, a PhD student researching the "rural reconstruction movement in China" at the University of Washington, in the US, attributes this to the recuperation of soil, the return of birds and good insects and farmers learning to produce more nutritious compost and use it more effectively.

In 2007, seven of the organic farming families joined together to form the Healthful Vegetable Delivery Service, which, with the help of Cura, began to supply restaurants in Chengdu that shared a concern about food safety. Word spread from the restaurateurs to consumers and business began to pick up. For the first time since the experiment began, the farmers felt they might be turning a corner.

Last year, the Gaos invested in a small truck, in which members of the co-operative take their produce to Chengdu, where the group has about 100 customers, each paying 200 yuan (HK\$230) a month for its produce.

The farmers initially sold their goods for as little as 50 fen per jin (500 grams). However, it was their customers - mainly upper-middle-class Chinese and a few foreigners - who encouraged them to boost their prices to a uniform five yuan per jin, compared with two yuan per jin for non-organic produce.

"Our customers know how hard we work to grow our vegetables, so don't think they are expensive," says Rongrong.

Nonetheless, it's unlikely the co-operative's produce will ever receive certification.

"It's very difficult for individual farmers to get certification," Liang says. "We have a very big rural population and it's very hard to impose regulations on such a large population and to monitor individual producers."

Hao says her firm spends 200,000 yuan a year testing its produce to meet government requirements, a cost that is prohibitive for small farmers.

There are cheats at all levels - Hao tells of one farmer working with her company who secretly used pesticides at night. Other farmers were quick to report him, she says - and Zhang-Carraro says the direct-marketing approach of the Anlong co-operative may be the best model available to it.

"If consumers are aware of who is really producing these foods and get to know the people behind it, that matters the most," she says. "The Chinese are suspicious about all their products. The trust and confidence is always an issue here. People want organic products but can't trust those from the supermarkets. With small farms you create a bond between the farmer and the consumer."

And although the profits are not there, small farmers benefit in other ways, says Tian.

"They get respect from their customers and friends," she says. "Some of these things can't be bought with money. What makes me happiest is seeing them become more confident and happy."

"Our income is enough for us," Rongrong says. "We're self-sufficient."

The Gaos have made friends with many of their customers, some of whom help out on the farm. A guest room is available for visitors who want to spend the night and every three months or so, the Gaos invite more than 100 customers out to the farm for a group lunch. There is talk of opening a weekend kitchen, to encourage more city people to visit and learn about organic farming.

The future looks bright - and healthy - for the Gaos and the mainland's other organic pioneers. And the plucky family from Anlong village has earned its success.

"For them to forge ahead with organic farming, with the yield falling and difficulty in turning a profit, was very bold," Zawadowski says. "Thank God they made it."

Natural selection

In 2006, China added 12 per cent to the global stock of "organically farmed land", according to a report by online newspaper *Global Post*. However, stories of fraud abound.

Michael Pollan, a professor of science and environmental journalism at the University of California, Berkeley, recalls how a student investigating organic farming on the mainland found fraudulently labelled "organic" products and a self-professed "organic" farmer who "essentially thought it was a word that was very popular with Americans, as indeed it is".

The word is also popular in Hong Kong and some local businesses are striving to deliver legitimate organic produce to the city's dining tables without paying for it to be transported from faraway countries, which substantially increases the environmental impact of the food's distribution.

Last month, Hong Kongbased Homegrown Foods (www.homegrownfoods.com.hk) launched a direct-to-customer distribution channel to support its goal of "increasing the consumption of locally produced premium clean foods", which, according to the company's founder, Todd Darling, means "foods grown without harmful pesticides or chemical fertilisers".

Homegrown Foods gets its products from professionally managed family farms on the mainland and in Hong Kong. Such farms must not use synthetic pesticides, fertilisers made with sewage sludge, bioengineering or ionising radiation.

Customers buy up to eight varieties of vegetable, for weekly deliveries. A five-week trial package costs HK\$1,420 for small boxes and HK\$2,840 for large ones. The vegetables are delivered within 24 hours of being harvested, a time

frame that ensures the food arrives with a minimal decline in nutritional values - imported conventionally farmed vegetables have "five to 40 per cent less minerals, vitamins and antioxidants", according to Homegrown Foods.

Darling concedes the food he sells is "not cheap" but he defends the high prices by saying "every dollar you spend goes to producing the food that's on your plate".

Customers with the trial package pay a separate HK\$200 participation fee, which is reinvested in seedlings and research and development.

"We wanted to create a business that helped improve our community but that was also commercially viable," Darling says. "And also produce food in a way that's beneficial to the land and the people who produce it. We want to give farmers the ability to earn more money than what their conventional counterparts are earning." *Daniel Jeffreys*

Photos from Skolkovo Quest (2010) to prompt memories



Figure 1 Skolkovo with the Gao family during Quest



Figure 2 Tian Jun, Founder of CURA



Figure 3 Standing in front of the Skolkovo-Leaders' Quest piece of land