

Food Safety in China

舌尖上的威胁——中国食品安全分析报道

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Introduction

In recent years, food safety in China has been the subject of widespread attention and heated debate. This complex, systemic problem has political, economic, social and cultural dimensions. With this series of articles, *chinadialogue* has sought to open up the conversation around food safety with government officials, academics, civil society groups and industry experts. We have tried to examine the root causes of China's current food crisis and, in so doing, to focus further attention on this important topic.

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Section A, Status Quo and History of Food Safety, focuses on the development of China's current day crisis. Our lead article provides a systematic review of the problems affecting the country's food supplies, while a syndicated piece from the Chinese media looks at the invasion of chemicals into China's food system, and the economic, social and political factors behind it. Two case studies in clenbuterol contamination offer a specific glimpse of the problems China is up against. And finally, we have a pocket history of food safety regulation in the United States, Japan and Europe, whose experiences can provide useful reference for China.

Section B, Case Study: China's Dairy Industry, focuses on a single sector: the Chinese dairy industry, from raw production through to processing and monitoring. We look back at the controversy ignited in 2010 by a proposal to change China's raw-milk standards, while a comparison of traditional and modern production methods provides insights into the dangers of an industrialised food sector. And the growth of US dairy cooperatives offers a different way of thinking.

Section C, System Analysis, explores the problem of complex supply chains and their role in the deterioration of food safety, the legal and institutional dilemmas that make it such a tough problem to tackle and the uneven playing field created by the modern food industry. And, we ask, could the emergence of third-party testing provide a way forward for China?

In the face of complex problems surrounding food safety in China, we need to ask what the solutions might be. Section D, Food Safety and Citizen Participation, provides some of the answer to this question. In this section, we explore the collaborative relationship between consumers and farmers emerging through Community Supported Agriculture, just one way in which people are working to create a new bond with the land.

And in the final section, Rebuilding Public Trust, we look from various perspectives at the issues of governance and supervision. Senior official Wang Guowei tells us about tackling the problems from a government point of view, while international certification expert Zhou Zejiang talks about the relationship between organic agriculture and food safety. We also hear how small scale food producers are innovating to rebuild public trust, and how citizens might be better engaged with the issues.

Editor: Zhou Wei



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A decade of food safety in China

● Xu Nan

Ten years' of scares have ingrained a sense of crisis in the public psyche. Solving the problem will mean reconsidering the industrialisation of food production, writes Xu Nan.

From 2009 to 2010, following a decade of scares, China made a concerted attempt to tackle the problem posed to human health by unsafe food by improving its legislative framework, research capabilities and coordination efforts. It passed the Food Safety Law and established three new bodies: the State Council Food Safety Commission, the Food Safety Risk Evaluation Expert Committee and the Food Safety Standard Examination Committee. The hope was these structures would help to stop products carrying toxins or other harmful substances from entering the food chain.

But the problems are still there, and the public is still complaining. New standards for milk and dairy products put together by the Food Safety Standard Examination Committee – a process that took more than a year and reportedly involved intense debate and fraught cross-departmental coordination before it produced a set of 60 rules – were a particular disappointment. Considered even weaker than regulations from the 1980s, they were described in

some media as a “historic step backwards”.

This reflects how deep-rooted and difficult to resolve China's food safety issues are.

Researchers tend to divide China's food-safety history since 1949 into four stages. During the first, from 1949 to 1979, the country's biggest challenge was a shortage of staple foods. Over the second stage, the five years from 1979 to 1984, food security improved but a price of more abundant harvests was widespread use – and overuse – of fertiliser, causing food safety problems “at source”. At the same time, market mechanisms replaced the system of centrally planned food purchasing and sales, while crude and unmonitored food-production workshops accounted for a large proportion of Chinese food processing.

During the third period, from 1984 to 2000, food safety emerged as a formal concept. The state passed the Food Hygiene Law and set standards for the production and regulation of harm-free, green and organic foodstuffs.

The fourth stage covers the years since 2001



In response to food-safety problems, an egg business in Mianyang city is trying to establish its own production chain. Picture by Mianyang Evening News.

to the present, during which a litany of food-safety scares has hit China, and the country has worked to develop a food-safety management system, first with special regulations on food safety from the State Council, and then in 2009 with the passing of the Food Safety Law. The conversation has moved from an emphasis on hygiene to a broader concept of safety. Within just 10 years, the seemingly endless scares have made food safety a deep-set concern for the Chinese public.

From around 2003, food safety scares became more frequent, and were often regional in nature: a particular brand from a particular area would be pinpointed as dangerous. By 2005, China had seen scares over hotpot broth, rice, pickles, chives and noodles. Illegal additives and the risks in the

processing industry became the focus of concerns. Consumers became fixated with certain types of food.

The public and government blamed China's crude set of food standards. But soon, broader questions were being asked. The panic over cancer-causing food dye Sudan Red was characteristic. The crisis of confidence was no longer regional, partial and confined to certain foods. It became widespread, common and covered many different products.

The 2008 melamine milk scandal, in which at least six babies died and a further 860 were hospitalised after drinking milk laced with the chemical, was another turning point. In the crisis that followed, risks were identified at all the major firms in the industry. The reputation of a whole food category was destroyed overnight.

When the story came out in 2010 that Chinese people were consuming three million tonnes of illegally recycled cooking oil every year, fatigue set in. In fact, people have long known about this underground industry, but the complex web of interests behind it has made the "gutter oil" problem impossible to eradicate.

Over the past 10 years, the problems posed to the food sector by China's industrialisation have become clear, and society has paid a high price.

The food supply chain is long and complex, stretching from primary crops in the field to processed products, from agriculture to industry. Many people consume basic foodstuffs produced by small businesses in a barely regulated sector. Various authorities fire out orders, while conflicting standards paralyse enforcement efforts and businesses seem like they're competing to reach new ethical

lows. It's an industry that operates more on tacit understandings than rigorous controls. "Scientific research" serves to increase output and appearances. Unregulated markets are chaotic, waste is

widespread and anything goes as long as it cuts costs.

Safety is always an issue when food industries modernise, and not just in China. Historically, western nations had similar experiences – and they still see problems today. Foodborne illnesses have been documented on every continent over the last decade, according to the World Health Organisation.

Food safety problems the world over share common roots: the profit motive, an imbalance of information between producer and consumer,

inadequate laws and rules and weak regulation. But different nations approach these problems in different ways, through legislation, judicial practice, governance and social response. China's most notable characteristic here is that it lacks a mature and modern consumer movement, and consumers as a group are relatively unsavvy about making choices and getting their voices heard. Lu Fang of Jilin University's philosophy institute believes this is a key reason for China's worsening food safety problem.

Over the years, China has seen the same sequence repeat itself time and again: exposure, outrage, falling sales, fear and government intervention. By 2008, whenever doubts were raised about any particular product, the farmers growing that food would suffer severe losses. And production would be further concentrated in the hands of large-scale industrial farmers.

“China lacks a mature and modern consumer movement, and consumers as a group are relatively unsavvy about getting their voices heard.”

As food-safety problems have worsened over the decade, many experts have argued that elements of the public's attitude to food safety are misguided – such as zero-tolerance for risk, exaggerated fears

about chemical pollution and a tendency to conflate fake brands and unsafe foods. Behind this expert view is the assumption that food production should be regarded not as part of the agricultural chain but as a modern industry.

Chief expert of the Food Safety Risk Evaluation Committee Chen Junshi has repeatedly stated that “good food is made by production, not regulation”.

“Two-hundred million scattered farmers are raising all of China's chicken, ducks and fish,” he

said. “If that doesn’t change, pollution at the source cannot be dealt with. Also, most of China’s half a million food producers are small and medium sized firms – and if you want to ensure that levels of microbes meet standards, or that additives are not overused, you need to improve the standards of those workers.”


Behind his words is the assumption that only further industrialisation of the food supply chain will solve China’s food-safety crisis.

But people are already showing themselves nostalgic for the sustainable wisdom of traditional agriculture, with movements pushing for a return to an earlier food culture. Meanwhile, environmentalists are turning their attention to the ethics of livestock farming in light of health dangers posed by meat production.

In late 2009, the US documentary Food, Inc. became popular online in China. Facing their own food safety challenges, Chinese people joined the voices in the west questioning a food industry dominated by market logic.

As well as questions of market regulation, administration and legislation, we need to consider the industrialisation of food production. Chen Junshi has said that everybody would like chemical-free, clean food produced locally on a small scale, but asks if that will be possible given the size of our population. This is the burning question.

Almost all nations where the food industry has completely modernised have community-supported agriculture (CSA) movements, where consumers and producers are in direct contact and rebuild supply chains on a basis of trust. CSA is a civil-society attempt to create new channels to take food from farms to people. Needless to say, working in the shadow of the enormous food industry, these small-

scale efforts have only a limited impact. But the Chinese people, embattled by frequent food safety scares, particularly the 2008 melamine milk scandal, are more desperate than ever to shake up the system. This is what the media calls the “battle for the dinner table”. 

Xu Nan is managing editor in chinadialogue’s Beijing office

Food in China: a chemical age

● Gong Jing, Cui Zheng, Wang Qingfeng

Why are toxic chemicals and additives so widely misused in China’s food chain? Gong Jing, Cui Zheng and Wang Qingfeng investigate.

China’s food industry has rapidly industrialised over the last decade, bringing many benefits to the country’s consumers. But techniques originating in the chemical industry are being misapplied in food production, triggering many safety scandals.

Worryingly, these techniques are increasingly refined, making the problem hard to detect, even after testing.

Industrial raw materials in food

In May, a government sampling of gelatine used in drug capsules found that firms all over China were using toxic materials. Eventually, the State Food and Drug Administration confirmed that more than 12% of the 254 firms tested were using harmful industrial gelatine, rather than edible gelatine, in their capsules.

That is unlikely to be the whole story. If things are this bad in the closely regulated drug industry, other big gelatine users – namely the confectionary and beauty industries – are hardly likely to be



Picture by Caixin’s New Century Weekly

doing any better, said Zhu Yi, deputy professor of food science and nutritional engineering at China Agricultural University.

On April 19 last year, the health ministry published a list of 47 non-food substances illegally used in foodstuffs, and a list of dozens of legal food additives being misused across 22 different categories of food. The agricultural ministry had previously issued a list of dozens of chemicals banned from use in animal fodder, drinking water, or in poultry and aquaculture production.

Food-safety experts said that neither of those lists was complete: the food cheats are far ahead of the authorities.

The economic logic behind the use of industrial raw materials is simple – costs are many times lower. When price is everything and regulation is weak, cheap raw materials translate into bigger market share and higher profits.

“Chemical” foods

Along with industrial raw materials, the Ministry of Health’s list included 38 non-food additives being misused in food, the bulk of them chemical compounds.

The motive for using these substances is the same – profit. The chemicals are used either to boost outputs, or to make poor quality products look better so that they can be sold at a higher price. More worryingly, chemical compounds are sometimes used to transform a poor quality product into a fake version of a more expensive one. For example, the toxic

chemical dichlorvos is added to ordinary sorghum spirit to make it smell like Maotai, which it is then passed off as.

A Ministry of Health working group has also found that the misuse of legal food additives is widespread. Its list includes dozens of legal additives being misapplied across 22 different categories of food.

Research shows that over-consumption of even legal food additives in the long term can increase risks of cancer, deformities and mutations.

One step ahead

In many cases, the methods used to make “chemical foods” are unimaginable even to the experts. Wang Shiping, a food science doctoral tutor at China Agricultural University explained that farmers couldn’t have come up with the idea of using melamine in milk to give the appearance of high protein levels, nor could the average technician. That scheme required familiarity with the Kjeldahl method, which is used in milk testing to determine nitrogen content and knowledge of the protein content and chemical properties of various additives.

Another case that left even the experts reeling involved beansprouts, to which a hormone was applied to make them grow faster and without roots. The plump and white vegetables sold well, but long-term consumption could have caused cancer or deformities. So who decided to use that hormone? Similar cases have involved pig trotters and tofu.

Li Yongjing is Dupont’s director of nutrition and health for Greater China,

deputy secretary of the Chinese Institute of Food Science and Technology and a senior member of the US Institute of Food Technologists. He noted that the manufacturing processes involved are beyond the abilities of the unqualified – they require accurate quantities and timing to work.

Zhu Yi and Wang Shiping agree that methods of fakery used in the food sector have advanced rapidly, leaving regulators and consumers in the dark.

Careful use of industrial salt in soy sauce in a recent case in Foshan, a city in southern China, meant that local quality-control authorities tested

the product twice without finding anything wrong. Similarly, the dairy firms Sanlu, Yili and Mengniu, along with many others, had all been using melamine in their milk long before the practice was exposed.

Zhu Yi said that these “expert” criminals continue to think up new ruses in their pursuit of profit. Recent examples include additives to make dishes smell better, or to improve the taste of braised pork; and passing off cow fat as beef. Experts have found that each of these methods involved various combinations of legal and unapproved additives.

The stomachs of ordinary people have become the testing ground for these “chemical” foods.

For more than a decade, chemicals not meant for the food chain have been added to Chinese food products. The fact these practices have only recently come to public attention is thanks to one change – the big food companies are at it too.

From the use of cancer-causing food dye Sudan Red by KFC in 2005, to the melamine-

tainted milk scandal of 2008 and the frequent scares since, big firms have risked their brands and market share with illegal and low standard foods and drugs. Why?

Experts say the proliferation of problem foods rests on two key conditions. First, while the methods used may be harmful, most often they do not lead to immediate illness – the problems appear over the

long term, and are not easily traced back to any single food. Second, when given the choice, people still prefer cheap food. China’s huge and urbanising population is moving out of poverty and is not yet a

discerning customer base.

Then there’s market competition, driving illegal practices up the chain. Individuals or small factories decide to cheat, and their larger competitors – facing cost pressures – follow suit. Finally, large and medium sized companies join in.

The punishments risked during this process are nothing when compared to the potential profits. Zhu Yi urged food policymakers to be aware of this pattern and act to break it.

A Chinese problem

Experts point out that western nations faced similar problems in the past, but that even so the number of cases in China is shocking.

Food tracking is a common method for boosting food safety. Li Yongjing said that if you buy a pear in America, you can easily find out which farm it came from; if you buy a tin of pears, you can find out

“When price is everything and regulation is weak, cheap raw materials translate into bigger market share and higher profits.”



where the additives were sourced. But in China, this is almost impossible.

In the United States, large or medium-sized firms dominate every part of the food industry. But in China, agricultural products, meat and milk come from a myriad of small farms. Instead of the stable supplier relationships seen in many western nations, Chinese foodstuffs are bought and sold by numerous individuals and traders. Food products are made by individuals and in small workshops. Tens of thousands of small and medium businesses compete, and it's survival of the fittest.


A long supply chain stretches between China's farms and its dinner tables: there are too many employers, too many products, too many points of sale and too many consumers.

Eight or nine authorities – agricultural, industrial and commercial, quality supervision, health and more – struggle to regulate the sector. Many food-safety experts say that the cost of a food traceability system is more than the Chinese market will accept. But Zhu Yi is adamant that, if China is to ensure food safety, this is what it needs.

Li Yongjing and Zhu Yi both said that the Chinese public is inadequately educated about food safety. In the west, unsafe foods do occasionally appear, but are rarely chosen by consumers, and these cases attract little interest – consumers themselves decide that excessively cheap food is likely to be unsafe, they said. But in China, while upmarket food brands have been growing for years, the reality is that they still have small market share and the bulk of consumers are very much price-led.

At a more basic level, China's penalties for producing harmful foods are too light, and the guilty are rarely caught. Internationally, it is understood that food needs to be regulated – but more, that you cannot



stop victims from seeking judicial redress. Otherwise, Zhu Yi asks, how are we to prevent China's food market from becoming a race to the bottom? 

This article was originally published in Caixin's New Century Weekly.

The food additive story

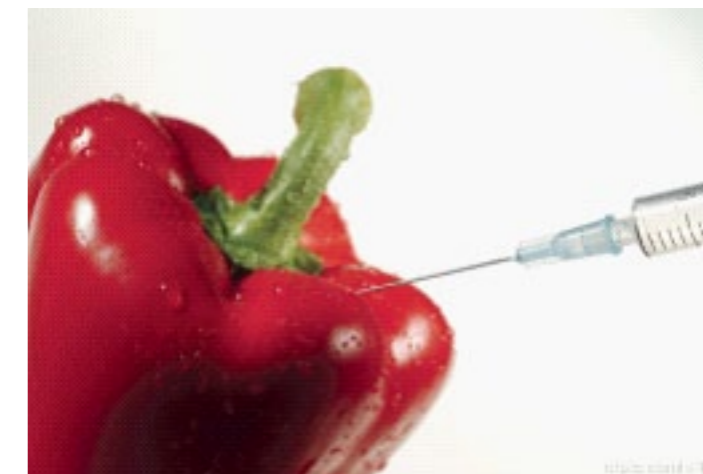
● Dong Ren, Chen Yen, Mi Aini, Li Jing

In 1973, Tsukasa Abe, a graduate of chemistry from Yamaguchi University in Japan, was working as a salesman for a food additive manufacturer. Sodium nitrate, potassium sorbate, polyglycerol esters of fatty acids – for Tsukasa Abe, these were a source of interest and achievement. A decade later, he was head salesman and known for his knowledge of the products. He even hoped to found the country's biggest additive company.

He was convinced he was solving problems for food processors, helping them produce the best possible products for the lowest possible cost.

One factory he knew made the dough wrappings for dumplings – but the skins constantly stuck to the machines, which then had to be stopped for the dough to be removed. He suggested emulsifiers and polysaccharide thickening agents and the factory bought in four different additives. “After that, the machines never stopped, it was strong ‘medicine’.”

He also suggested that a noodle maker known for the texture of its noodles and the freshness of its soup use emulsifiers and phosphates. This meant that even an untrained chef could produce perfect noodles.



Picture from nipic.com

Meanwhile flavour enhancers and acidity regulators were used to make batches of noodle soup – dilute in 10 parts water, and you're done.

A fishstick maker – an excellent craftsman – was having trouble with supermarkets who thought his products were too expensive. Couldn't he make something cheaper? Tsukasa Abe convinced him to use imported frozen fish pieces, chemical flavourings, protein hydrolizers and soya protein – saving time, effort and removing the need to fillet fresh fish. “Using frozen fish pieces is an embarrassment for a craftsman,” and initially he was reluctant, but in the end he gave in.

Tsukasa Abe said that his work then was a process of rationalisation, using additives to make improvements. “You don’t need to be a craftsman, anyone can produce the same quality of product.” Cheaper ingredients, less time, fewer skills – the process of “rationalisation” went smoothly, as the food manufacturers were happy to join in.

Then, in 1983, on his three-year old daughter’s birthday, Tsukasa Abe came home to find her eating a type of meatball made by a factory he had worked with. “It was only then that I realised I didn’t want my own child eating that kind of food,” he said. “I’d seen myself as a producer, a salesman – but not a consumer.” That shift changed the way he thought.

One factory boss would often tell him privately not to eat the cheap ham. A salted vegetable maker warned him off his own products: “They might be really cheap, but don’t buy them.” Vegetables that had turned black were being bleached and then recoloured with additives.

Tsukasa Abe wasn’t doing anything illegal – in fact he stuck carefully to state rules, standards and quantities for additive use, and everything was listed on the labels. “But that didn’t stop me feeling guilty.”

Manufacturers cut costs, supermarkets had cheap products which increased their sales, and the consumers got apparently safe and tasty food and could make in five minutes a meal that once took two hours. It seemed food additives were nothing but good news.

But consumers had no idea what was going into their food – the information wasn’t being made fully available. Labels usually say what additives have been used, but reading the label isn’t enough to really understand. Tsukasa Abe wanted to make the truth known, and he turned his back on additives.

But despite turning away from the industry, Tsukasa Abe said there is no point in focusing solely on the dangers of additives: they make food cheaper, faster and more convenient, and in the vast majority of cases are used in accordance with government standards. But he does advocate more openness – let the consumers know what they are actually eating so they can make their own choices.

To increase sales, the additive companies mix up phosphates, nitrite and organic acids and sell the mixtures for colouring, meat enhancement or quality improvers. This means the manufacturers can list the different additives as one item on the label.

Tsukasa Abe said there are 1,300 additives in use in Japan, with 500 or 600 of those used in daily life. He estimates that each person eats about 10 grams of additives a day – 4 kilograms a year, more or less the same as the average salt intake. One sandwich might contain 20 additives, including emulsifiers, yeast, flavourings, acidity regulators, phosphates and fragrances. Although each has been tested by government authorities, nobody knows what the effects of consuming them all together are.

There are similar problems with additives in China, although the route to get here was different.

Zhang Lisheng, head of research and development at Beijing Northern Dawn Additives, recalled that when he had just graduated in 1992 additives were rarely used – nobody knew how. Large-scale use only got started in 1996, after the government released a national standard for the application of food additives. “That was the end of the 1990s, when we were exporting large quantities of meat products, and additives were being used a lot in food processing.”

He went on to say that when he first learned

about additives, “they seemed like a kind of poison.” But now he believes that they are a boon for the food industry. “Additives have allowed many new foods and food manufacturing techniques.”

It is the public’s requirements for a product’s appearance, texture, convenience and shelf life that make manufacturers improve their products, doing anything they can to keep the eyes and taste buds of the consumer happy.

But according to someone with the China Food Additives Association (CFAA), the problem with additives lies with artificial compounds such as colourings and preservatives. “The heavy use, or even misuse, of artificial synthetic additives meant that by the early 2000s people were realising that additives were harmful to human health and could even cause deformation or cancer in animals.” So standards and norms are extremely important.

Like Tsukasa Abe, Zhang Lisheng believes that the public should know what they’re actually eating. “You can have only 30% meat in your ham, or even no meat at all, but you have to tell the public what’s actually in there. It’s up to them whether or not they buy it.”

According to the CFAA source, a lack of clarity over standards is a big problem. “Currently 2,300 additives are approved for use, but there are national or industry standards for less than 300. Nor are there quality standards for compound food additives, which have taken off in the last few years.”

And some people are thinking even beyond issues of standards and safety. For Tsukasa Abe it’s a social issue: traditional methods of making food, which require time and the acquisition of skills, are being abandoned, while fake flavours are thought to be real. People, especially children, are coming

to think that food is easily obtained and have no gratitude or thought for the efforts of nature and other people.

As he writes in his book: “Daily life is more convenient, more comfortable, and richer, and we’ve gained a lot. That’s a fact. But haven’t we lost something precious?”

originally published in Oriental Outlook.

From lab to market: leanness enhancers in China

● Su Ling

In February 2009, in one of the biggest food safety scandals of the time, 70 people in Guangzhou were poisoned by leanness enhancers in meat. Even now, after repeated attempts to ban these additives, leanness enhancers have not been entirely banished from China's markets and reports of illegal use are commonplace.

According to reports in Chinese newspaper *Southern Weekend*, many pork industry experts and farmers regard the use of leanness enhancers as an unwritten rule of the game – and the situation may even be worse than the use of melamine in milk.

So how have these substances, banned in other countries, made it out of the lab to take root in China's markets? Why can't they be banned? This article, published in *Southern Weekend* in April 2009, explains how the additives came into widespread use. At the time, the report caused an uproar – and it is still worth reading today.

In the early 1980s, an American company called Cyanamid accidentally found that a substance called clenbuterol promoted the growth of lean meat in livestock. Between 1989 and 1992, there were a string of poisonings attributed to clenbuterol in meat. In January 1988, the European Economic Community banned the use of clenbuterol in livestock fodder, and in 1991 the US Food and Drug Administration also banned the substance.

In 1987 and 1988 Chinese scholars translated

a number of papers on clenbuterol. China's own research on the chemical started in 1989 at Inner Mongolia Agricultural College (now a university). North-Eastern Agricultural University, Nanjing Agricultural University and Zhejiang University soon followed suit as clenbuterol became a popular subject for veterinary scientists, with 40 or 50 papers published during this period.

At this time, China was enjoying increased living standards and consumers were expressing a

preference for leaner meat. The media also called for research into lean meat production. According to Xu Zirong, formerly deputy dean and PhD supervisor at Zhejiang University's College of Animal Sciences, importing lean pigs from overseas for breeding was hugely expensive, while to breed them locally would have taken generations. Increasing leanness by a change of their fodder was by far the easiest option.


"At the time we thought it was a great advance," recalled Chen Zhangliu, professor at South China Agricultural University's School of Veterinary Medicine. "You could increase the amount of protein by 10% in three or four weeks. An expert could breed pigs all his life and not get that result." At the time, Chen was a member of the Ministry of Agriculture's expert committee on medicine residue in animal products and deputy chair of its veterinary medicine assessment committee.

But not one of those papers published mentioned any side effects. Zu Zirong explained that at the time the state was advocating producing leaner pigs, and "we couldn't go against the government. If we'd talked about side effects in our papers they wouldn't

have been published, so we avoided it."

Use of leanness enhancers became widespread. Zheda Sunshine, a company founded by Zhejiang University, sold clenbuterol to pig farmers – mainly in Hunan and Hubei, where farms are larger. Company founder Chen Jianhui, who talks as if they were making a contribution to the nation said, "We were proud to be doing it at the time. The deputy provincial governors in charge of agriculture all came to promote it, saying it should be used." So more and more companies started making and selling the additives.

In March 1997, safety issues overseas led the Ministry of Agriculture to ban the use of certain hormones in fodder and livestock farming – and clenbuterol was at the top of the ban list.

But even today some experts maintain that "it's not the chemical itself that's toxic, it's the dose you use," and that "farmers don't use it scientifically and give excessive dosages." 

originally published in Southern Weekend in April 2009.



Picture from lxkj.gov.cn

An international comparison of food safety problems and responses

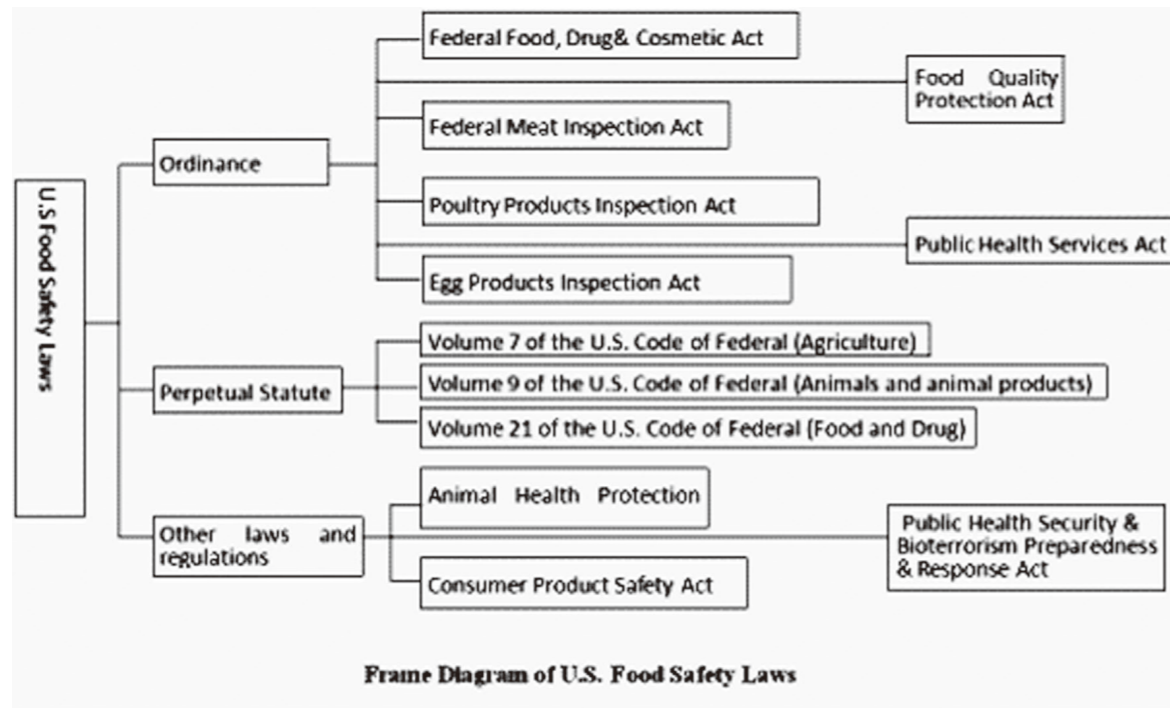
Compiled by Zhang Chun

One-third of the world's population has at some point suffered a foodborne illness, according to the World Health Organisation and the UN's Food and Agriculture Organization. In modern history, food safety problems have triggered varying legislative and regulatory

responses in different countries.

The United States

As industrialisation took off between 1850 and the early 1900s, the trade in food became national,

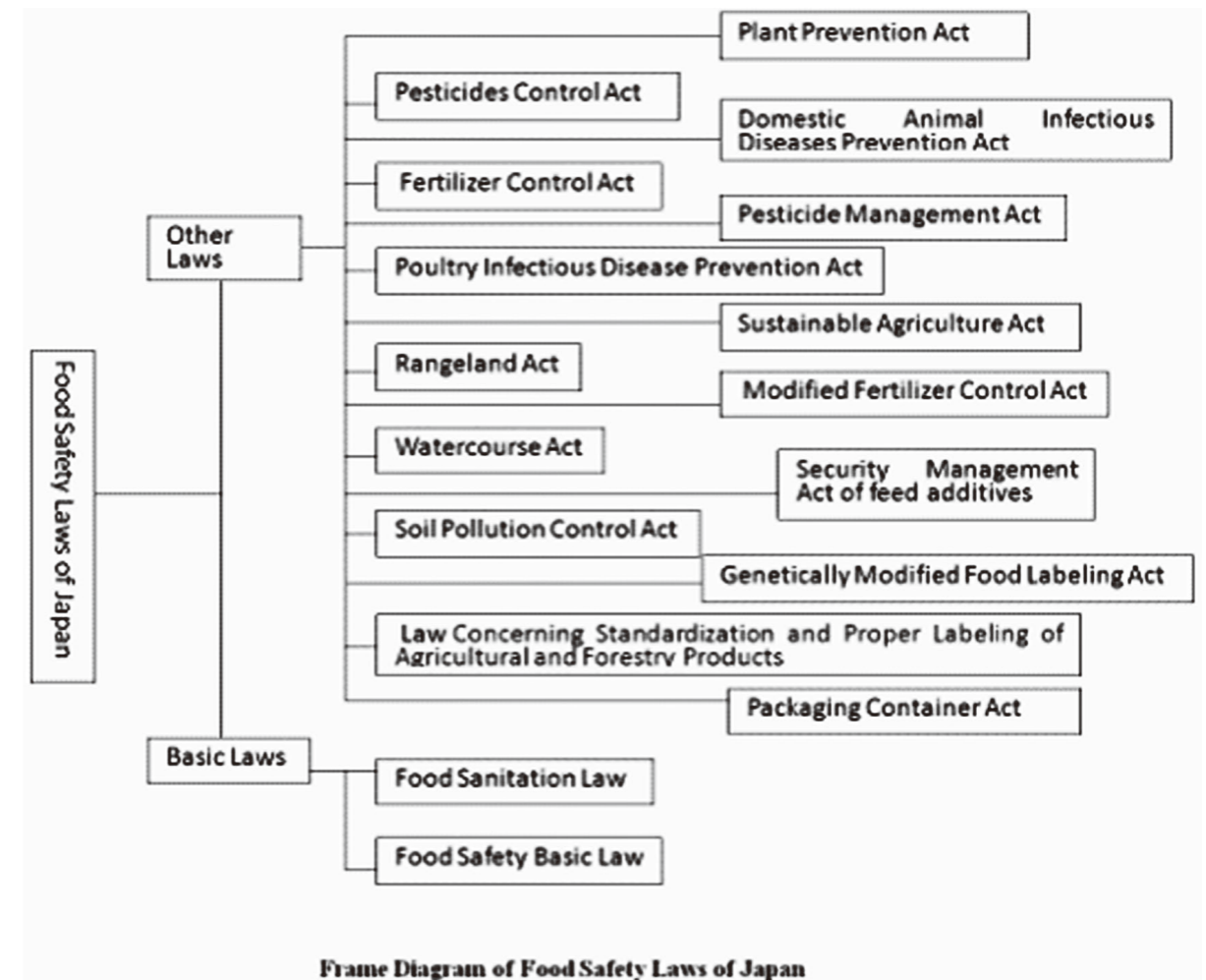


rather than taking place within state boundaries. The potential for huge profits lead to fakery, adulteration and cheating. Manufacturers added large quantities of toxic preservatives and colouring to foods. It was common to add water to milk and coal to coffee. Only with the 1906 Pure Food and Drug Act did matters begin to improve.

But the industrialisation of food production during the second half of the twentieth century brought new risk.

In 2001, the death of two-year-old Kevin Kowalecyk after he ate a hamburger contaminated with E. Coli highlighted the huge problems with fast-food production lines. A series of food safety scares led to the House of Representatives passing the 2009 Food Safety Enhancement Act, the biggest and most rigorous updating of food laws for 70 years. However, the Act has not yet been approved by the US Senate.

But in 2011, US President Barack Obama did sign the Food Safety Modernization Act (FSMA).



This major update to existing law marked a shift from relying on testing food for problems to preventing contamination issues from arising. The main part of the Act saw an expansion of the powers of the state's food and drink officials, as well as costs and responsibilities for food manufacturers and tougher barriers to exporting food to the US. It gave officials the power to demand product recalls for the first time and prevent the import of products if testing was not carried out.

Japan

In 2000, Snow Brand dairy products caused an outbreak of food poisoning in the country, which was followed by a number of similar incidents. In response, Japan became the first country in Asia to implement a food traceability system in 2001. This ensures that food can be tracked at the production, handling, processing, logistics and sales stages.

In 2006, to further strengthen food safety, Japan established a labelling system for agricultural chemicals in food, with stricter regulations for levels of all such chemicals than in the United States and European Union.

The EU

The European Economic Community had a food policy from its beginnings in the 1960s. This was to ensure that food could be sold easily between member nations. The development of food laws since then can be divided into three stages.

Taking shape – from 1945 to the BSE crisis in 1996:

During this stage, farm subsidy programme

the Common Agricultural Policy used subsidies to promote agricultural development, mainly to ensure the security of food supply.

But to produce more staple foods and earn more subsidies, agriculture became more intensive, with high use of fertiliser and pesticides. To increase output and reduce costs, the offal and bone meal of sick animals were used as fodder, a practice widely accepted to have led to outbreaks of animal diseases such as BSE.

Legislative reform and rapid development (1996 to 2002):


In April 1997, the Council of Europe published a “green paper” on EU food rules, providing a foundation for a system of EU food-safety legislation. The Hazard Analysis and Critical Control Point (HACCP) system also came into being, to be used by the food processing industries in EU nations.

In January 2000, the EU published a White Paper on Food Safety, establishing the basic principles for EU food safety legislation, and for the first time bringing together all food safety matters within the food supply chain. Under this framework, the EU passed the Common Food Law in January 2002 and established the European Food Safety Authority (EFSA).

Ongoing improvements (2000 onwards):

Since 2000, the EU has made a large number of revisions and updates to its food safety laws and regulations, creating a robust food safety system covering the food supply chain from farm to table. The core of the system is the White Paper on Food Safety, with various laws, decrees and directives also in place.

The EU food safety system is characterised by clear responsibilities of interested parties; traceability;

a focus on risk evaluation; the principle of prevention; early warning systems: and the overarching aim of protecting consumer safety. 

Zhang Chun is an intern at chinadialogue's Beijing office

Graphics courtesy of Song Dawei, Renmin University. Created by He Huihuan.

The battle for China's milk

● Xu Nan

China's dairy sector is caught between a model of local production and mass industrialisation, triggering battles over resources, price and supplier treatment. Xu Nan reports.

China's dairy industry has been in a precarious state since 2008, the year of the Sanlu milk-powder scandal, when babies across the country were poisoned by melamine-tainted infant formula. This incident revealed to the world in garish hues the flaws in China's milk industry, including deep structural problems. This was too big a failure to be passed off as the result of just one brand's poor quality control.

When it comes to the problematic relationship between agriculture and the food-processing industry in China, this is a case study worthy of analysis.

A history of Chinese milk

Like many of China's food sectors, the dairy industry has gone through a process of transformation, away from a system characterised by smallholder suppliers and towards modern food production. Milk has not been a part of the Chinese dietary habit for long. Initially it was produced almost exclusively by

scattered, local breeders and delivered direct and fresh to the consumer.

Many middle-aged Chinese city-dwellers can still recall going out early in the morning as children and collecting milk from the farm truck as it went on its rounds. Each household would return two empty glass bottles, and receive full ones in return. The milk they took home would need to be consumed quickly. A storage and transportation chain that can operate within the time that natural milk stays fresh is like a sort of membership system, through which a local area is supplied via a series of designated stops – a “local production, local consumption” model. In China, this system was shaped by the storage and transport conditions of the time, and received the support of the state-run farms widespread under the planned economy.

The emergence and popularisation of processing techniques including pasteurisation extended the storage time and transportation distances of dairy

products. Some regional dairy brands began to quicken their pace of development towards being a modern food industry. In most provinces, breeding farms became bases for provincial dairy brands to be established. These brands began to carry out basic processing and production, handling sales over relatively long distance.

Typical regional brands include Sanyuan in Beijing, Guangming in Shanghai, Wandashan in north-east China and Sanlu in the north. China's dairy industry developed considerably during this time and, in 2004, per capita milk consumption stood at 18.4 kilograms, marking an average annual increase of 20.64% since 1998. But things changed between 2002 and 2005, when brands like Mengniu and Yili – with substantial financial backing – entered each province and took control of their milk resources. With technical support from packaging firm Tetra Pak, a furious dairy product offensive was waged.

Many regional brands were knocked flat. Even relatively stable supply relationships and price negotiations were challenged. Yili and Mengniu came out on top. Dividing up the milk resources, they quickly established a brand system covering the whole country. This transformed milk from a locally produced product to a modern commodity possible to keep at room temperature for 30 days, easy to store and to transport. By 2008, China's total milk output was over 37.8 million tonnes, more than five times as much as in 1998.

Chinese people came to accept milk and developed the habit of drinking it. Mengniu and Yili became the leading national brands, while others like Guangming, Sanlu and Wandashan continued their regional focus, at the same

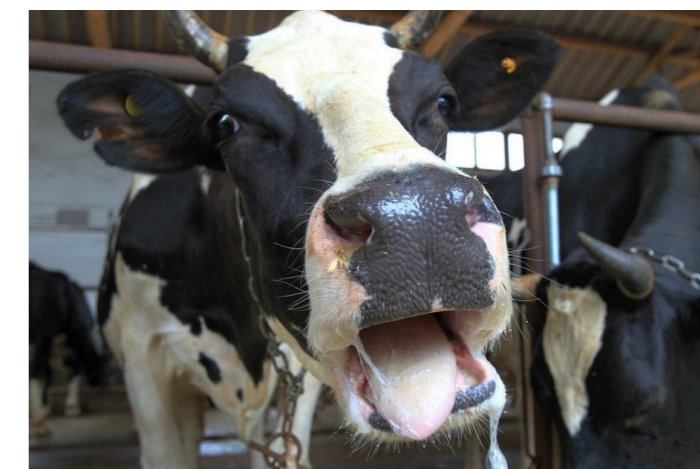
time as extending into other regions. Many other local dairy brands produced and sold within the confines of their local provinces. But they were now up against national players, who enjoyed an advantage not just in storage and transportation, but also in price.

China has also emerged as a country in the global dairy market. In 1949, there were only 1.2 million dairy cows in China. By 2004, there were 10.6 million, and there had been growth rates of 16.4% per year since 1998. By 2011, China had 14.4 million dairy cows.

China's “home grown” milk supply

During the early development of China's dairy industry, cows were raised in state-run farms which also distributed milk to consumers. Ten years ago, dairy farmers from these scattered farms started to provide milk to a centralised production industry. Milking stations came into existence, turning the milk production model into one of “decentralised farming, centralised milking”.

On the surface, this was clearly rational: centralisation of goods and equipment would surely



Picture from 51tty.com

guarantee the quality of milk in the primary chain. To quote one dairy farmer: “The milk produced doesn't come into contact with our hands. It doesn't even come

into contact with the air.” For businesses, having to negotiate and transact with such a large number of dispersed milk farmers also pushes up costs. Milk stations can provide a solution by acting as an intermediate channel in these operations.

The reality is somewhat different.

Many farmers started to raise cows under state initiatives which promoted and encouraged this model. In some places, the state provided favourable loans to these farmers; in others, households which raised dairy cattle received preferential policies for land. When the market is good, one cow can fetch over 10,000 yuan (US\$1,600), an enormous financial stretch for a typical household. But once locked into such an investment, it is extremely hard to break free.

For nearly a decade, China's milk industry developed at an amazing rate. Price and quality became bargaining chips for businesses engaged in fierce competition. In the face of all of this, the dispersed milk farms had no space whatsoever in which to negotiate. They began to depend on the milk stations for their livelihood.

In 1998, Yili started to invest capital in the establishment of independent milk stations with mechanised milking equipment. Each milk station had construction costs of around 500,000 yuan (US\$79,000). The following year, Mengniu took the lead in another unprecedented initiative – a milk station established through a social cooperative. Niu

“The profit margin farmers receive is tiny, while they are being squeezed into smaller and smaller spaces. This compromises the quality of the milk.”

Gensheng, founder of the Mengniu Dairy Group, explained the logic: “Someone in the industry wants to set up a milk station and needs 400,000 yuan and I

have 40,000 yuan to spare.” Mengniu took control of milk resources from which the milk station collected a management fee. In only a short time, this model boomed. Many private individual milk stations popped up, as well as milk stations operating under the banners of various organisations, and “opening up channels for dairy farmers to get rich” all over the country. The price at milk stations upstream and downstream in the industrial chain varied by as much as five jiao per kilogram.

Niu Gensheng is well versed in the operational logic of grassroots communities. He explained that, “Inside every village in cow-farming regions, there are always those with money and those with power. When you combine the money with the power, milk stations become a reality.” The “rich and powerful” have placed themselves at the centre of the milk production chain.

Regardless of the size of a business, it must rely on the milk station to obtain its milk. This brings it's own issues. As long as these milk stations have the right connections, if they have any problem with milk quality all they need to do is give the inspectors a call and quote the batch number, thus ensuring its smooth clearance.

Some businesses have devised measures to prevent these “connections” from disrupting milk quality. Some have specially accredited employees posted permanently within milk stations. Others

enforce strict regulations; companies who transport milk change their route once a month and milk-station inspectors rotate on a fortnightly basis.

The ferocious battle for milk resources

Not only did China's domestic dairy industry develop rapidly during the 1990s, but a large number of international brands, identifying opportunities in the Chinese market, also rushed in, though most withdrew after failed attempts to gain market share. Among a dozen or so such companies were Danone (France), Nestle (Switzerland), Kraft and Dumex (US) and Unilever (UK and the Netherlands). Some of these companies sought out local Chinese businesses as co-investors, others set up independent operations or decided to sell their own products within the Chinese market. But apart from an uplift in business caused by the 2008 baby milk scandal, which

strengthened the high-end milk powder market, these companies met with little success.

According to a 2005 report on the Chinese milk industry, the sector's trade association had already noticed an easing of growth in market consumption by then, and the “dairy processing industry experiencing a decline in profit”. Dairy processing businesses above a certain size saw losses of more than 24% in 2002, 28% in 2003 and 31% in 2004. Businesses selling dairy products saw a drop in the growth rate of total tax and profit payments, which fell by 18% between 2003 and 2004.

Besides factors like underestimating the speed at which milk-drinking habits milk would develop in China and the unsuitability of the highend route into the Chinese market, an important reason for the decline was the lack of control the foreign capital dairy industry had over milk resources. According to the analysis of Wang Dingmian, chairman of Guangdong's Dairy Industry Association, the vast



majority of multinational companies from the international dairy industry will, on entering China, have invested their energy and capital into processing and sales. They are often unable to gain control of the milk resources, which directly leads to high end-product costs and ultimately removes their market advantage. China's dairy industry is one where the supply chain is key. It is an industry rooted in local milk resources.

As described above, in the years around 2005, national brands completed a market "sweep", which shaped the structure for milk distribution and quality control that has existed ever since. The competition over milk resources has been ferocious.

The price war between these businesses still breaks out year after year. Summer is always the high season for milk production but the low season for milk consumption, while winter is the opposite. This has given way to the natural market behaviour of prices dropping in the summer and rising in the winter.

This cycle impacts directly on milk farmers. One farmer said: "At the start of term and during holidays, we can sell all our milk. People from the factories come down and grab it. But when they don't want it, you could even take it to their factories and they'd still refuse to buy it from you. In a single year, there will be three or four dips like this. The milk from one cow can vary somewhat in quality," he continued, "depending on the time of year. But it is factories which have the final say on the testing standards. If they say it's too high then it's too high and if they say it's too low, it's too low."

When it is that easy for quality control to become the bargaining chips in the battle for milk resources, you can just imagine the consequences. Wang Dingmian explained: "Milk itself contains between 280 and 300 types of nutrient. This makes

it impossible to rely on testing methods to control milk quality. Guaranteed quality depends on every link in the whole milk production process – including environment, sanitation, disease control – and if you detect that one batch is not up to standard, all you can do is get rid of the batch. The guiding thought should be geared towards control."

The direct consequence of each fluctuation in price is that scattered small-scale farms, which are most vulnerable to such risks, are put out of business. According to estimates from officials in Shaanxi province, during the 2007 to 2008 market fluctuations, small-scale farms which had previously accounted for more than 60% of the total market, fell to 30% to 40%. The latest shake-up brought this figure down to around 15% to 20%.

The milk industry's interests are laid out in a typical triangular structure, with farmers taking 3% to 5% of the profits, the dairy processing industry 20% to 30%, while vendors, packaging and equipment manufacturers take 60% to 70%. The profit margin farmers receive is tiny, while they are being squeezed into smaller and smaller spaces. This compromises the quality of the milk.

This case highlights the reality for China's food production industry: local small-scale agriculture makes little or no profit, while competition between big brands hits those at the bottom. Between the "small, scattered, chaotic" back-end suppliers and the increasingly industrialised and capitalised front-end businesses, there is a grey area, characterised by the dual operation of a fully modernised market system and a pre-modern, local logic. This is the industry's battleground. 

Xu Nan is managing editor in chinadialogue's Beijing office.

How milk standards triggered uproar in China

● Zhu Hongjun

In 2010, new regulations for China's dairy industry sparked a storm over safety risks and the role of business in setting policy. Zhu Hongjun, who covered the story, looks back on the controversy.

The melamine milk scandal of 2008, when babies across China were poisoned by tainted milk-powder, triggered huge changes in China's food-safety systems. The most obvious was the establishment of the high-level State Council Food Safety Commission, which is chaired by vice-premier Li Keqiang and includes representatives from 15 different ministries and commissions. This was China's highest-level response to food safety problems yet.

Another change, which drew less attention, was the formation of the Food Safety Risk Assessment Commission and the Food Safety Standards Examination Commission in the second half of 2009. The latter, in particular, was intended to clean up and rebuild China's food safety standards – a move regarded as fundamental to creating a new era food safety.

A new standard for raw milk was part of the first

batch of regulations produced by this process, but amid the controversy engendered, the effort being made to bring order to chaos was overlooked.

Before the Food Safety Law was passed, China was the only nation in the world to have more than one set of food-safety standards. Under the Food Hygiene Law, the Ministry of Health was in charge of food hygiene standards. Under the Product Quality Law, the State Quality Administration was in charge of product quality standards. And under the Agricultural Products Quality and Safety Law, the Ministry of Agriculture was in charge of the safety and quality of agricultural products. These are all mandatory state standards, but there were clear conflicts between them, which caused understandable distress among businesses.

Over the last 30 years, China's food standards have become outdated, and the revision process has

been slow. There have only been three major new promulgations or updates. Prior to the current clean-up, one quarter of existing regulations had been in force for a decade or more – some hadn't been revised for 20 years. This is despite the fact that, according to regulations on implementing China's standards, they should be re-examined every five years.

The controversy that erupted over new raw milk standards in 2010 almost obscured these positive developments. The standards clean-up was thrown into disarray just as it got started.

The controversy was sparked by standards for protein content and bacterial counts in raw milk. Acceptable levels for both these measures decreased in comparison with the former standard: from 2.95% to 2.8% for protein content, and from 500,000 per millilitre to 2 million per millilitre for bacterial counts – the laxest standards ever. In Denmark, New Zealand and almost all big milk-consuming nations, protein content must be over 3%, while bacterial counts per millilitre must be under 100,000 in the European Union and United States; and under 30,000 in Denmark. The Chinese media called the standard “a 25-year step backwards”.

In June 2010, Southern Weekend and Caijing magazine brought the controversy to public attention, and it rumbled on until late 2011. Official explanations failed to calm public concerns.

Public anger was directed at two targets.

First, the laxer standards for protein content and bacterial counts, and the clear gap between these and

standards overseas, were seen as an attempt to protect China's backward and small-scale dairy farmers. But, people asked, why should a laggard industry be allowed to dictate standards?

Second, large companies, most of which had been involved in the melamine scandal, participated in drafting of the standard. The public believed the standard had been set in accordance with business interests.

These concerns got to the heart of the debate over food safety standards – should China's standards be



*Sterilisation facilities in a dairy processing business.
Picture from czagri.gov.cn*

brought in line with international standards or should the country's own circumstances be considered? Is compromise acceptable? And how should public and business interests be balanced? The standards will influence the growth of companies and their industries – conflicts of interests are inevitable.

There was no platform for calm debate and the different sides stuck to their extreme positions and attacked each other. Scientific opinions weren't given

a hearing, and the truth was obscured.

As one of the reporters who wrote about the affair, I heard a range of views. As Chen Junshi, a member of the Chinese Academy of Sciences, has said, any standard is the product of compromise. No fewer than 50 meetings were held to discuss the new raw-milk standard, and industry opinions were solicited. I obtained a list of industry opinions, covering industry associations, authorities and businesses themselves. Views were diverse, reflecting different interests.

Those differences are not just due to competition between large and small firms, or between producers of pasteurised and long-life milk. The government's real obstacle is China's backward dairy sector, disparate livestock-rearing standards and issues of milk quality. Safety standards are in the public interest, but will also affect the interests of China's numerous small farmers – and the stability of their livelihoods.

During formulation of the standard, the view that the cause of the melamine scandal was that “the existing standard for milk quality was too high and small farms couldn't read it – leading them to risk adulterating their milk” was put forward. Figures from the agricultural authorities show that in northern areas such as Inner Mongolia and Heilongjiang many small farmers still can't ensure protein content of 2.8%, never mind 2.95%. The dairy industry associations in northern provinces are firm in their stance and have even privately worked together. Secretary of Liaoning's industry association, Lu Gechuan, said that their research found 40% of dairy farmers could not keep protein content at 2.95% or above.

Opponents have two arguments: one, the weak position of small farmers is not due to overly stringent standards, but overly powerful big business. Even

if standards are low, things will not improve as long as big businesses continue to act as they do. Second, given normal rational and scaled livestock raising, the standards should be easy to reach. Any failure to do so is caused by poor farming methods, and high standards are needed to force the industry to improve. The Shanghai Dairy Association is representative of this view – Shanghai's dairy farmers are mostly large and well-run operations on Chongming Island. Shanghai's sources of milk are as good as those of nations like New Zealand.

As for bringing Chinese standards in line with those of other nations, almost none of over 10 food standards experts interviewed agreed the country should rapidly adopt the standards of the European Union or Japan. Reasons included trade barriers, the need for time in which to make improvements and underlying national interests. But there was a consensus that standards need to be forward-looking.

Another debate centred around the participation of business in the setting of standards. This is not the first time this has happened. Supporters pointed out that businesses know the latest movements and trends, and have a right to be heard on the development of their industry. Opponents called the integrity and public-mindedness of big Chinese firms into question – and with the lessons of the melamine scandal still fresh in people's minds, how can they be trusted?

All the different views have merits. Whether standards are raised or lowered, whether companies participate or not, the most important thing is for the authorities and the evaluating bodies to have the capability and data needed to make decisions and balance different interests.


But this seems to be the weakest link in the process of sorting out and rebuilding China's food standards. One veteran expert who has participated in

the setting of many standards recalls that when raw milk standards were being determined in the past, the authorities would first collect seasonal data from locations around China for analysis before setting indices.

But on this occasion, as the focus is on tidying up and combining standards and the leading body – the Ministry of Health – does not have jurisdiction over farms, there was not enough collection of baseline data. This means the different interest groups all stuck to their own positions.

With a lack of scientific data, thoroughgoing research or a real understanding of the situation, it was hard to avoid the final decision being determined by a balancing of superficial pros and cons, unable to choose between the people's lives, safety, consumers, dairy farmers and businesses.

Sorting out China's food safety standards is onerous and complex work. Differing interests and business participation are not actually the core issues – or at least, they are just a normal. More important is that, when a standard is being revised, the work is supported by real research and reliable data on the industry and its problems. This is an even more enormous task. And it is essential.

China's food safety standards must of course respect China's circumstances. But we need to know what those circumstances are. 

Zhu Hongjun is editor of Southern Weekend's environmental pages.

Tragedy for traditional herders

● Shu Ni

Local dairy herders are losing their livelihoods as industrial farming booms in Inner Mongolia. Good news for big companies; bad news for local economies and the environment. Shu Ni reports.

Herder Gereltuya's home in Inner Mongolia's East Ujimqin banner is about a kilometre from the main road. It's another 200 kilometres to the milk-processing plant in the city of Xilinhot. Her two nearest neighbours are at least a kilometre away. Lantu, a dairy herder in Xulun Hoh, also known as Plain Blue banner, is eight to 10 kilometres from the main road, and then another 10 kilometres from the town. Alateng Sukhbataar, in Hexigten banner, grazes his cattle eight kilometres from the road. From there it is 150 kilometres to the government seat.

Given these typically long distances, the herders would need to take their cows on a journey of over 100 kilometres, twice a day, to reach

an automated dairy. This means that their cows' milk will never make it into the factories that produce and package cartons of milk.

China's dairy giants only purchase milk that has come from a sterile environment. Hand-milking is not permitted: the cows must be taken to a robotic milking machine twice a day.

What does that mean for the farmers? In the city of Baotou, I met a man surnamed Zhang, the owner of an automatic milking system. Zhang made 2 million yuan in the trucking business, which he invested

in dairy farming during a so-called "milk boom" in the region. Nearby farmers come to his plant to have their cows milked.

“Despite years of visits to Inner Mongolia, I have never heard of dairy giants purchasing milk from naturally grazed cattle.”

As the plant is near the milk packaging factory in the city, the transportation costs are lower and the profits are higher. The dairy farmers who use his plant come from small towns, far from the grasslands, so they use straw and cornmeal as fodder, rather than grass.

Zhang's records show that milk prices have only risen slowly, squeezing farmers' profit margins. Since only two large companies, Mengniu and Yili, dominate milk purchasing, farmers have little choice about who they sell to. Milk doesn't keep long; it must reach a factory the day it is produced, so there's little scope for bargaining. The companies can delay payment, but the farmers have to keep delivering the milk or they will have to dump it. Zhang has lost much of his initial 2 million yuan investment and many farmers nearby have switched away from dairy. There are only two dairy farmers left in the town.

In Dalad banner, in Ordos, I visited a dairy farmer surnamed Chen. He raises cows in a small village, with dozens of others doing the same nearby. He had been dairy farming for five years. He only started to make a profit in his third year. Then disaster struck in the form of an udder infection spreading through his herd, forcing him to shift to beef production. An automatic milking system worth 400,000 yuan stood idle. Only one of the dairy farmers in the village is said to be turning a profit.

But Inner Mongolia used to have lots of small milk processing plants, manufacturing milk powder and other high-quality goods. In the early 1990s, my family asked a friend to send Inner Mongolian milk powder to us in Beijing. I used to make fun of my classmates at school, who only had milk powder manufactured by Nestlé.

Those small companies only supplied local markets. They couldn't build up brand recognition

elsewhere. But they had close links with the local herders, and those nearer to the main roads could deliver their milk twice a day. The companies' standards were appropriate for the area. The milk produced locally was thick and creamy; it was milked by hand, and the local firms permitted this. In all of the counties I visited for this report, and most of the cities, there had once been a local dairy processing firm. But these have now either closed down or been bought up by big Chinese or international companies.

So, where have all the cows that used to graze naturally gone? Gereltuya's family own 20 cows – all crossbreeds of Simmental and local breeds. The milk is fermented and made into butter or a traditional food known as "milk tofu", mostly to be eaten at home or given to friends. Only a small amount is sold.

Lantu's family in Pure Blue banner also make traditional dairy products. They bought three Friesian cows, which produce a lot of relatively watery milk. Lantu says that they can't take these cows to the automatic milking plant. It's too far, and the plant won't buy it. So they just make milk tofu, too. Zhang, from the robotic milking facility in Baotou, said he needs to add water to his milk to meet the companies' standards.

Alateng Sukhbataar's family, on the traditional pastures, has 80 dairy cows, which are milked twice daily from April until the autumn. His family is busy making foods from the milk all day: once it has fermented for three days, the cream that floats to the top can be eaten, or made into butter and buttermilk to keep longer. The sour milk can be made into milk tofu and the fermented by-product is distilled into an alcoholic drink. There is work to be done every day, and there's no room for slacking. There is a limited market for traditional dairy foods, and prices aren't great, but the market has grown steadily over the last


decade. The local shops and restaurants all sell local products, and for herders like him this is a major source of income.

Dairy production is split: on one side, the milk of pasture-grazed cattle does not reach industrialised supply chains, but is processed into traditional foods by herders. On the other side, large-scale dairy farms on the edges of cities and on main roads, their cattle fed on fodder and milked robotically, sell milk to big companies.

The ascent of the dairy giants has had a huge impact on traditional herding. Wuyunhua used to herd cattle on the Xilin Gol grasslands. Just as the dairy companies expanded, the government encouraged herders to move off the grasslands for ecological restoration. He and his family moved – and they sold off their local breed cattle. They moved to the edge of the city, bought Friesian cows and sold the milk to the milking plant. Many cattle were sold in similar fashion, sometimes for as little as 500 yuan a head. Buying new cattle often cost over 10,000 yuan per head.

Wuyunhua used all his savings to build a house, buy new cows and fodder. After two difficult years with no income, the cows started to produce milk, but not as much as he had been promised. He also found that he had paid too much: the Friesians got sick easily and needed to be looked after very carefully. Following the melamine scandal, the dairy market suffered even more. Eventually his family were the last dairy farmers in

their village, and after years of losses they sold their livestock and moved into the city. A mining project bought their old pastures. The ecology was not restored, but destroyed.

Despite years of visits to Inner Mongolia, I have never heard of dairy giants purchasing milk from naturally grazed cattle. Some milk does originate in Inner Mongolia, but it comes from cows in dairy farms around the cities, raised on fodder, not grass. Milk from grazing cattle does not reach the industrialised supply chain. The herders continue to go bust and the number of farmers and cows is dwindling. But for the dairy companies, sales are increasing. There is more to this than meets the eye. 

Shu Ni is a volunteer at the Beijing Brooks Education Centre's Man and the Grasslands project and a freelance writer on grasslands issues.



Herders milking. Photo by Shu Ni

America's dairy cooperatives offer alternative to factory farming

● Zhou Li

In the US, health concerns about industrialised dairy farming are leading the public to go in search of safer milk. Zhou Li visited Organic Valley, a Wisconsin dairy cooperative that presents a safe example of local food provision.

Dairy products are a major source of nutrition in the US. With government policy support for commercialised agriculture, both total milk production and milk yield per cow have risen, as has average consumption of dairy products. But over the long term there has been a slow decline in the amount of fresh milk drunk per person.

And as the dairy industry has developed, doubts have been raised over the quality of dairy products. Livestock rearing technology - in particular the use of growth hormones and recombinant bovine growth hormones- increased milk yields by an incredible 24% between 1998 and 2011.

However, when milk is seen as only a foodstuff, and cows as just a means of production, food production breaks with fundamental natural laws and rhythms. This has far-reaching consequences for both humanity and animals. Cows farmed traditionally on the Mongolian plateau are milked for the five months after giving birth to a calf. But on the industrialised

farms of the US cows are milked for 300 days of the year – meaning that cows are milked while pregnant, increasing the amount of oestrogen in the milk.

The American people have, in some cases, gradually come to realise the danger of agriculture becoming disconnected from nature. In response, organic and local food production has become more popular. Organic Valley, a dairy cooperative with headquarters in Wisconsin, is just one of the companies now meeting a strong consumer demand for safe dairy products and responsible, environmentally-friendly options.

The co-op, in which every farmer gets a share of the profits, got started in 1988. Agricultural policy was leaving small and medium-scale farms with a dilemma: expand, or quit. But the farmers of the La Farge valley in the south of Wisconsin didn't like either option. So George Siemon and half a dozen other farmers talked about joining forces in order to continue localised farming – and produce better and

more local food than the big farms and agribusinesses. The response was overwhelming.

The co-op soon identified consumer concerns about the quality and environmental impact of industrial milk production and decided to focus operations on dairy products. Unhappy with the

farming.” At the start the co-op was made up of local small family farms, but it soon expanded nationwide. Today the co-op is open to small and medium-sized farms – but not large commercial farms. As producers are small and scattered, the co-op established a milk collection and distribution system and regulations.

All farmer members must follow strict regulations. For example, 80% of cow fodder must be green grass; and all organic products must be sold to Organic Valley at prices set by the board. As all of Organic Valley's dairy farmers are small family operations – even the largest has fewer than five hundred cows – the key to the co-op's success was voluntary respect for the regulations. That is why CEO George Siemon says the most important factor in the co-op's success is farmers who rely on

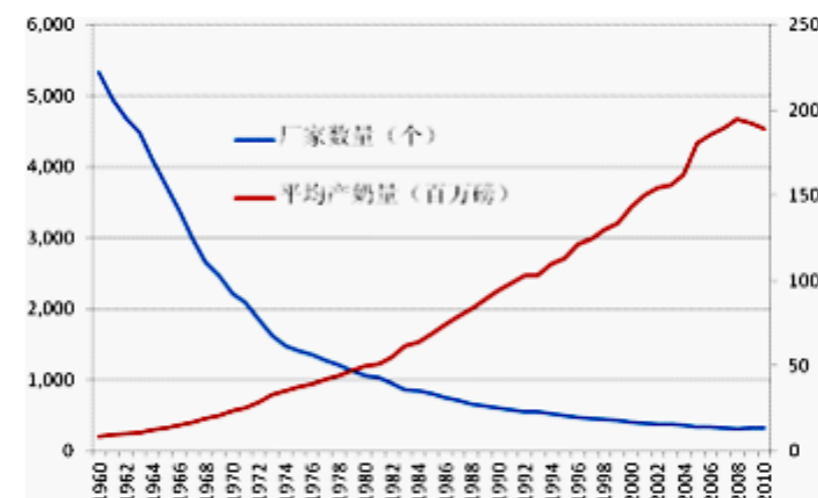


Figure 1. Distribution and structure of US milk producers (1960-2010). Since 1960, the number of milk producers has fallen by 4,996, almost 94%, while production capacity per supplier has increased by 21.4 times.

exploitative prices paid on the market, they sold their organic milk themselves. The organisation grew as more family farms signed up. In 2007, the co-op became America's second largest dairy producer and by 2010 sales had reached US\$555 million.

Although part of a rapidly growing operation, everyone is clear that they are working for the farmers. In early 2007, Organic Valley had 1,056 member farms – 10% of all organic farms in the US - across 24 different states. By 2012 it had 1,723 member farms.

According to Organic Valley, “family farms and cooperatives both make a promise to the community: that we can provide the healthy, natural and nutritious local foods that have been taken away by corporate

and are loyal to each other.

If market prices fluctuate, farmers still get the agreed prices. That means the risks of price fluctuations – due to nature or the market – are shared across the co-op. The farmers just need to do their part – providing quality milk.


The prices set by the farmers' board are always higher than market prices. When designing the co-op the founders tried to put together economically-viable pricing rules, which would leave both profit for the member farms and not leave the co-op paying prices it could not afford. The key was to persuade consumers to pay a fair price for natural and organic milk, and to cut down intermediary and logistics costs. Ultimately

customer recognition of organic products earned profits, allowing prices to be set much higher than those for ordinary milk. Twenty years later the co-ops prices have steadily risen – as opposed to industrial milk prices, which have fluctuated wildly. The price differential between the two types of milk was 7.10 dollars in 2010 – up from 2.10 dollars in 1989 – and the farmers get a fair price for all their dairy products.

The market for organic and local food is created by demand. The first important thing is to ensure that ingredients are local and organic. The second is to increase value through appropriate degrees of processing and branding. Most profits are ultimately returned to member farms, or retained to fund the long-term growth of the co-op. Therefore adding value further raises the confidence of member farms in the co-op, and promotes its long-term expansion.

The co-op has faced challenges during its growth. For example, when it was expanding most rapidly there were doubts about its ability to manage

such a huge number of farms and possible resulting quality issues. The co-ops shareholding structure led to clashes between the ideals of the two systems; and there were problems with management and profit allocation principles.

But people saw that Organic Valley welcomed these challenges, and that this co-op model created a new market. At a time when food safety was threatened by the way the dairy industry was developing, this allowed consumers to opt to pay a fair price to support a short supply chain between consumers and local producers – providing a new choice for both policy-makers and shoppers. This is something China's dairy industry, which has lost consumer confidence, could learn from. 

Zhou Li is a professor at the School of Agricultural and Rural Development, Renmin University.

Complex food chains to blame for China's food safety scares

● Wu Chen

In response to a constant stream of food safety issues, Wu Chen looks at how once simple food supply chains have become complex, and examines the technological, economic and social causes of the change.

Problems with food safety are nothing new – in the Tang Dynasty the poet Liu Zongyuan followed his doctor's instructions and bought Chinese herbs to help his digestion. But the stallholder passed off other cheaper herbs as the real thing and Liu's illness worsened – he took a year to recover.

But for food safety to have become such an issue that the whole nation is worried can be put down to two factors, the existence of both complex food supply chains and chemical-based agriculture.

In the Tang Dynasty food chains were short. Limited food production meant that most people – excluding the emperor's kin and their mandarins – were tied to the land, producing and eating a limited range of staples, vegetables and meat. Even when market trading took off in the Song Dynasty, China's urbanisation rate was only about 20% - the bulk of people still lived off the land, and products were brought and sold between acquaintances. And if

you're only selling to those you know, you can't cheat them.

In those times food safety was a concern only for the aristocrats: the emperor's kith and kin who could transport food around the country for their enjoyment. That meant they had to take the risk of eating food supplied by strangers. But there was a simple solution – specially-produced foods, and the threat of the harsh punishments of imperial times.

However, as more and more people left the land, food supply chains were no longer only between acquaintances. And the use of chemicals in agriculture allowed fewer farmers to support more non-agricultural workers. This allowed for more processed foods, which contributed to industrialisation and increased the range of foods available. But the food supply chain was no longer a simple common sense one from wheat to bread – it now stretches from the cocoa tree in Africa to the M&Ms in your

shop and requires specialised knowledge to understand.

Growers now no longer play a crucial role in “testing” food; food supply chains stretch from African farmers to Chinese supermarkets; and food processing

is becoming ever more complex, meaning more uncertainty for consumers. This, and the lack of trust throughout society, has created the chaos in China’s food supply chains.

Falling confidence in food safety

Food safety issues can be broken down into two levels: achieving quality standards, and removing uncertainties. The first ensures food is safe to eat, the second that consumers believe it is safe to eat – a sense of food security. When that is strong food safety issues can still arise, but nobody will feel they have to grow their own food to ensure their children are safe.

Why do Chinese people have so little confidence in their food? First, as described above, food processing is too complex to easily understand, and there is a strong sense of uncertainty about complex unknowns such as food additives. To increase confidence in food we need better public education, explaining all the additives used in industrial food production – not to wait until a problem arises and then have an expert stand up and explain.

Some urban white-collar workers and NGOs are experimenting with Community Supported Agriculture (CSA) – which rebuilds the links between consumers and producers, recreating an acquaintance society. This is no doubt laudable, but price, variety

Growers no longer play a crucial role in “testing” food; food supply chains stretch from African farmers to Chinese supermarkets and food process is becoming ever more complex.

and logistical issues mean it is only an option for some.

For the majority of consumers, the food quality issue can be solved only by ensuring standards are met at every stage of the food supply chain. Identifying


an action plan for supervising every step of the food processing chain will require government manpower and financing. The consumers’ role will be to hold the government to account. They are already willing to do so – but they lack the channels and guarantees to do so. Second, identifying how to use punitive damages is also part of the process of balancing consumer interests against food industry lobbying and gaining legislative and government support.

We can explain food safety issues in a variety of ways – for example, using the low status of farmers and workers in the food supply chain to explain quality issues at the growing and processing stages. But solutions will always depend on government ability to fulfil its responsibilities – be that supervision of food manufacturers, or protecting the legal rights of consumers, factory workers and farmers.

As China continues to urbanise, the small farmers who plant crops and raise livestock at the start of the food supply chain will gradually become the employees of large-scale farmers and company-owned farms. This trend is already visible in the north-east of China, and in Shandong, Anhui and Jiangsu.

This has two consequences. Firstly, some farmers are forced out of agriculture and need to look for work

in cities and buy food on the market – often in third tier cities and towns, where food safety oversight is weak. The potential number of victims of food safety issues is thus increased. Secondly, the difficulties of supervision due to having large numbers of small-scale producers – a problem the government has often complained of – will be greatly reduced as producers become fewer in number. The government will be able to establish, through subsidies, a product tracking

system. Once the full length of the food supply chain becomes transparent and punitive damages and consumer pressure groups are in place, the dangers of food safety should finally recede. 

Wu Chen is deputy head of the Social Resources Institute.



Poultry processing. Picture from zgjq.cn

China's food scares show whole system is bust

● Tang Hao

Our lives – and the safety of our food – are determined by the structures we live in, writes Tang Hao. Without systemic reform, there's no point increasing enforcement powers.

The Chinese people have had their imaginations challenged by a series of food and drug safety scares. In a little over a decade, we have seen alcohol which is actually methanol; seafood soaked in formalin; the Fuyang milk-formula scandal, the Sudan Red scare, the melamine scandal, “gutter oil”, and gelatine rendered out of used shoe leather. Now even the capsules used to deliver drugs have been found to contain toxins.

None of us can be certain that any foodstuff or drug is safe, from baby milk powder through to cooking oil. Nor can we be sure that any company – be it a backstreet workshop or a big state-owned firm – is producing safe food and drugs. Consumers were originally shocked. Now, they are simply numb. It seems the Chinese have got used to poisoning each other.

It is the nature of the problem itself that has allowed it to become so widespread. China's food

and drug safety problems are structural, caused by a number of different factors and actually exacerbated by the system. No single response to any one incident will provide a solution.

First, let's take the economics of food safety. We must ask the most basic of questions: why do companies manufacture and use toxic foods and drugs? Why do even officially registered companies, even those of considerable size, do so? The answer lies with our overall economic structure.

In China, sectors such as energy, heavy industry, chemicals and communications, often very profitable, have high barriers to entry in order to protect the interests of state monopolies. There is little space left for private firms and small and medium enterprises (SMEs) – and when too many companies chase the limited opportunities remaining, excessive competition results.

In the food and drug sectors, the financial and

technical barriers to entry are low. This creates a structural problem: companies tend to be small, scattered, of low quality and unable to innovate. And so they compete dishonestly. Excessive competition leads to a race to the bottom, with costs being cut through fakery and inferior products. Any firms that actually care about safety become less competitive and eventually go under.

Not only does the bad money drive out the good, food and drug manufacturers are under a massive tax burden. From ordinary taxation (higher than in other nations), to more China-specific costs including road and bridge tolls, business registration and inspection fees – profits are wrung out at every stage of the food industry. Before a food or drug reaches the consumer, huge additional costs are incurred for raw materials, transportation, production, distribution and retailing, preventing both manufacturers and retailers from growing. With food and drug supply chains becoming more complex and the market more open, those burdens are passed onto the consumer by fair means (increased prices) or foul (cheap but toxic products). Most countries monitor food safety at the farm and the factory. But in China food safety issues can arise anywhere.

Second, there's government regulation: a developing market economy and continued government involvement in that market mean greater government ability to obtain income. But ability to manage has decreased. There have been obvious

legislative successes: the Food Safety Law, the Drug Control Law and the Regulations on Supervision and Management of Medical Equipment have all been promulgated, and a number of national standards are now in line with international practice.

But these ever more detailed laws have failed to improve food and drug safety. The problem is implementation. Several government departments are responsible for food safety, and powers and responsibilities are fragmented. The Ministry of Health is in charge of overall coordination and risk evaluation; the Ministry of Agriculture covers agricultural products; the General Administration of Quality Supervision, Inspection and Quarantine monitors imports, manufacturing and processing; the Drug Supervision Administration is in charge of medicines; while food products on the market are mostly the responsibility of the industrial and commercial authorities.

This leads to two problems. One, overlapping supervision increases costs for the companies. And two, when problems arise, the authorities pass the buck. Fees are taken – but not responsibility. Both

of these problems make it harder to guarantee food safety. On a trip to America, former premier Zhu Rongji paid a visit to the US Food and Drug Administration, a powerful government agency that has been in existence for a century. On his return to China, Zhu set up a similar body in China, but for various reasons it failed to play

In China food and drug safety isn't just a question of economics. It is also a matter of regulation, and more, a matter of our political and legal system. Management of these structural issues without overall reform, with just the blind expansion of enforcement powers, will be useless.

its hoped-for role and was broken up.

Major design flaws at the top worsen problems with implementation at the grassroots. Laws and national standards are not, generally, strictly enforced. Local officials lack motivation to enforce these rules and often act on behalf of dishonest companies as much as on behalf of the state. National law becomes the basis on which those officials draw benefit from business – in exchange, laws are laxly enforced, or simply ignored. This extra cost for the companies may then be passed on to the consumer in the form of lower-quality products.


Local officials become part of the low-quality food chain and share in the profits. Naturally, they have no interest in eliminating the problem. This is not just apparent in the food and drug sectors. The recent cases of pyramid scheme fraud in Beihai and Nanning, the sex industry in the Pearl River Delta – these sorts of problems are also tied up with the interests of local officials. Government aims and objectives are not implemented and so governance fails. Worse, with this culture already entrenched, strengthening enforcement in any one area actually gives officials more power to extract benefit – creating the opposite effect to that intended. The more invested in enforcement, the more power the officials have, and the less effective governance becomes.

Finally, there's consumer and public oversight. China's particular policy and legal environment cannot meet the political needs of a modern society and citizenry. Media supervision and public participation are limited, non-governmental supervisory groups cannot act, self-regulation by industry groups is underdeveloped and public law suits against food and drug firms fail to get through the courts. The food and drug industries lack the pressure of social oversight, and so the final and most direct line of defence is lost

– and safety problems just get worse.

Our lives are determined by the systems we live in. In China food and drug safety isn't just a question of economics. It is also a matter of regulation, and more, a matter of our political and legal system. Management of these structural issues without overall reform, with just the blind expansion of enforcement powers, will be useless.

Changing this system through economic, administrative, social and legal channels needs the continued participation of the victims – the citizen as consumer. And this participation must extend beyond supervision and enforcement in the food and drug sectors into all other areas: demanding economic justice, breaking up monopolies and widening market access; shutting down production, pursuing criminal liability, and demanding huge punitive damages; seeking judicial independence, improving law and regulations, expanding legislation, and promoting the rule of law; launching citizen movements, establishing NGOs, and promoting political reform.

Only widespread participation and overall reform can provide hope for a complete resolution. This will be no easy path to take, but when it comes to structural problems there are no short cuts. 

Tang Hao is deputy professor at South China Normal University, a Fulbright scholar and a columnist.

Only consumers can save China's food system

● Zhou Li

In the modern food industry, the roles of producers, sellers and consumers fall out of sync – allowing bad practices to force out the good, writes Zhou Li.

For most of human history, food has been scarce. In ages of scarcity, there are only two players in the food system – producers and sellers – and it's a seller's market. But when food becomes abundant, consumers appear as a new force, using the cash in their pockets to force the sellers (now middlemen) to focus on them, rather than the producers. At this point, the middlemen realise it isn't food that's scarce, but consumption: the consumers, not the producers, convert their goods into riches.

But the three players are on a very uneven playing field. Producers and consumers are relatively

weak, while the middlemen are powerful. The middlemen are able to exploit the producers and cheat the consumers in order to expand their own benefits. Consumers cannot fully understand the effect a foodstuff has on their health. They can only go by observation and experience when making decisions. And most consumers are only willing to pay for things that satisfy their senses – they tend not to want to

pay for long-term health, or for anything that does not directly affect them: the ecological, cultural and social impacts of the food, or other benefits of agriculture. So when consumers attempt to buy high-quality but



Picture from xmlasp.net

cheap foods, they often make bad decisions.


When complete information is not available, there are moral risks associated with food production. Consumers make poor choices, while exploitative and mendacious middlemen motivate producers to flout quality and safety standards. The market fails, and food safety becomes a problem. One obvious sign of this is when prices are set neither by producers or consumers, but by the middlemen. This kind of food market allows food standards to be controlled by the industry and for unwritten rules to operate. It inevitably leads to food-safety problems and market failure.

When the two ends of the food system are weak and the middlemen strong, a fourth player – the government – joins in. If a strong government sides with the producers and consumers, it can balance the strength of the middlemen. Unfortunately, it is hard to find an example of any government that has done this of its own accord. The nature of government and the private interests of officials are often the same as those of the middlemen. When profit comes first we always see the strong join forces with the strong – not the weak.

The government's intermediary role between the middlemen and either the producers or consumers often assists the middlemen, whether deliberately or otherwise. Food safety incidents are suppressed, creating a long-term food safety crisis. Government is often "close to capital", meaning its intervention only worsens the imbalance. With both the government and the market failing, bad practices drive out the good. This is a global problem.

In most need of attention is consumer responsibility. A healthy market needs consumers to realise there is a trade-off between quality and price. Consumer attitudes have been distorted by pervasive

advertising and shifting social values. But only consumer responsibility can create the environment for government and business to fulfil their duties, and unethical production to decline.

We must recognise that staple foods are a necessity, not merely a commodity to be exchanged for cash. We must realise that agriculture is a part of the public sector, not industry, and not allow unfair competition between different agricultural systems or between agriculture and industry, if we are to stop bad practices taking over. This should be accepted by all, and be the starting point for all government agricultural policy. 

Zhou Li is professor at Renmin University's School of Agricultural and Rural Development.

Can third-party testing fix China's food problems?

● Zhang Chun

Independent certification bodies and NGOs could make up for shortcomings in government oversight, writes Zhang Chun.

China's fragmented food regulation has created many loopholes, triggering frequent food-safety scares and undermining government credibility. There is a need for supervision by independent and objective NGOs and third-party certification bodies.

In the European Union and United States, where regulatory systems are more transparent and rigorous, governments legislate and administrate, while most scientific analysis is devolved to the market and NGO sector. This is not the case in China.

Regulation in China has always been government-led, and supplemented by the market. Regulatory duties are divided across the health, agricultural, food, quality, drug and environmental authorities, which legislate, administrate and test. Supervision of the industry chain is fragmented across



these bodies. Many experts have pointed out this makes it unclear where rights and responsibilities lie, allows blind spots, and the shirking of responsibilities. The

different authorities do not coordinate well, and there are many gaps.

Before 2003, the Ministry of Health was in charge of supervising food hygiene, with the assistance of other authorities. After 2003, regulation was divided across the health, agriculture, quality, trade and industry and commerce authorities. Then, in 2009, the Food Safety Law reinstated the Ministry of Health as the lead authority and bolstered coordination across the different agencies. Over these three stages, China's food regulation was strengthened. The State Council's Food Safety Commission, a high-level body set up in 2010, again increased integration.

Under the new food-safety regime, local governments set up coordinating bodies and clarity over rights and responsibilities started to take shape at the grassroots. The Ministry of Health's role in setting national food standards, monitoring and evaluating risks, testing products and managing key information also greatly helped reduce problems of uncertainty over jurisdiction, overlaps and blind spots.

But it is abundantly clear that regulatory ability – particular when it comes to laboratory analysis – remains inadequate.

At a seminar about bolstering food-safety regulation at the Chinese Academy of Governance in May, vice health minister Chen Xiaohong said China still lacks a centre for evaluating food-safety risks or a single body to manage food-safety standards. There is also a shortage of staff to manage standards, Chen said. At the provincial or county level, there is a lack of staff and authoritative data and poor capacity for emergency response and incident investigation. Resources are also scarce at the village and grassroots level, where the few staff they do have tend to be poorly trained.

In the European Union and United States, independent third-party testing and certification bodies and NGOs make up for these sorts of failings. The participation of third parties also helps markets to innovate and be sustainable. The late Sang Liwei, China's first food-safety lawyer, wrote that in the United States a company's most conscientious regulators are its competitors. As food supply chains have globalised, conventional monitoring has been unable to keep up. In 2010, the US Food Safety Modernization Act introduced third-party certification for imported foodstuffs for the first time.

Some third-party bodies and NGOs are entirely capable of testing food and monitoring standards

compliance. These bodies have become the centre of laboratory-based food supervision.

But in China, the different regulators all have their own laboratories – resources are spread thin, efficiency is low and the development of third-party bodies is hampered. Chinese firms are only just starting to use third-party testing voluntarily. On May 14, food company Shenzhen Wangtaijia signed a long term contract with FQT Food Testing Centre. FQT is a joint venture between the Ministry of Commerce and Shenzhen Agricultural Products. This is reported to be the first case of cooperation between a distributor of raw and fresh foods and a third-party certification body.

But experts have also pointed out that there is no way to guarantee the quality or independence of China's third-party certifiers, and that some are highly commercial operations.

In March, CER Research sparked a row when it reported that Abbott milk powder did not reach Chinese standards and the case was widely reported in the media.

As CER is not registered in China, there is no way of confirming its identity and credibility. Arguments played out in the media just cloud the issue, leaving the bulk of consumers confused and panicked.

In an interview with Legal Daily, professor Wu Jingming of China University of Politics and Law said legislation is urgently needed to standardise the establishment, make-up, operation methods and results publication of third-party investigatory bodies. 

Zhang Chun is an intern in chinadialogue's Beijing office.

We're all farmers now

● Yin Chuntao, Zhou Wei

Fans of Community Supported Agriculture don't care about certificates, write Yin Chuntao and Zhou Wei. For rising numbers of Chinese citizens, "organic" means trust and support between buyer and seller.

At a monthly "friends of farming" dinner held by Green Heartland, an NGO based in Chengdu, west China, Chen Xia quietly reads an ode to the land against light background music. It's a simple thanksgiving ceremony the hosts conduct before leaving the diners

to tuck into a feast of organic produce and listen to farmers talk about their lives and land.

Green Heartland was formed by a group of urban residents who buy their food directly from farmers, and their dinners give the two groups a chance to get together. Chen, who is one of the founders, was prompted by health concerns into thinking more seriously about the origins of her food. In 2007, together with two friends, she organised an organic market and heard about a village called Anlong,

Gao Yicheng is in charge of deliveries and liaison: "If you want to buy our crops, you need to come here first and have a look around. We won't give you anything until you've actually visited," he said.

which was said to be working to protect its land and rivers through sustainable farming. The group started to buy food from the village.

One of her co-founders, Xia Lu, had been working for an NGO in Anlong,

but stayed on after her project finished – as a friend, volunteer and consumer. She had plans for a website through which the farmers could reach out to urban consumers, and hoped to arrange customer visits, farmers' markets and dinners. Her overarching aim was to bring farmers and customers closer together and encourage a return to healthier farming methods. Xia's ideas got a warm response from people already buying food from Anlong – and Green Heartland was born.



A Green Heartland poster

Gradually, the number of customers has grown. Against the backdrop of ever more frequent food safety scares, growing numbers of Chinese citizens are looking for safe and healthy alternatives. The popularity of the organic methods practiced at Anlong is soaring. Zhang Ming, a journalist at local paper Chengdu Daily, became both a customer and Green Heartland member after reporting on the village's activities.

Some customers have befriended the farmers and help to organise sales and distribute goods. Chen said that the organisation hopes to improve understanding and trust between farmers and the people who eat their produce.

Green Heartland also helps customers link up to make bulk orders and organises markets to boost sales – as well as the farmers' confidence in the value of organic methods. The group now works with farmers in 10 places around Chengdu and has built up

a core customer base of more than 100 people.

This kind of direct participation by consumers in the production of their food is commonly known as Community Supported Agriculture (CSA). It originated in Japan, Europe and the United States and, since 2003, has been actively promoted in China by Hong Kong-based NGO Partnership for Community

Development (PCD) and global advocacy group Institute for Agriculture and Trade Policy (IATP).

CSA provides a new way of thinking about food safety, rural economies, environmental damage and urban alienation, as well as creating the possibility of a different way of life. Through local trials, overseas experience and the pressure of food safety scares, CSA has taken root in several Chinese cities as one option for shoppers on the hunt for safer food.

There are many examples. Even before 2003,



Farmers' Friends on a trip to the countryside

a group of residents from the city of Liuzhou, south China, were moved to establish Farmers' Friends following a trip to the countryside where they saw first-hand the threats to traditional agricultural methods and farmers' struggle for survival. Their social enterprise now takes city dwellers to the countryside to eat at village restaurants and purchase local products.

The meals are delicious and made with produce fresh from the fields. The farmers that the group works with grow rice in their backyards, in the same ponds they use to raise ducks – a traditional organic method. And the seeds they plant are traditional crops handed down from generations past. These ways of working allow the farmers to escape the constraints of commercial agriculture and boost their appeal to customers.

The rise of CSA in China is helping farmers to understand the wider choice organic agriculture can give them, in terms of both technology and markets. It allows them to see that they have options beyond genetically modified crops and industrial farming, which will only relegate them to the bottom rung of a supply chain.

As the number of customers has increased, Farmers' Friends has opened a museum of traditional farming techniques and a restaurant serving healthy and organic farmhouse fare.

The restaurant, which brings together rural producers and urban consumers, is more about spreading the news and spirit of CSA than serving top cuisine. It works to nurture the traditional crops that are disappearing, provide diversity of income for small-scale farmers, protect farming culture and promote links between city and countryside. The association pays stable prices for produce and has established a fund to help farmers continue to plant

traditional crops, organise themselves and promote rural cooperation.

The past three years have seen a surge in cooperation between consumers and farmers outside of commercial markets. All around China, consumers are opening organic shops, holding regular organic markets, setting up collection or sales points and organising bulk purchasing – all activities that bring together consumers and farmers. And, unlike normal markets, consumer advocacy is a big part of what they do. They even arrange for farmers and consumers to negotiate prices together in order to build understanding and trust.

Beijing Farmers' Market was founded by a small group of consumers in 2010, since when it has expanded to serve an average showing of 2,000 shoppers. Some 20 farmers and farms and more than 10 NGOs and craft workshops attend every event. Natural and handmade everyday goods and processed foods are on sale alongside agricultural produce.

The majority of the products on sale are not actually certified as organic, but consumers can talk to the producers about their goods and how they grew them and build up trust in that way. A core group of volunteers pays regular visits to producers to look at their land and talk to them and ensure their products are qualified for the market. The markets started out as a monthly event, but are now held once a week.

Similar activities are flourishing in many other places across China, including Shanghai, Guangdong, Guangxi and Sichuan.

For participants in CSA, "organic" isn't about certification, but the trust, support and sharing involved in simple business transactions.

And farmers, as well as consumers, are working to build that trust. In Anlong, the organic farmers are even picky about whom they sell their produce

to. Gao Yicheng is in charge of deliveries and liaison: “If you want to buy our crops, you need to come here first and have a look around. We won’t give you anything until you’ve actually visited,” he said. The farmers here think it’s crucial that buyers meet producers.

Since 2008, the Shanxi Yongji Farmers’ Association has been working to develop organic agriculture through farmers’ cooperatives. It has attracted plenty of buyers from many places, but is most preoccupied with finding local customers. Zheng Bing, an association official, said that selling locally helps boost trust among consumers.

Supermarkets and big food companies are now pushing “green” and “organic” products. But CSA advocates say that they are in search of something different: nature and health.

At a recent forum on rural development, as experts and NGO representatives were fretting over how organic agriculture could be scaled up, Hebei farmer An Jinlei spoke out: “As a farmer, I don’t like the term ‘organic’. It has become a buzzword and lost its meaning. The rich folk in the city drive their cars to the supermarket and buy organic food – they’re just worried about their own health. But what are their lifestyles and values, their excessive consumption of resources, doing to the health of the planet?”

An prefers to call his farming methods “natural agriculture”, which he describes as looking after the land in accordance with natural principles. “The land can’t take any more,” he said. “We need to look after it, to help it recuperate. You need the land to be healthy if you are going to get food for a healthy life.”

An believes many modern agricultural ideas go against the laws of nature. That’s what prompted him



Working on the farm

to quit his job at a state-owned farm 10 years ago and return to his home village. Together with his wife, he sought out natural farming methods that would restore the land. He believes that even pests have a place. “If humanity doesn’t stop its exploitation of the land, there’ll be no way back,” he said. His determination has seen once lost birds and insects return. A pharmaceutical firm pays a premium for his cotton and corn, while a number of CSA consumer groups in Beijing buy his crops.

An laments that more farmers in his village aren’t following his example. They generally recognise the harm done by fertilisers and weed-killers, he said, but believe they have no choice because they can’t afford the initial costs of going organic. Without external support, it is almost impossible for farmers suddenly to switch to sustainable farming.

While many farmers cannot afford to go organic, some urban residents have taken matters into their own hands.


Green Mothers Alliance was founded by a group of housewives concerned about their children’s health and development. In 2006, food safety scares prompted these women to experiment with growing their own food, but they soon found they lacked the

necessary knowledge to make it work. Inspired by CSA outfits like Little Donkey Farm and Taiwan’s Housewives Alliance, they started making bulk purchases from likeminded farmers. Today, their organisation has more than 200 members.

De Run Wu Organic and Natural Store is one of Beijing’s oldest instances of urban residents taking control of their food supply. The owners have a small organic farm outside Beijing, where they grow and sell their products. The shop only sells organic goods, both its own products and those it imports from Taiwan and elsewhere.

Wang Tianxiang of organics products business Ecolourful told chinadialogue that similar operations existed in China as long as 20 or 30 years ago, but were very rare and generally supplied only senior officials and foreigners. Operations with a wider market have only become more common in the past few years. The market is still small, but demand outstrips supply. And prices aren’t high when compared with the costs: half a kilogram of organic

vegetables at De Run Wu costs 10 yuan (US\$1.60).

Outside of China, CSA got going thanks to concerns over food and land quality. But here, the rise of new approaches to farming has been catalysed by food safety problems. Although most people rely on “organic” labels to make their choices, due to the influence of marketing and the lack of alternatives, more and more shoppers want to know – to really know – where their food is coming from. 

Yin Chuntao is a part-time CSA evaluation consultant to Partnership for Community Development in Hong Kong and founder of the Fragrant Fields Cultural Academy.

Zhou Wei is assistant editor in chinadialogue’s Beijing office. Pictures by Yin Chuntao, Zhou Wei and Yuan Qinghua.



Urban consumers rent land at Little Donkey Farm to grow vegetables

Organic volunteers go to market

● Ma Xiaochao

I had been following the microblog of the Beijing Organic Farmers' Market for six months before I actually attended one of their events for the first time in late September 2011. There, I saw that this group of consciously laid-back Beijingers had achieved something really grand.

Why do I call it grand? Because they volunteer, giving their time for free to bring almost 30 organic farmers and craftspeople from around Beijing together for a weekend market.

In my early days as a volunteer, I was overwhelmed by talk of Tianfuyuan apples, Rice Wine Tavern cloudy wine and Guiyuan milk. I discovered that every trader at the market had his or her own unique selling points, and each one spoke of their own products with pride. Tianfuyuan has been using organic farming practices for over a decade. Guiyuan's cows enjoy organic fodder. The Guoren Green Alliance, staffed mostly by recent graduates,



aims to help villages and rural cooperatives grow. The students stay in village homes, both passing on knowledge and helping with the farm work. The goods they produce can be traced all the way back to the field.

As I got more involved in the market I found the organisers had other plans as well. To encourage environmentally friendly agriculture, the market was working to increase sales for organic produce and make consumers more aware of what they were doing. Alongside the weekend markets, they held

lectures, meetings and exchange visits between farms and technical trainers.

The market does not admit farmers who use any pesticides or chemical fertilisers; feed livestock fodder containing antibiotics or hormones; use genetically modified seeds; or add chemical additives to processed foods.

It sounds simple. But every stall at the market has to be carefully vetted. Everything the farmer says, his or her aims, the state of the farm's soil, its environment and planting practices –it's all considered. Although there are no actual standards, we can control the process through direct observation. And the farmers need to be open to this, as any consumer can become an observer and go to see the environment in which they work.

This market is helping consumers to find foods they can be confident in and to communicate with producers, as well as keep an eye on the farming environment the goods come from. Now, I've been a full-time volunteer for more than half a year and have made many friends at the market, both farmers and consumers. All of them have the same passion for life. ☺

Ma Xiaochao is a full-time volunteer at Beijing Organic Farmers' Market. Pictures by Yin Chuntao and Zhou Wei.



Safe vegetables, Japanese style

● Chen Yantao

For 35 years, the Daichi group has been working to connect farmers and consumers. The two sides share both risks and profits for the sake of safer, healthier food. Chen Yantao reports.

In the blistering heat of summer 2010, there was a spike in vegetable prices in Tokyo and other big cities in Japan. But one group of farmers stood their ground in the face exorbitant prices. They sold their vegetables far below market rates to an organisation called Daichi-wo-Mamoru-Kai, or the Association to Preserve the Earth.

Daichi was established in 1975 with the goal of eradicating harmful pesticides and providing a stable supply of organic farm produce. The Japan of 1975 had similarities with China of today. There were high levels of public anxiety over food safety, especially concerning pesticides and fertilisers used in fruit and vegetable farming.

Japan's economic boom was just taking off. After living through 30 years of post-war poverty, people were eager for mass production and mass consumerism. Back then, the thick smoke belching



from factory chimneys was seen as a sign of modernity. In the countryside, traditional farming practices, which had developed over hundreds of years, were considered backward. City dwellers increasingly wanted vegetables and fruit that looked juicy and bright. Huge quantities of pesticides were sprayed and fertilisers applied in the name of an

“efficiency revolution”. The aim was to improve agricultural yields and reinvent Japan’s agricultural sector.

Daichi was created in response. Its founder, countryside-born Kazuyoshi Fujita, started out selling vegetables from a cart, offering a helping hand to farmers who were using mineral fertilisers – and being punished by customers. Their vegetables tasted great but, since they weren’t sprayed with pesticides, showed signs of insect damage and struggled to fetch a good price.

Fujita’s “safe vegetables” gradually expanded to markets all over Tokyo. Just one year later, close to 300 farmers and consumers were involved.

Some 35 years have passed and Daichi has grown into a large organisation with a membership of 2,500 producers and 91,000 consumers and an annual turnover of 15.3 billion yen (1.02 billion yuan). Its business operations extend to home delivery, online sales, wholesale, directly-run greengrocers, restaurants, cafes and more.

Fujita is a realist. He says it’s pointless merely to shout slogans against pesticide use, and that what’s needed is to initiate and popularise a new set of values. It starts with the small things: a single pesticide-free radish placed in the hands of a consumer is better than fruitlessly yelling out 100 slogans, he says.

“We hope to establish new farming practices and a new distribution system as well as a new type of consumer culture. For Daichi to grow, all three of these are needed,” Fujita told reporters. By new farming practices, he means refraining as far as possible from pesticide and disinfectant use, applying organic fertilisers to enrich the soil and constructing a harmonious circular agriculture model. And his “new distribution system” is one in which members sign a

contract that connects producers with consumers, and under which the two parties share both the risks and benefits of production for the sake of healthier and safer produce.

The bond between the producers and the consumers not only safeguards long-term consumer health but also guarantees stable revenues for the farmers. Most importantly, it protects the long-term fertility of the soil. A new consumer culture means educating customers that it’s not what fruits and vegetables look like that’s important, but whether they are safe and tasty.

It’s only after experiencing many ups and downs through the past 35 years, that the team has found the balance between profit-making and social responsibility. In the first five years, they had no business or distribution experience, and losses were unavoidable.

At that time, almost all farmers were using pesticides and fertilisers. In the beginning, farmers believed Daichi was advocating a return to primitive farming practices. And besides, without pesticides it was difficult to control plant diseases and insect pests. Many consumers didn’t want to buy vegetables that had visible pest damage. “We wanted to create a new kind of distribution relationship, one which gets consumers and producers to trust each other, where farmers wouldn’t lose out because of market price fluctuations and one where they wouldn’t grow unhealthy food in the pursuit of profits. This was our motivation,” one of Daichi’s co-founders Mr Hasegawa said.

In order to maintain the purity of organic farming, Daichi worked with Japan’s Ministry of Agriculture, Forestry and Fisheries to introduce a new set of organic farming standards. In January 2000, they also published production processing rules on


all kinds of agricultural products they were selling. Over the next 10 years, these rules were continuously improved.

The price of Japanese vegetables rose sharply in 2010 because of the scorching weather. If the farmers who had signed up with Daichi had sold their produce at market, they could have earned a fortune. “But we wouldn’t do that,” said Sato Mao, chairman and general manager of a Daichi member supplier. “Windfall profits only last a short while; building up a stable cooperation and mutual trust is still the most important thing.”

Daichi and the contracted farmers agree on prices for each year’s produce. Because organic farming is more costly and uses more manpower than ordinary farming, organic goods are inevitably more expensive than their non-organic counterparts. In China, the “organic” price tag keeps the average consumer at a respectful distance, while a small and

wealthy minority are alone able to enjoy this “health food”. Back in the early days in Japan, Daichi also encountered this problem.

Fujita believes the answer is to work tirelessly to promote the products and guide consumers. Only when the number of consumers rises will prices fall to more reasonable levels, he says. These days in supermarkets, Daichi’s products are 1.3 to 1.5 times the price of regular goods. Their consumer group has expanded to the majority middle classes.

From the days of hawking vegetables from the back of carts in the 1970s to its advanced home-delivery system of today, Daichi has felt its way forward, step by step. Now all of the organisation’s produce can be ordered by phone, fax or online and delivered to your door within 36 hours. 

This article was first published by Xiaokang magazine, in the first edition of 2011.

Official shrugs off public food "panic"

● Xu Nan Zhou Wei

Chinese people have a "poor understanding" of food-safety issues, senior official Wang Guowei tells chinadialogue.

chinadialogue: Compared with other countries, what are the key characteristics of China’s food-safety problems?

Wang Guowei: Developing a modern agricultural and food industry brings many benefits, but it also brings food safety risks. Bacteria, pesticides, veterinary drugs, heavy metals, natural toxins, organic pollutants, the adding of harmful substances – these are relatively common worldwide. In the United States, one sixth of the population suffers from foodborne illness in any given year, and 3,000 of them die.

Inevitably, these same issues exist in China. But China also has its own characteristics. For example, food production is small-scale, scattered and poorly organised. Market arrangements aren’t ideal, social trust mechanisms are incomplete. Although a market economy is in operation, awareness of the rules of a market economy hasn’t matured, meaning that producers have a weak understanding of quality and safety. This leads to more cases where harmful

foodstuffs are deliberately produced.

But what I want to stress is that the Chinese people’s understanding of food safety is still poor, even to the point of missing what’s important. There’s lots of talk about counterfeit foods, but few people are aware of the real food safety issues affecting the country. Recycling out-of-date steamed buns, for example, is consumer fraud – but it doesn’t pose health risks, and it’s a practice that will stop as regulation and the market improve.



A food processing plant. Photo: zsnews.cn

Meanwhile, the contamination that has accompanied the industrialisation of food production receives too little attention. The public are upset about fake food products and the authorities are busy responding to those concerns, limiting the development of technological capacity and even reducing how scientific some systems are. That's something society as a whole needs to consider. For their part, the authorities should work hard and take more responsibility, and genuinely bring food safety risks under control.

That China's food companies are small, scattered and poorly organised is a feature of the country's "growing pains". On the other hand, food monopolies in the west leave regulators powerless and create systemic risks. There are problems in both cases. When planning for development of the food industry, there should be a balance between scale and diversity. As for who has the better regulations or who is at less risk from food safety problems, you can't really make the comparison. A recent TV programme about food, "Bite of China", showed just how many different types of food China has, its countless different snacks. Even if you have big companies, you can't get rid of all the little places, and that's always been the case because of China's food culture.

cd: How would you summarise the situation you face as policymakers?

WG: In our food safety work, we face four "mismatches". First, problems are very common, and the food-safety situation falls short of public demands.

Second, there is a mismatch between our regulatory powers and our regulatory obligations. Our tools need to be improved. In particular, we have a severe lack of enforcement powers. We have 106,000 regulatory staff, but 10 million registered businesses

to watch, and that doesn't include the tradespeople and hawkers or 280 million farmers.

We must learn from international practices. Rather than using bolted on methods such as random sampling and acting after problems arise, we need to use national food-safety standards to monitor, evaluate and provide early warning of risks, enforce the law and carry out inspections, bringing together regulation of both production and product. We need to be scientific and professional. Food-safety regulation is professional and technical work. Currently, we are very weak in this area.

Third, there is a difference between public understanding of food safety and actual circumstances. The problems aren't so bad that you should be scared to eat. We haven't had big outbreaks of food-borne illnesses like you saw last year in Germany and this year in the United States. The media do report a lot of problems, but a fair proportion of those stories turn out not to be true. We welcome media supervision, but it needs to be accurate and objective. You could joke that panicking about food is more dangerous to health than the harmful food itself.

Fourth, there's a difference between the environment for public debate on food safety, and the requirements of social harmony. It doesn't matter how big a food safety issue is, it's a specific and specialised issue – an issue of whether or not regulatory mechanisms are working, whether or not technological abilities are sufficient. But there's an unfortunate trend to talk about it as a social problem. Sixty years of peaceful living seems to have made us forget the history China has seen – the war, the upheaval, the changes of government – we never used to have the leisure to discuss quality of life issues like food safety. All discussion about food safety should focus on constructive solutions. China's harmony and

stability benefit the people.

cd: What are the key reasons for these "mismatches"?

WG: First, our stage of development is significant. I have mentioned the quality of the production sector, the trust deficit, market rules. And of course, the quality of our work is also determined by this. We have only recently solved issues of sustenance – food safety supervision has got off to a late start and there's still a lot of work to do.

Second, people think that these problems have suddenly arisen, but many of the problems were already here. Artificial sweeteners, food dyes in snack foods – in the past nobody worried about this sort of thing, but now everyone is suddenly concerned and upset.

Third, once basic living standards have been achieved, people start to worry more about their health and quality of life. They start looking for healthy and safe food, and life is more respected.

Fourth, media reports and trends in public debate play a role. The media brings attention to certain matters, but that has two effects on public opinion: incidents get connected – both the media and the public will link the current incident with similar ones in the past. And when an incident occurs in one area, people living in different areas start worrying that the same problem may exist there.

cd: How does the government regard food safety issues? What is the place of food safety work?

WG: In the 30 years since reform and opening up, China rapidly solved its food-supply issues. Once sustenance was assured, food safety became an issue, and after the Sanlu milk powder scandal in 2008 attracted unprecedented concern, it became a major

and difficult issue. The government's understanding of this has deepened over time.

The 1993 Food Hygiene Law was mostly concerned with hygiene – society, including the government, didn't have a full understanding of food safety, and there are fundamental differences in the focus of law and regulations between then and now. The 2008 Sanlu milk powder scandal marked the start of an outbreak of problems, and in 2009 the Food Safety Law marked the government doing more. Since then, the government has been strengthening overall food-safety management.

cd: China has always struggled with problems that come from different bodies being responsible for regulating the same sectors, and that's hard to change. When it comes to food safety, how do the mechanisms and systems need to be improved?

WG: Currently the government is working to improve several aspects of food safety work.

Firstly, the management systems that were set up when the country was focused on ensuring food supply need to be changed. Originally, the Ministry of Agriculture was in charge of the production of agricultural products, the General Administration of Quality Supervision was in charge of food companies, the State Food and Drug Administration was in charge of restaurants and caterers, the industrial and commercial authorities were in charge of the sale of products on the market – that kind of fragmented management creates frictional costs and makes end-to-end management impossible. So the State Council Food Safety Commission Office has been set up to oversee the different authorities. When problems arise, they will be dealt with jointly – there will be overall coordination.

Of course, whether or not this is thorough

enough, whether or not regulatory resources need to be further integrated, that's still being discussed and the authorities are examining these questions. Reform needs consensus and active and steady implementation.

Second, regulation is being strengthened. In 2009, we passed the Food Safety Law and set up risk monitoring, evaluation and early-warning systems. In 2010, the Food Safety Standards Evaluation Committee was formed, and in 2011 we founded the Food Safety Risk Evaluation Centre. And our push for more professional and more scientific food safety regulation has only just got started.

Take a piece of chocolate. We need to set standards for some of the ingredients, and then monitor compliance. If a standard isn't met, we regard it as unsafe. But even if a company works entirely according to its processes, it can't guarantee that standards will be met completely – there can always be some accidental contamination. So there needs to be a permitted amount of problem foods, and if that amount is exceeded, then we penalise the company. This needs scientific standards.

But you can't test for substances that you never expect to be there, so you can't catch all possible harmful substances. Every year, the government publishes a blacklist of harmful substances likely to be added to food because they can increase profits, and then testing methods are determined. Companies then design testing equipment, which the government purchases, and then you've got a new method of enforcing the law. Only when these are part of law enforcement standards, will regulation be effective.

Monitoring by enforcement agencies is the basis of penalising companies. The Food Safety Risk Evaluation Centre, set up in 2011, is a risk-monitoring system that sits outside that enforcement

structure. It has numerous monitoring stations around the country, collecting 400,000 pieces of data annually. Unlike other monitoring efforts, this work isn't limited to testing against certain indices – they use very sensitive equipment, take random samples and are in touch with medical bodies. It's not for law enforcement, it's for overall analysis. Nonetheless, risk monitoring remains very weak, and that's going to be a focus for development in the future.

And a whole series of systems and mechanisms is still to be set up. Already, there are new rules for market access for makers of all 28 major categories of food and we've established a safety evaluation system for new types of foods, food additives and ingredients. When any food product leaves the factory, it is subject to standard monitoring. And the frequency of testing of samples is increasing each year. A series of systems ensure that the foods we buy through normal channels are safe. But that only ensures that they are safe according to government indices, it's a relative safety.

cd: Can you give an expected timetable for the work to improve China's food safety?

WG: A recent State Council document on strengthening food-safety work said that we will strive to resolve the most prominent food-safety issues over the next three years and over the next five years establish a scientific food-safety regulatory system and build up regulatory staff. But to really turn around food safety issues will take quite a long time. And we need to recognise one scientific fact: there is no such thing as zero-risk when it comes to food safety. ☞

Xu Nan is managing editor and Zhou Wei assistant editor in chinadialogue's Beijing office.

Organic foods aren't the solution to China's safety woes

● Zhou Wei

Still marginal, organic agriculture shouldn't be seen as a fix-all for the problems plaguing China's food industry, certification expert Zhou Zejiang tells chinadialogue.

Zhou Wei: How well do you think food certification is run in China?

Zhou Zejiang: There are some problems with the industry itself. But I think that most of China's organic foods are fine. If you count 100 as full marks and 60 as a pass, then most of China's certified organic foods get 70. Some are doing well, and fully meet international standards. Of course, some aren't so good and don't pass, or are just fakes.

The Certification and Accreditation Administration's new rules include a "one product, one code" system. That means there needs to be a 17-digit tracking number on the packaging of all organic products, and that has to link to full information – size and weight, source, the producer. If the consumer is interested, all that can be checked on the spot. And you know instantly if something hasn't been certified. The labels are issued according to the quantities produced, so the makers can't sneak in extra quantities. Nowhere



*Organic food shelves in a Chinese supermarket.
Photo: Sanlian Life Weekly*

else in the world has that degree of traceability for organic products.

ZW: Some years back, certain products being sold as organic were actually found to be regular foods. How reliable is certification today?

ZZ: The new methods for managing certification

were a forced response – in the past, things were a bit of a mess. And now this is a sort of over-correction. But one clear benefit is flushing the fakes out of the market.

Of course, you can't say that there aren't any issues of trust around the certification system as a whole. There are still some tricky problems to solve. Certification depends on certifying bodies, and so there is the issue of checking the quality of certification itself. Also, the companies being certified may cheat – doing one thing while they are being certified, and another the rest of the time. So consumers can be sure what they're buying has been certified, but that doesn't mean it 100% meets organic standards. For that, you need to know how well it was certified and what supervision was like.

It's commonly accepted nowadays for certification staff to get a gift from the company being certified. That's not seen as a problem, particularly if the gift is the company's own product. Taking money is definitely against the rules, but we can't say it doesn't happen.

As for how bad things are, the levels of honesty in organic certification are about the same as in other areas of certification – it all happens within the same cultural environment, so they're unlikely to be

much better. If corruption in industry or regulation isn't solved, there's no use having any number of certification bodies. You can't just rely on tough [top-down] supervision, you need joint oversight by consumers and society.

Organic food accounts for much less than even 1% of the Chinese market. Compared with other foods, it is actually over-regulated.

ZW: How did organic food certification develop in China?

ZZ: The idea of “organic” food arrived in China in 1989. In 1990, overseas certification companies started working here. In 1994, the first Chinese certification body was formed, and certified its first product in 1995. The second was founded in 1999. Certification continued to expand until 2004, when it hit a peak, with over 30 certification bodies nationwide, certifying some 3.3 million hectares of farmland. Then the state intervened and that was cut down to 23 bodies, covering about 3 million hectares.

Between 1990 and 1998, certification was almost entirely for the export market. The domestic market only got going in 1999. But now, domestic sales of certified products far outstrip exports.

ZW: How did things change during that process?

ZZ: Originally, organic certification was overseen by the environmental authorities, which at the time meant the State Environmental Protection

Agency [the body which later became the Ministry of Environmental Protection]. In 2003, it was handed over to the certification authorities.

After a period of rapid growth in 2003 and 2004, national standards for organic food were put in place in 2005 and the state started to clean up the sector, reducing the number of certifying bodies and the area of land covered.

Organic food certification wasn't originally about

food safety – it was about developing ecological agriculture and protecting the environment. But once food safety emerged as an area of concern, “organic” came to be seen as some sort of saviour. I don't think it's right for organic agriculture to be the focus of the food safety agenda.

The facts show that too much emphasis on the importance of organic certification for food safety can mislead the consumers and have a negative effect. It can also warp the development of certification and cause rogue merchants to produce fake organic products.

ZW: What problems do you see with the way the government manages organic certification?

ZZ: Organic food accounts for much less than even 1% of the Chinese market. Compared with other foods, it is actually over-regulated.

You aren't allowed to use any pesticide or chemical fertiliser when growing organic food. That's a very high standard, but you can do tests for that, which means it's actually very easy to regulate. And as organic food is pricier than other products, consumers are more concerned – so organic food has actually become the focus of regulation. The certification administration has spent a lot of time on organic certification, and the traceability system for organic food we're running now is the most advanced in the world.


So they're regulating whatever is easy to regulate, and things are out of proportion. Genuine organic food needs to be provided by firms in response to market demand – the government should be neither pushing for unrealistic growth, nor controlling its development through excessive regulation.

While continuing to oversee production of

organic and green foods, regulatory efforts should focus more on normal foods. All foods should be safe, that's key. Organic foods should be an added extra, once safety of all food is assured. They shouldn't be the solution to the unsafe foods.

ZW: What would you like to see happen next?

ZZ: The government needs to take a range of measures and do a number of things if organic foods are to be a success. It needs to manage regulation, implementation and food-producers. It needs to promote knowledge of organic foods, allowing consumers to participate in the development and oversight of the organic food industry.

And besides certification, I'd like to see a system for building trust between responsible consumers and honest producers, encouraging local sourcing and consumption, reducing food miles, protecting the environment and saving resources. If that was done all over the country, you would have a large and nationwide system for safe food production and consumption. 

Zhou Wei is assistant editor at chinadialogue.

How can China's food producers rebuild public trust?

● Wu Chen

As the country's food industry struggles with a trust deficit, Wu Chen finds inspiration in the Pu'er hills.

China's food safety problems have triggered some inspiring attempts to innovate.

Small and medium-sized enterprises accounted for 99.8% of all food-processing firms in 2010. In media accounts, these firms buy up whatever raw

materials are available, and then process them under crude and unsafe conditions.

In 2008, I spent some time investigating the structure of the tea industry in Pu'er, Yunnan. I'd previously seen large tea processing plants with first-rate equipment. But when it came to safety of the product, it wasn't the hardware

that was the problem – it was a lack of procedures and poor management, and reliance on local farmers for the supply of tea leaves.

A friend suggested I visit a small tea processor up in the hills. I eventually found a tiny workshop at the end of a small road. The stilted wooden buildings were hung with

transparent sheets of plastic to keep dust off the drying tea leaves.

The workshop was clean and orderly.



Tea production in south-west China. Large-scale food producers only make up 0.2% of the industry, but account for 22% of the profits. Photo: Wu Chen



Left, a tea production workshop; right, leaves drying at the Pu'er tea processor visited by Wu Chen

Most impressive was the fact each worker had a small brick house in which to live with his or her family. Pigs were reared for meat, while chickens both provided eggs and ate pests in the plantation.

The 800 mu (53 hectare) plantation sells its entire crop from an unassuming stall at Kunming's tea market. It does no other marketing, and the prices are similar to ordinary tea leaves. They sell almost exclusively to regular customers, and through word of mouth.

The plantation was founded by a couple famous locally for their tea expertise, though the wife has now passed away and the husband is over 80-years-old. Their son told me that they had both worked with tea all their life and had a genuine love and understanding for it. They wanted to make China's best Pu'er tea.

Food needs to be made with care, not on a mass production line. Many companies would agree with this as a slogan, but it was only in this tiny Pu'er tea plantation that I saw the principle being put into practice.

Can consumers change markets online?

Both small food companies and the farmers and

agricultural cooperatives producing local products using natural methods tend to be in remote locations. This allows them to keep apart from the pollution and production-line farming of modern agriculture. But it makes getting their products to market costly.

Ninety-five percent of China's villages are now covered by one internet provider or another, and delivery companies reach the smallest county towns. This means small-scale producers can get involved in e-commerce – reaching consumers online and having delivery firms handle the logistics.


2,500 types of food are directly sold by producers on Taobao, China's equivalent of ebay, while 3,800 food firms sell via Taobao's business-to-consumer site Tmall.com.

Online merchants win consumer trust through transparency and interaction – the entire production process is visible and immediate feedback is provided to any questions. The merchants also need to engender a sense of familiarity, to sustain the trust which substitutes for the quality certification used by industrial producers.

It is hard for consumers to pick a trustworthy supplier from all the listings. Customers are mostly young, female white-collar workers, or young mothers

shopping for their children. Once they have settled on a supplier, either by trial and error, or by word of mouth, they spread the word. Customer numbers can rocket.

Companies and farmers willing to make changes and the customers willing to take a chance and seek out safe food deserve our respect. They are scattered throughout China's cities and villages, but are rebuilding public trust. And only in a trusting society can we get safe food.

I believe the internet is breaking down people's blind faith in authority and rebuilding social trust. Food safety is just a starting point. Consumers will build a basic understanding of rights online and create opportunities to unite. Consumers are not just seeking safe food for themselves and their children – they are creating the conditions for a trusting society. 

Wu Chen is deputy head and researcher at the Social Resources Institute





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