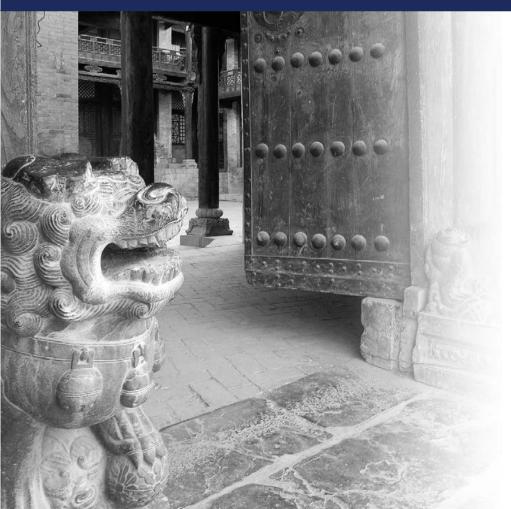
InterChina Insight



Food Safety In China: A Long Correction

By Frank Gibson | February 14, 2014



InterChina Consulting 英特华投资咨询有限公司

Beijing

Shanghai

Madrid

Strategy | M&A Advisory IMAP China IMAP www.InterChinaConsulting.com

© 2014 InterChina. All Rights Reserved.



Overview

China has been hit by what seems to be a never ending series of food safety scares. In just the last year there has been Clenbuterol in meat, Aflatoxin in dairy, dye in buns, antibiotics in chickens, and pigs in the river. That is mentioning just a handful of the horror stories which have become almost a daily feature of local media.

Consumers across China are demanding change. There is no issue of greater concern to Chinese mothers than the safety of the food she is purchasing for her family. Consequently there is enormous public pressure to modernize agricultural supply chains.

The Government is clearly committed to bringing about improvement. Processors and manufacturers generally do not want food safety problems and there does not appear to be any major issue with the availability of capital necessary to fund the modernization process. However we should not expect these problems to suddenly disappear.

The fundamental problem is that there is a huge gap to bridge. In the last twenty years the shopping experience of the Chinese consumer has become increasingly similar to that of her Western counterpart: a rapidly developing modern retail trade of international standards; a cornucopia of attractive branded food options; sophisticated packaging and marketing; and world class levels of service and convenience. However investment along the supply chain over this period has not been balanced. The food production end, farming, has largely remained dominated by peasant agriculture. agricultural Changes in production, improvements in productivity, have not kept pace with modernization in other areas.

With political commitment and sufficient investment the agricultural supply chains can and will modernize. However there are major hurdles to overcome. These include:

- 1. Limited modern farming capabilities, skills and culture (the "know how" or "soft ware" that is critical to modernization)
- Barriers to land consolidation (particularly the ambiguity and uncertainty around land use rights)
- 3. Decades of environmental neglect resulting in soil contamination and water pollution
- 4. Conflicting interests between central government and local authorities
- An evolving moral framework for local companies that can manage the tension between profit and social responsibility; and
- 6. Regulation and surveillance which has been rapidly improving but still playing 'catch up'

This focus of this article is on the first of these hurdles – the 'know how' or software - and with some specific reference to the dairy and poultry sectors. The theme is that while sufficient capital can facilitate agricultural intensification this does not necessarily result in modern standards of safety and quality. It is far easier to build the hardware than the software. Much of the knowledge and skill base which is fundamental to modern farming has been built up, in more developed agricultural economies, over multiple generations. Transferring this capability, or 'know how', to a less developed environment is difficult and time consuming.



The 'Sanlu (Not An) Incident'

In early September 2008 the Chinese and international media exploded with news of a food safety crisis. It was a moment that would become pivotal in the history of the modernization of agricultural supply chains in China.

The Sanlu Dairy Company was the largest Chinese manufacturer of infant formula and one of the most trusted brands in the country. The fact that the world's largest dairy processor, New Zealand's Fonterra held a 43 per cent stake, only added to the trust that consumers had in the Sanlu brand and products.

When the news first broke on the 'Sanlu Incident' it was initially believed that perhaps a few hundred babies may have been affected by a tainted batch of powder containing melamine. However the scale would widen into one of the most frightening food safety scandals China has ever experienced with nearly 300,000 babies affected and some eighty per cent of the Dairy industry experiencing contamination.

In reality this could hardly be called an "incident". Nor was it specifically about Sanlu or even really about melamine. It was a structural problem that reflected much deeper problems not only in dairy but across virtually all agricultural supply chains.

In the previous ten years the dairy industry had grown rapidly. From being worth less than two billion US dollars at the start of the decade it was worth more than twenty five billion by 2008. Lead by the meteoric ascendancy of two local giants, Mengniu and Yili, the front end of the industry (the processing, packaging, marketing, advertising and retail) was twenty first century. The back end however was medieval.

The increasing demand for raw milk was being met by peasant farmers who typically had no previous experience with dairy. Most of the incremental supply was coming from small plot mixed farmers who would add a cow as it provided a daily source of cash. At the time of the crisis less than 3 per cent of milk supply came from farms actually owned and operated by dairy processors. The increasing scale and fragmentation of the supply base resulted in the proliferation of intermediaries. These intermediaries were milk collectors and milk traders who collected and aggregated the milk from peasant farmers and then sold it to the dairy companies. It was reasonably well known that intermediaries, and some farmers, would add various substances to milk in order to pass dairy company quality tests. They would do this because milk quality was often poor. This was partly because local cow genetics were not great but more importantly because many peasant farmers lacked the knowledge to properly feed and care for their animals. Substances routinely added included preservatives, protein (usually from soy or ground animal parts), hydrogen peroxide, antibiotics and fat.

Melamine however was not added just to pass quality tests. It was added to enable the dilution of milk with water, hence increasing its volume, and the amount of income that could be earned. Melamine is an industrial chemical commonly used as a flame retardant or a binding agent to make cooking utensils and industrial coatings. It is rich in nitrogen and this registers as protein on routine tests which meant that heavily diluted milk would test as undiluted. Melamine contamination can also result in kidney damage in humans which in more extreme cases can be fatal.

The Government Gets Serious

There were some prosecutions in the aftermath and heavy penalties handed out to a few culpable individuals. However the Government knew that this was a structural problem that required a structural response. Protecting the livelihoods of peasant farmers had always been a pressing Government priority. However there was now a realization that the modernization of the supply chain must take precedence. Food safety was the greater threat to social stability.

Through 2009 new policy was introduced to improve standards and surveillance and to modernize the dairy supply chain. In particular there was increased pressure on dairy companies to integrate supply chains and to take more control over their own raw milk sourcing. In some major dairy



provinces peasant farmers were banned from milking their own cows. Instead they had to take them to milking stations or have them housed in supervised 'cow banks'. Peasant farmers were in fact being pushed out of the industry. The transition from medieval to modern had begun.

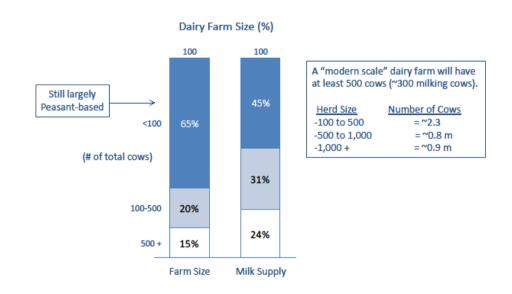
So in the five years that has passed since the 'Sanlu Incident' what has been achieved?

While the dairy herd has not increased in number, and in fact has likely marginally decreased, the quality of the herd has improved. In the aftermath of the melamine crisis many peasant farmers exited the industry and perhaps a million cows or more (out of a total herd of twelve million) were slaughtered.

Some of these have been replaced with stock with superior genetics out of Australia, New Zealand and Uruguay (the only countries from which dairy cattle can be imported). Live heifer imports from these countries increased from 15,000 in 2008 to 120,000 in 2012. However the supply from these countries is limited and expensive. The cost of an imported pregnant heifer landed on-farm is now approaching four thousand US dollars. There has also been much wider use of imported and higher quality semen which has also had an impact on genetic quality.

More importantly the number of cows resident in large scale modern farms has increased dramatically. Today possibly fifteen per cent of the China dairy herd resides on farms that house five hundred or more head (or what would generally be considered 'modern scale dairy farms'). Another twenty per cent can be found in establishments of one hundred cows or more. However this will include a number of 'cow banks', which are largely collection of peasant owned animals, which may not necessarily be 'modern farms' in any meaningful sense. Currently this thirty five per cent of farming establishments contributes something like fifty five percent of raw milk supply.

This is a remarkable achievement. Considering the number of cows involved this probably represents the most rapid modernization of a dairy herd that has ever been achieved in the history of dairy farming. However the fact remains that sixty five per cent of the cows are still on 'farms' that are largely peasant based. This demonstrates the challenge of creating a reliable modern food supply chain in China.



Source: Industry Sources



Building The Soft Ware

There are three basic things you need to modernize a dairy herd:

- Capital (to build farms, buy equipment, and fund operations)
- 2. Dairy cows (particularly healthy ones with good genetics), and
- Dairy 'know how' (how to look after cows and get milk out of them)

Finding money in China today is the easy part. There is no shortage of capital looking to invest in agricultural supply chain modernization in China. Getting good cows however can be a bit harder. Given the large investment needed to build scale modern farms you require animals that can provide the productivity, and cash flows, that can achieve the required returns. The local breeds struggle to do this. Imports from Australia and New Zealand have soared but these are limited. The New Zealand herd is about six million and the Australian herd only two million. However adult milking cows calve once a year and, particularly given the increased use of sexed semen, you can achieve good growth once the critical mass of an installed base is in place.

The real constraint is dairy 'know how'. How to look after cows, protect their health, keep them disease free, and get high volumes of good quality milk out of them. This requires a combination of skills and knowledge that takes time to acquire. In most dairy farming nations this capability is built up through generations of experience.

These factors clearly manifest in cow productivity. The best foreign invested farms in China are achieving cow productivity of up to 30 liters per day and some, a handful, as high as 35 liters. By comparison the average peasant farmer in China has struggled to achieve much over 12 liters.









While good progress is being made the modernization of the dairy supply chain is still going to take time. While this is taking place the demand for high quality safe milk will continue to run ahead of supply.

According to Rabobank data the average farm gate prices in late 2013 were around 60 US cents a liter. This is already well above average prices in New Zealand, Australia, the EU and the US. However in China an average farm gate price is not particularly useful. Milk price is a function of both local processor intensity (raw milk can only be transported a relatively short distance so the number of local customers greatly impacts demand), and the quality of the milk (particularly the fat and protein content).

Some of the best farms in China are today getting up to Rmb 5.5 per liter or about 90 US cents at farm gate. This is about the same price you would pay for a liter of packaged branded milk in a supermarket in Australia. This helps explain why 'Premium UHT milk' in China, such as Mengniu's Telunsu, can fetch a retail price approaching US\$4 a liter.



The demand for high quality safe milk in China is going to stay ahead of supply for a considerable period of time. When it will come into balance, particularly in the context of inevitable land and water constraints, is anyone's guess but it definitely will not be any time soon. This might not be great news for everyone but it is good news for farmers with international standards and capability. It is also good news for international dairy exporters who continue to benefit from this imbalance.

Is The Chicken Foul?

Poultry is another example of the time that it can take to truly modernize a supply chain. The poultry industrialization process started in the 1990's long before it had any traction in dairy. Part of the reason it started earlier is that there are easier production efficiency gains. A chicken is very low cost (compared to a cow or a pig) and has a very short production cycle (6-14 weeks for a white broiler).

The scale of the industry in China today is mind boggling. The average industry inventory includes more than 11 billion chickens and over 4 billion water fowl. Today poultry meat production in China is dominated by large fully integrated operations that include feed processing, hatching, bird raising and meat processing. Some of the larger operators process hundreds of millions of birds per year. These are massive operations employing hundreds of millions of dollars of capital and, in terms of hardware (facilities and the equipment), are as advanced as anything else in the world.

However events of the last year or so clearly demonstrate how far the industry still has to go in winning the trust of consumers. Early in 2013 there was a H7N9 bird flu scare which saw many Chinese consumers abstaining from eating chicken. KFC, the most successful fast food chain in China, was particularly hard hit. To add to their misery local media shortly after discovered that a number of its suppliers, supposedly some of the most reputable processors in China, were using illegal antibiotics and hormones. In a single month KFC sales fell by more than 40 per cent.

At a glance the poultry processing industry in China looks very impressive. From the perspective of scale,

capital employed, plant and equipment it can certainly match anything else on the planet. Nevertheless there are still areas of significant weakness. For example livability rates among the local processors tend to be much lower and disease rates much higher. Interestingly though health expenditure per bird is generally much higher than the international average. This is partly explained by very high rates of expenditure on antibiotics.

The basic problem again comes down to the software or the farming 'know how'. There are three main areas of concern:

- 1. Poor bio security
- 2. Poor hygiene practices
- 3. Poor health management

These three concerns span all the commercial animal supply chains in China. Improvements in these areas do not generally require the investment of huge amounts of capital. It is more often around education, awareness and the development of different behaviors and working cultures.

China farming is in the process of developing the necessary disciplines and standards to best protect against animal diseases. Basic practices around the use of disinfectants in wheel and foot baths, regular surface spraying, and the management of traffic between farms can have a huge impact on disease prevention (which in turn has a huge impact on productivity). However developing good bio security and hygiene disciplines is a process that takes time.

There are problems beyond prevention. Internationally the Animal Health market is dominated by top 10 Global pharmaceutical companies. For a number of reasons most of these international have a limited presence in China Animal Health today. These include regulatory hurdles, not necessarily having the right product for local disease strains, and the inability and/or unwillingness of peasant farmers to pay for products.

In the past ten years the Government has introduced compulsory immunization for a range of diseases. These include Foot and Mouth, Avian Flu (HPAI), Porcine Reproductive Respiratory Syndrome (HP-PRRS), and Swine Fever. These vaccines have



been produced under a government tender program by a large number of small local companies with limited experience in producing animal vaccines.

Animal Diseases in China

Pigs	Cattle	Poultry	Sheep & Goats	Fish
Foot and Mouth	Foot and Mouth	Avian Flu (HPA)	Clostridial Diseases	Furunculosis
HP-PRRS	Brucellosis	- H5	Pasteurellosis	Vibriosis
Swine Fever	Clostridial Diseases	- H9	Ovine Abortian	Aeromonus
Erysipelas	Leptospirosis	Newcastle Disease	Louping III	Edwardsiellosis
Parvovirus	Mastitis	Marek's Disease	Pustular Dermatistus	Hematopietuc Necrosis (IHN)
Colibacillosis	BVD	Avian Coccidiosis	Samonella	Salmon Pancrease Disease
Clostridial Diseases	PI3	Clostridial Disease	Toxoplasmosis	Bacteria Kidney Disease (BKD)
Anthrophic Rhinitus	IBR	Bursal Disease	Foot and Mouth	Haemorrhagic Septicaemia
Enteritus	BRSV	Avian Reovirus	Brucellosis	Moratella Vicosus
Leptospirosis		Egg Drop Syndrome		Enteric Red Mouth Disease
Pseudorabies		Infectious Bronchitis		RTFS
		Duck Plague (Enteritis)		Streptococciosus
		Ap Serositis		Columaris (saddleback) Disease
		Flavi Virus		

Source: Frank Gibson

Most of these companies come from a feed or veterinary products background and have entered the space in response to the Government tender opportunity.

The tenders are a province level process (although with a mix of Central and Provincial level funding), usually held twice a year, typically on the basis of 'lowest cost' wins. The Government tender system has undoubtedly been a major step forward in providing vaccines to peasant farmers who would otherwise be unable or unwillingly to purchase them.

However there have of course been some significant problems. The lowest cost vaccine is unlikely to ever be the highest quality vaccine. The Government is aware of these concerns and there have been recent moves to put in place an improved tendering process with broader criteria (including efficacy). There is no doubt that over time local vaccines will improve. In the interim however these diseases will continue to be a major problem for producers and a source of concern for consumers.

A Safer Future

The reality is that agricultural supply chains in China are modernizing. This is happening at a faster pace than modernizations which have occurred at other times and in other places. There is serious commitment from Government, vocal demand from consumers, and sufficient capital from investors to ensure the momentum is maintained. Nevertheless the imbalanced development of the past means there is a big correction to make and a lot of problems to address in the process.

This article has focused on just one of the hurdles that must be overcome. That it is the 'software', rather than the 'hardware', which is the more difficult challenge. Nevertheless this process of transformation will continue. What the final landscape will look like, given some of the unique features of this economy, such as the complexity of land use rights and the sheer numbers of peasant farmers, is difficult to predict. However what is clear is that the process will provide a lot of opportunities for foreign companies for a considerable period to come.

One obvious opportunity will be the ongoing demand for imported foods. The preference for



imported infant formula in particular has captured a lot of media attention in recent times but the trend has actually been across many categories. The chart below illustrates the incredible growth in food imports which has been experienced since 2008._

There are also opportunities for foreign companies that can bring the knowledge, capabilities and skills that are needed in and around the supply chains. This spans everything from breeding technology, nutritional science, disease prevention and control, testing and transportation protocols to modern processing and traceability.

It also provides opportunities for foreign companies with access to any of these valued resources (food, ingredients and capabilities) to build partnerships with powerful local players that will secure them sustainable positions in this strategically critical market for the long term.

There will never be a better time to explore these opportunities.



Note: Includes food and live animals used for food.

Source: InterChina



Contributed by Mr. Frank Gibson, **Independent Consultant**

FrankGib@gmail.com

Frank Gibson is an independent consultant who regularly collaborates with InterChina. He has been advising international companies on China business strategy for nearly twenty years. The majority of his work has been dealing with complex business problems across a mix of market entry, growth, product, and route-to-market issues. He has extensive experience in assisting multinationals acquire local operations and assets and has worked across many different sectors, but has particularly deep experience in food, beverage, and other FMCG.



InterChina Consulting

Specialist in China

InterChina is one of the leading advisory firms in China, and the number one alternative to the global consultancies and investment banks.

We were founded in 1994, and through our unique combination of capabilities, have delivered the highest quality of services to clients for nearly 20 years.

Our team of nearly 60 professionals has conducted over 500 strategy projects and closed more than 160 transactions, with an aggregate value of USD 6 billion.

Multinational and Chinese clients choose to work with us because we provide real understanding, deliver practical results, and know how to get things done.

Strategy Consulting

We work with clients to capitalize on top line growth opportunities while also addressing long-term profit protection.

Our practice of 25 consultants is organized around sector specializations with substantial project experience.

We pride ourselves on being practical, developing real understanding through fieldwork, and delivering workable results to an actionable level.

M&A Advisory

We provide full cross border M&A advisory services to multinationals expanding in China, Chinese companies investing overseas, and on strategic divestments.

Our practice of 25 advisors is comprised of senior Chinese negotiators with strong corporate development, investment banking, private equity and Big Four backgrounds.

We conduct ~40 mandates each year, providing clients with transparency and control from start to finish

InterChina is also the exclusive China partner of IMAP, the oldest and largest global organization of independent mid-market M&A advisors.

Contact Us

We have two operations offices in China (Beijing and Shanghai) supported by one liaison office in Madrid.

For further information, please visit our website at www.InterChinaConsulting.com