

**Keith Woodford and Xiaomeng (Sharon) Lucock**

# New Zealand's agri-food opportunities in China



*China has become New Zealand's most important destination for food and fibre exports. In the year ending 30 June 2012, total exports from New Zealand to China were worth \$6.1 billion, of which food and fibre exports were worth \$4.9 billion. This was a three-fold increase in only five years.*

A main feature of these exports is that they have been mainly commodity-based. Although it is possible to find New Zealand branded food products in some supermarkets, the overall effect at the consumer level remains low.

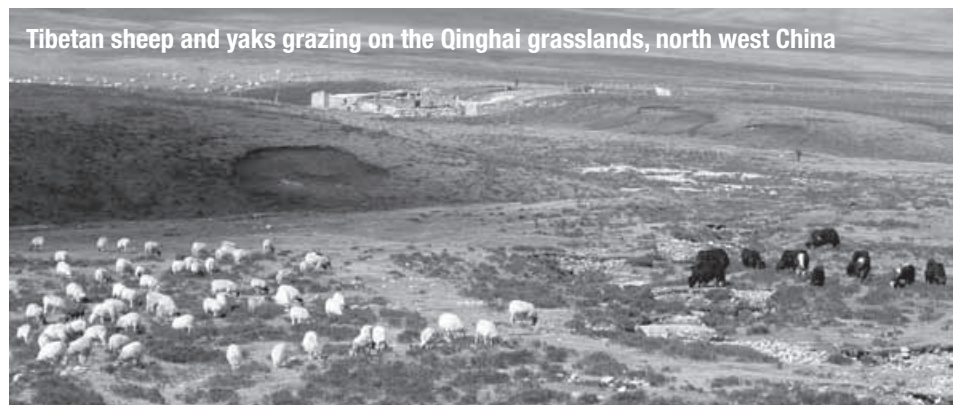
Despite its obvious importance, China remains a country which is poorly understood in New Zealand. This is particularly the case in relation to agri-food opportunities. In this article we set out what we consider to be the major forces which will shape the future opportunities. In subsequent articles in this journal, we will focus more specifically on opportunities and challenges for the dairy, meat and horticulture industries. The main reasons behind the opportunity are increasing wealth, urbanisation, changing cuisine, food safety, local agricultural production constraints, and associated food security issues.

## **Increasing wealth**

China has been increasing its inflation-adjusted GDP at close to 10 per cent a year for more than 30 years. In that time, per capita incomes have increased about 10-fold. Currently, there is a middle class of 200 to 300 million people, and for them incomes have been increasing even faster. Indicative of this rising middle class, with its increasing discretionary expenditures, is that around 70 million Chinese travelled internationally in 2011, excluding visits to Hong Kong and Macau.

## **Urbanisation**

Urbanisation is increasing rapidly. Each year some 15 million people move to the cities – about one per cent of the total population. This is like a new city roughly the size of Timaru or New Plymouth being created every day, a new city the size of



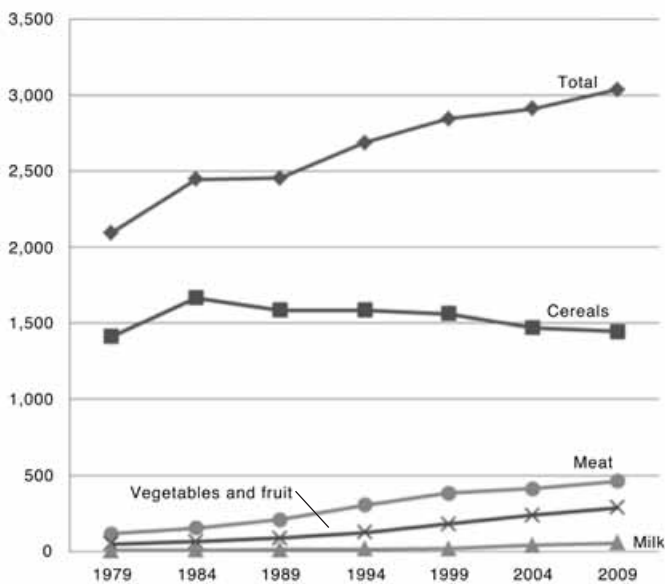
Tibetan sheep and yaks grazing on the Qinghai grasslands, north west China

Christchurch every week, or a new city the size of Auckland every month. However, Chinese cities are generally much bigger than New Zealand ones, with more than 150 Chinese cities having a population greater than a million people. Currently about 700 million people live in Chinese cities. Although the total Chinese population is within about 10 years of reaching stability, where births and deaths will be in balance, there are probably another 500 million or so Chinese who will move to the cities from the countryside over the next 30 years.

### Changing cuisine

Chinese food consumption has moved from predominantly wheat and rice-based in the north, and rice-based elsewhere, to a more diverse diet including increasing meat, fruit, vegetables and alcoholic beverages. Although total per capita availability of dietary calories consumed and wasted, increased 50 per cent between 1979 and 2009, the consumption of cereals, including waste, declined from about 1984.

Kilocalories



Food consumption per capita in China 1979-2009

During this 30-year period from 1979, fruit and vegetable consumption increased by 72 per cent and meat consumption by a factor of 4.6. Dairy consumption is still only a very minor component of diets, despite increasing between 1979 and 2009 by a factor of nine. Alcohol consumption increased during this period by a factor of 15, and was still increasing rapidly at the end of this period. Over the 30-year period, the dominant alcoholic beverage changed from rice wine to beer.

### Different purchase patterns

Urban Chinese tend to eat away from home a great deal. Noodle-based dishes and soups costing about 50 cents are available from street-side eateries. Western-style restaurants such as McDonalds, Kentucky Fried Chicken, and Starbucks

are ubiquitous in both major and minor cities. The clientele of western restaurants is mainly the younger generation, with older people preferring traditional Chinese food.

The young middle class Chinese who live in cities are very status conscious. There is prestige associated with being seen to have a modern lifestyle, which can include having nice clothes and foreign food. It is a very materialistic society. Food and culture are closely intertwined in China. However the Chinese have always been open to new foods, much more so than, for example, the Japanese. The Chinese way has always been to absorb new cuisine and build it into the local culture.

Increasingly, Chinese consumers buy products on line. The internet is everywhere, even in the countryside. With products such as infant formula, about a third of purchases may already be on line. We have friends who buy their fresh fruit and vegetables on line, with these being delivered to their apartments.

When buying branded products on line, Chinese consumers search the internet to make sure that exactly the same brand with the same packing is sold in the country of origin. However, counterfeiting is widespread, and we have ourselves seen Chinese kiwifruit being sold as Zespri kiwifruit in a major Beijing supermarket.



Fake Zespri branding on local Chinese kiwifruit in Beijing supermarket

### Food safety

Food safety is a very big concern in China. Quite simply, the Chinese do not trust their own food supply systems and at times with good reason. The most outstanding recent example was the 2008 melamine in milk formula scandal which has been widely reported as affecting 300,000 babies.

Although Fonterra's Chinese partner San Lu was at the centre of this, in fact nearly all the major Chinese dairy



companies were implicated to varying extents. Within the country the melamine scandal is very much seen as a Chinese problem, and New Zealand's reputation has not suffered at all.

The problem was that supply chains from peasant farmers to village collectors to larger collectors were too long, and there were lots of opportunities along the way for adding nitrogen-based melamine to raise the apparent protein content. However, there are many other problems, some real and others possibly just perception, which are far more ubiquitous, many of them related to the polluted



**Modern Chinese dairying at Fonterra's Yutian1 farm, Hebei Province**

**Intensive rice production in the hills of south China**



environment and associated contaminants.

The Chinese are attempting to deal with some of these problems by insisting on larger scale operations and shorter supply chains. In the case of dairy, this means a minimum-sized milk processing plant of 20,000 litres a day. The Chinese government is also encouraging industrial-scale production units. In the case of dairy this is usually farms of 3,000 to 5,000 cows.

We visited one milk processing plant in western China where the owners plan to reduce the number of supplying farmers from 15,000 to a mere 10 suppliers, with each farm having thousands of cows. Similarly, we are aware of pig farms of up to 500,000 sows and more than 10 million pigs produced each year.

## **Agricultural production**

China has 21 per cent of the world's population but only seven per cent of the arable resources. Currently there are 20 million hectares of cultivated land, which is less than 0.1 hectare per person. China has a redline policy to ensure that the level of cultivated land does not drop below this figure.

There is considerable concern in China about water sustainability. In particular, it is widely known that water is being drawn from the north China aquifer at unsustainable levels. The Chinese are now taking environmental concerns very seriously, and livestock have been removed from large tracts of the grasslands.

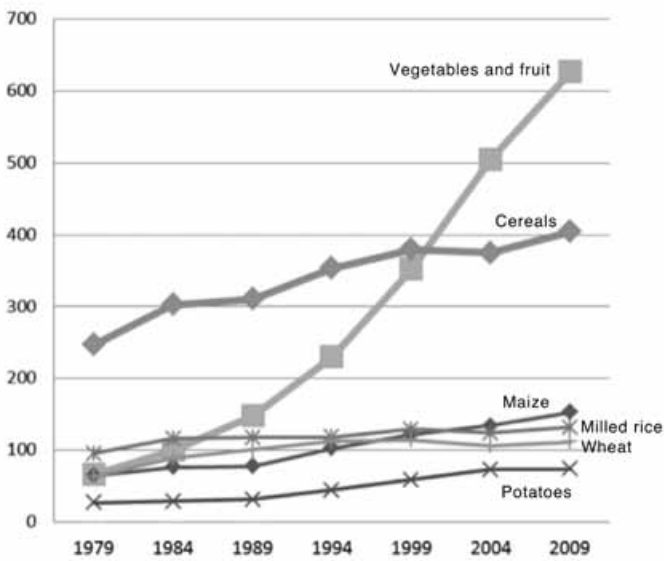
An even greater constraint to agricultural production may relate to the apparent impossibility of mechanising the steep lands on which tiny rice terraces have been constructed. With increasing labour costs, farming this land is becoming uneconomic. Currently, about 30 per cent of China's rice is

produced on these steep terraces.

Despite these problems, production increases over the last 30 years have been significant, usually driven by increasing yields. Although there have been many media reports in the west suggesting global food production is plateauing, there is nothing to support this in the figures of the international FAOSTAT database, either for the world or for China. In China, total cereal production – primarily rice, wheat, and maize – which was destined for both human and animal consumption increased in the most recent 10-year period through to 2010 by 22 per cent.

### Food security

Million tonnes



Plant based domestic food supply in China 1979-2009

The challenge for food security in China is widely misunderstood. China will never have any great difficulty in providing the plant-based foods, such as cereals, vegetables and fruit, which its population requires. This is because it has solved its population problem to the extent that it is now moving back towards a two-child policy. Couples who are themselves the children of one-child families are already able to have two children, although many choose not to. Accordingly, the global food security problem for basic foods is a problem for other parts of Asia, and also for Africa, but not for China.

However, China’s problem is that rising incomes and changing cuisine have greatly increased the demand for animal-based products. Although the animal-based production increases have been remarkable, this has only been achieved in recent years by enormous purchases of soybeans and maize. Our Chinese colleagues advise that soy bean imports rose to 57 million tonnes in 2011 and that maize also increased markedly to about 11 million tonnes.

Before about the year 2000, China was a major exporter of maize. The imported crops are mainly used to feed pigs, but also for large-scale dairying. The feed is sourced mainly from Brazil and the United States. To put those numbers

in perspective, total Australian cereal production is usually about 35 million tonnes a year. In New Zealand, in most years, our total cereal production of wheat, barley and maize is less than a million tonnes.

Million tonnes

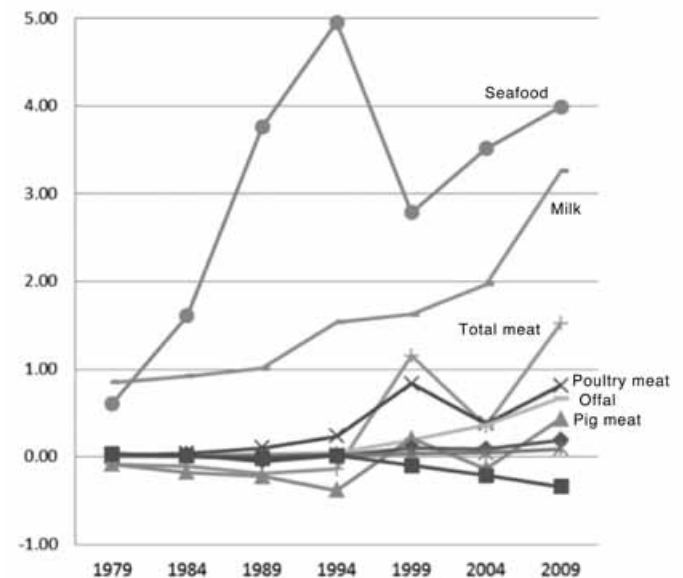


Meat and milk production in China 1980-2010

### Major importer

China has also become a major importer of animal-based and fish products. Seafood is particularly important, with net imports of four million tonnes in 2009. Milk powder imports approaching 500,000 tonnes, recorded as fresh milk equivalents in the statistics, are important to New Zealand which is the major source, but of comparatively minor importance to China relative to its expenditure on fish and feed.

Million tonnes



Net imports of animal and fish products in China 1978-2009





Typical Chinese supermarket

However, when converted to liquid form, these milk powder imports equate to about 15 per cent of total Chinese milk consumption. Imports of New Zealand sheep meat, despite increasing rapidly to more than 100,000 tonnes of lower priced cuts in 2011, are of minor significance relative both to total meat consumption and to the feed and fish imports.

### The opportunities

The key determinant of the opportunities for New Zealand agri-food in China will be the extent to which it continues to experience economic growth. As long as it continues to grow, and this can still be considerably slower than historical growth rates, then there will be increasing demand from Chinese consumers for safe food products. Even if China solves its food safety problems, then some consumers will remain suspicious for a long time.

In addition, there will still be prestige associated with foreign brands. New Zealand holds a very favourable position among Chinese. They perceive this country as being a place of pure natural beauty without pollution. This perception provides a powerful marketing platform, but it is only a platform. The big question for New Zealand, therefore, is how to directly access consumers and thereby capture the

potential value-added premiums.

There are challenges in getting this country's products into the thousands of supermarkets, but the increasing tendency of Chinese to buy on line opens up new opportunities. The notion of an 'NZ Inc' coordinated approach to marketing branded New Zealand food on line, guaranteeing the provenance of the products and direct delivery to purchasers in their apartments, could be a powerful development.

The logistical elements of all of this are already in place, but the system and the associated NZ Inc commitment to make it happen are not. If New Zealand cannot make the NZ Inc approach work, then there will still be benefits from the sale of animal-based commodities, but that would seem a second best option.

**Graphs in this article were supplied by FAOSTAT**

*Keith Woodford is Professor of Farm Management and Agribusiness at Lincoln University. He has been visiting China periodically since 1973. Xiaomeng (Sharon) Lucock is a Lecturer in Agribusiness Management at Lincoln University. Sharon was born in China and moved to New Zealand in 2002. Her first degree was from the China Agricultural University in Beijing.*