

Food Security in China

Exploring the sustainability challenges

Executive summary



Rebecca Maclean
Analyst, Responsible
Investment

As with numerous sectors, gauging the behaviour of the Chinese consumer is essential if we are to fully understand global food production and food retail markets. Within China, the food and agricultural sectors face material environmental and social risks. These include water scarcity, soil pollution and issues surrounding food safety. Responsible Investment Analyst Rebecca Maclean visited four provinces in China to explore what is changing in the food value chain and learn how the country is responding to its sustainability challenges. This report outlines the key environmental, social and governance (ESG) findings from the trip and highlights the implications for responsible investors. In addition, the report outlines examples of ESG integration across Standard Life Investments' teams.

Background

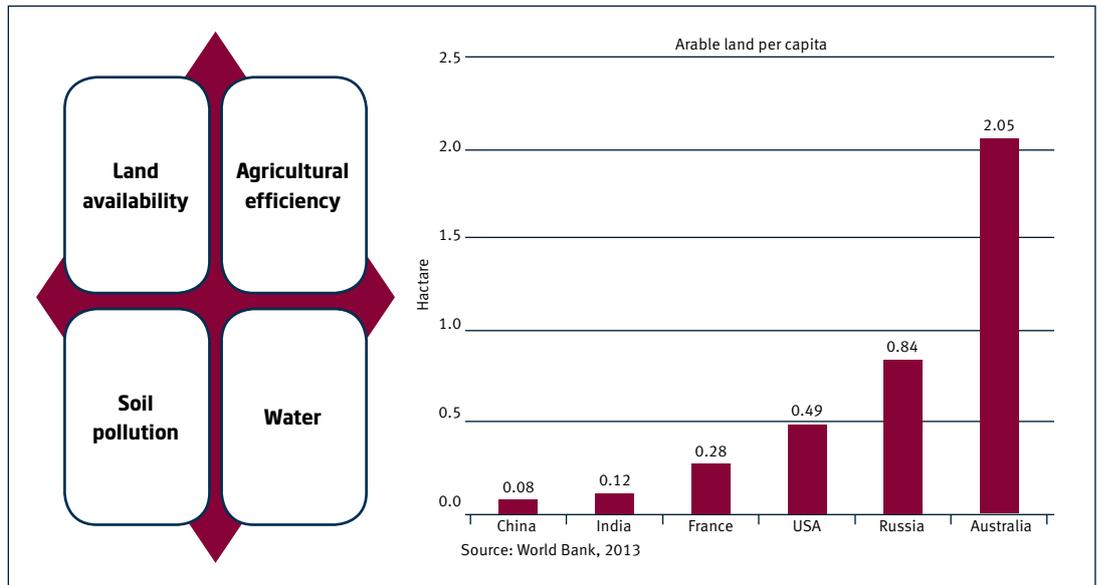
In September 2015, Rebecca participated in an investor food and agriculture tour of China organised by CLSA, a well-known Hong-Kong investor research agency. At Standard Life Investments, the Chinese food and agriculture market is of interest to investment teams across the company. The responsible investment team focuses on the environmental and social trends emerging in the region, including water scarcity, food safety standards and pollution prevention. In addition to these themes, Rebecca and her colleagues consulted with analysts and portfolio managers across Standard Life Investments to understand the important questions relating to food production and sales in China for our investment teams.

On the tour, Rebecca met companies, government officials, farmers and specialist experts to discuss the key financial and ESG trends within the sector. Following these meetings, she presented her findings to analysts and portfolio managers across Standard Life Investments' equity, credit and multi-asset teams. A comprehensive note and presentation were published on an internal research platform. This details the key ESG findings from the report and includes examples of how investment directors across asset classes are using the research in their investment decision-making process.

Introduction

Food security is a priority for all nations; however, China, with its huge and growing population, faces a particular challenge. Not only does the country need to lift domestic food safety standards, but it must also ensure that food is produced and processed in a way that protects the environment for the long term.

China has 20% of the world's population, but only 8% of arable land and 7% of freshwater resources. There is limited arable land available in China, with only 0.08 hectares per capita versus 0.49 hectares in the US (see below). Not only does the country lack sufficient arable land, but soil pollution and water availability (or lack thereof) present further hurdles. The Ministry of Environment has reported that one-fifth of agricultural land is polluted with heavy metals.



Three key ESG insights

We participated in an investor tour of China to investigate the sustainability challenges present throughout the country's food value chain. We met a range of participants, from seed producers to agricultural equipment companies, dairy farmers, meat processing firms and food retailers.

There are three key ESG insights from the trip.

1. Food safety remains a key concern

According to a Ministry of Environmental Protection survey, 87% of respondents were 'highly concerned' about drinking water and food in China.* Consumer confidence in domestic food products has been affected by high-profile food scandals surrounding infant milk formula, meat, and fruit & vegetables.

In 2008 for example, it was reported that infant milk was being adulterated in China with melamine to give the appearance of higher protein content. The milk caused protein deficiency and several infant fatalities, sparking public anxiety. Following this controversy, public confidence in domestic dairy products fell and demand for imported milk and infant milk powder accelerated.

In 2013, it was widely reported that thousands of dead pigs were found floating in a river outside Shanghai. The river was a source of municipal water to the city and the pigs allegedly carried the circovirus. The incident raised concerns about animal husbandry in China.

Worries about food safety persist. We heard from an industry insider that consumers are concerned about the speed at which chickens are reared by large poultry producers. An executive from a dairy training centre highlighted that more testing is needed in the dairy industry and that antibiotic use needs to be controlled.

On 1 October 2015, China implemented a new food safety law. It includes requirements for infant milk formula and regulation for health foods. Importantly, this regulation points to more stringent criminal and civil penalties for individuals found to be adulterating or serving unsafe food.

We spoke to a food safety official in Shandong province about the increasing level of enforcement of food safety standards. We expect the trend of raising these standards to continue in China, driven by consumer demand and regulation.

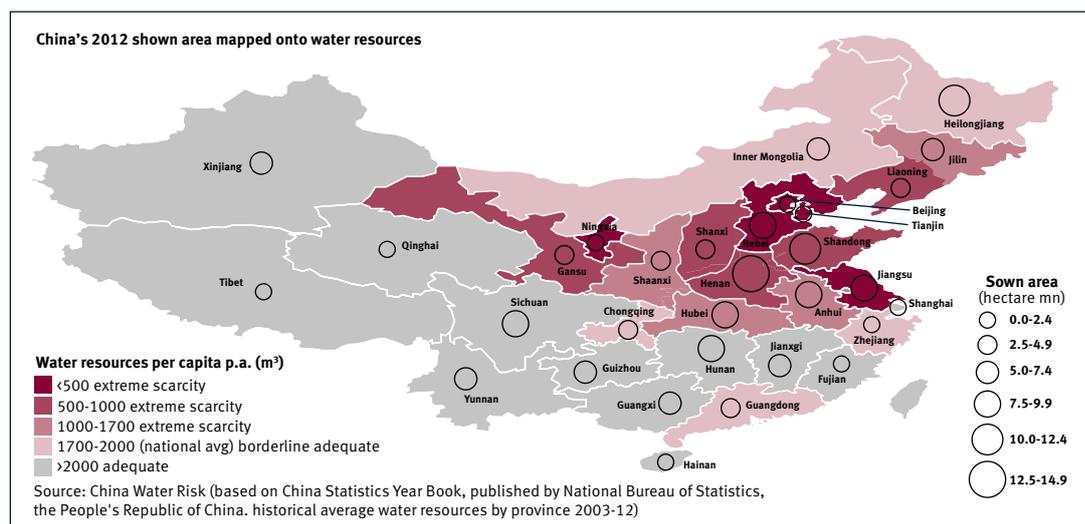
Standard Life Investments will continue to review food traceability innovations being developed by food companies operating in China. It is our view that best-practice food companies are raising standards across their industries by working with farmers and suppliers to educate on safety, quality and sustainability.

*National Ecological Civilization Awareness Survey published by the Ministry of Environmental Protection (MEP), Feb 2014

2. Water is already a scarce resource in certain regions

Agriculture accounts for 63% of China's water use and 50% of water pollution. The country has regions of high water scarcity (less than 1,000 cubic metres of water per capita) in the coastal provinces of Hebei, Beijing, Tianjin, Jiangsu and Shandong. 34% of the total sown area is located in water-scarce provinces.

We visited farmers in Shandong, which receives water from the South-North water diversion project, to discuss water availability. This US\$60 billion diversion project will eventually transport an annual 44.8 billion cubic metres of water from central China to the North China plain. We spoke to farmers about the cost of water for domestic and agricultural use. Following these discussions, it is our view that the price of water in some high water risk regions does not reflect its value and therefore fails to promote sustainable use. There is a risk that the cost of water will increase for industry and households as a result. We intend to monitor this development and consider the implications for industry players.



3. Action is needed to reduce soil degradation and clean up soil pollution

It has been estimated* that it would cost China US\$1.1 trillion (Rmb7 trillion) to clean up soil pollution, which is driven by heavy industry and urbanisation. In addition, excessive and inappropriate use of fertilisers on agricultural land has led to soil degradation. To compound the issue, the country has historically had a problem with fake fertilisers.

So what is being done to improve soil quality? The government issued guidance in its Water Pollution Prevention Plan and included a target for zero growth of fertiliser use by 2020. We expect details of further action to be included in the Soil Pollution Prevention Plan, to be released in 2016. Agricultural sustainability will be enhanced as farms become larger and farmers move towards sustainable practices. Land consolidation in China is driven by urbanisation, changes to land use rights and machinery subsidies. This and government policy should lead to improved agricultural efficiency and an increase in the use of low toxicity fertilisers.

The difference between small and scaled farming?

- ▶ **According to a fertiliser distributor in Shandong province,** it is easier to educate scaled farmers of the efficient use of fertilisers.
- ▶ **Agriculture machinery cooperatives** have better purchasing power.
- ▶ **Large farmers** are more likely to buy branded, low toxicity, slow release fertilisers direct from the manufacturer.

*Professor Lan Hong, Renmin University's School of Environment and Natural Resources, as quoted in the Financial Times, 1 September 2015

How do we incorporate this research?



Alistair Way

Head of Global
Emerging Markets

In many emerging markets, rising internet penetration and use of social networking is empowering consumers by giving them much greater access to information. We are noticing that this is translating into far more informed choices about food safety and product sourcing, forcing domestic brands to improve quality or be left behind. Therefore, it is vital that we to have confidence in the ESG credentials of the companies in which we invest, and have regular engagement to ensure that the required improvements are being made.



Alex Wolf

Emerging Markets
Economist

Understanding the complexities around ESG challenges is crucial for investing in China. For the foreseeable future, environmental concerns will be a constraint on growth but, significantly, will present investment opportunities as well. While air pollution often receives the most headlines, our view is that China's ongoing water and soil crises will prove to be their most serious environmental problems over the long-run. Insight into how these problems can be tackled and which companies are best positioned to provide solutions opens up new thematic investment opportunities.



Mikhail Zverev

Head of Global
Equities

Food safety and sustainability throughout the agricultural value chain is critical to the prospects of Chinese food industry players. We are investors in China Mengniu - the country's leading dairy products manufacturer - in our global emerging markets and global equities funds. The company had been affected by food safety incidents in the past and suffered business and reputational damage as a result. However, we are positive on the measures China Mengniu has implemented to control quality in its supply chain, including drawing on its partnerships with leading western dairy makers like Danone and Arla, as well as China's state-owned enterprises. Analysing broader policy measures and researching the reality on the ground in China from a responsible investment perspective gives us deeper understanding of, and greater conviction in, our investment case.



Frances Hudson

Investment Director,
Global Thematic
Strategist

As a thematic strategist, the additional grass roots insight that the responsible investment team provided both before and after the tour was useful in adding detail to my broader thinking on agriculture and commodity themes, as well as on China's progress in general.

What does this mean for investors?

Overall, the trip highlighted the sustainability issues that challenge China's aim to achieve food self-sufficiency. Whether or not public perceptions are grounded in facts, there is no denying that consumer confidence in domestically produced food has been low. Images of dead pigs floating in rivers outside cities are powerful. That said, the Chinese government has set out a range of measures to improve agricultural efficiency and domestic food safety standards. These policies are designed to give a boost to domestic food producers, as well as help clean up environmental pollution.

So what does this mean for investors? Chinese consumers and regulators are demanding higher sustainability standards from players in the food value chain. This has consequences for a range of sectors. For example, domestic food producers that are promoting industry standards will be supported by government policy, including the new food safety law. Meanwhile, international food corporations are able to harness consumers' demand for brands perceived to be 'safe'. They therefore need to work hard to protect this brand value.

Land consolidation continues in China, leading to agricultural efficiency. Scaled farms are more likely to buy branded, less toxic agricultural chemicals and have higher levels of mechanisation. Further, large farms are more likely to invest in water efficiency technologies. We will continue to monitor this trend since it has implications for chemical and machinery companies.

Finally, we believe there are opportunities for agricultural suppliers. Food companies that offer innovations around food traceability give the consumer more information about products and are therefore well placed to raise consumer confidence. E-commerce gives the consumer access to imported foods and can help cut down the number of intermediaries between the farm and consumer.

Responsible investment team



Amanda Young
Head of Responsible
Investment



Alix Chosson
Analyst, Responsible
Investment



Rebecca Maclean
Analyst, Responsible
Investment



Andrew Mason
Analyst, Responsible
Investment



Katharina Lindmeier
Graduate, Responsible
Investment

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