

## China briefings Focus on livestock



Photo:  
Livestock market  
in Kashgar,  
Xinjiang

Dmitry P  
via Flickr

### Summary

The far-reaching and rapid changes underway in China's livestock sector encapsulate the changes taking place more widely within the Chinese food system. The livestock sector has rapidly become a major contributor to the agricultural economy while the increasing availability and affordability of animal products has improved people's nutritional status and enhanced their enjoyment and wellbeing. At the same time, continuing growth in the livestock sector is causing environmental damage, creating new public health problems and posing growing animal welfare challenges.

The Chinese livestock sector accounts for nearly a third of the agricultural economy by value and is an important employer. However, livestock farming is also a major source of water and soil pollution, and contributes to a growing proportion of agricultural GHG emissions. Rapid growth in meat consumption has also been linked with the rising prevalence

of obesity and non-communicable diseases. The key policy trend shaping the future of the sector today is the Government's explicit support for scaling up and modernisation across the sector. This has implications for animal welfare too, an area that has not hitherto attracted much attention in China.

#### CHINA BRIEFINGS OVERVIEW OF CHANGES AND DRIVERS IN CHINA'S FOOD SYSTEM

May 2015

Written by Huw Pohlner based on Garnett, T. and Wilkes, A. (2014) *Appetite for change: Social, economic and environmental transformations in China's food system*.

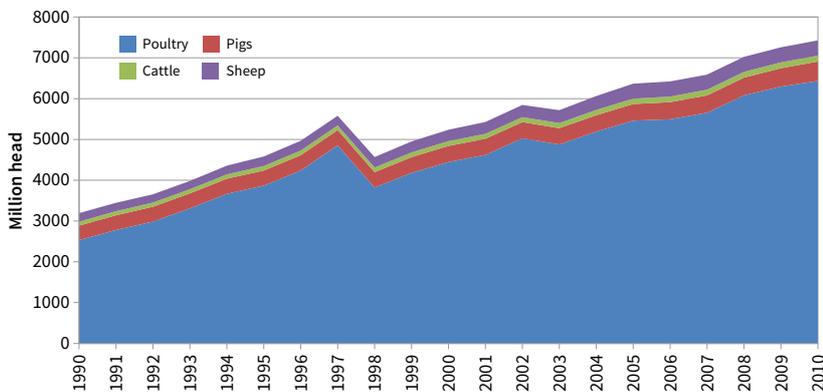
With thanks to the authors for additional comments and corrections.

# Growth in the livestock sector

- Rapid growth in livestock has been accompanied by a shift towards larger-scale, more commercialised production.
- Pork output continues to dominate production, but it experienced less rapid growth than the poultry industry during the 2000s; this is in line with government policies to support 'grain saving' animals that are more efficient in converting feed than pigs, and is in keeping with international trends – globally, the poultry sector is growing faster than any other livestock sector.
- Imported genetics, mostly owned and controlled by international firms, have been a significant enabler of intensification in China's livestock sector, and China is now a major buyer in the global trade in genetic material.
- Livestock account for a considerable proportion of China's agricultural GHG emissions. Direct emissions are estimated at 6% of China's total emissions. In addition, around 10–15% of China's cropland emissions are driven by feed demand.

The sector has grown by an average of 5.9% a year for the past 30 years (Figure 29).

**Figure 29: Growth in livestock numbers, 1990-2010**



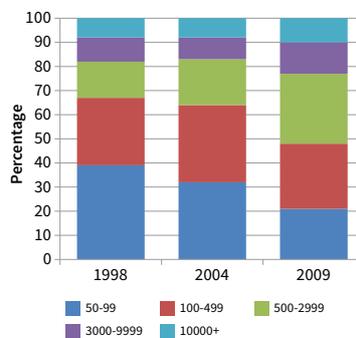
Source: National Statistical Bureau. (2012). China Statistical Yearbook 2012. Beijing: China Statistical Press.

[For a more detailed discussion, see the original report here.](#)

## Structure of production

- Scaling up in livestock production has been achieved through geographical concentration and increasing vertical integration along the supply chain.

**Figure 30: Change in composition of pig producing enterprises by scale (head per enterprise), 1998-2009**



Source: Shen Y and Wu J. (2011). Analysis of development trends and drivers in scale pork production in China. China Journal of Animal Husbandry, (47)22: 49-52, 70.

[For a more detailed discussion, see the original report here.](#)

Large-scale hog units (over 500 pigs) accounted for 52% of China's pork output in 2011. This was an increase from 33% in 1998 (Figure 30). 80% of poultry is produced in industrialised systems.

# Processing

- 21,000 slaughter plants were registered in China in 2012 – 90% of these were small businesses.
- Mechanisation in processing is still limited: in 2010, 35% of processors slaughtered pigs by hand and only 20% were fully mechanised.
- Modernisation of slaughtering processes will be supported by further consolidation of the sector over coming years and by the enforcement of new slaughtering regulations.

One study predicts that 70% of slaughtering will be mechanised by 2020 and a further 25% partially mechanised.

# Policy influences

- Table 10 provides a summary of selected government policies to support growth and scaling up in the livestock sector; these include government grants to local governments for investments, individual grants and subsidies to larger farms and production zones, and income tax waivers.
- These policies are motivated by the perception that larger-scale enterprises are more productive, able to benefit from economies of scale, better at managing food safety and zoonotic risks, and possibly more environmentally efficient. The evidence supporting these assumptions is scanty and inconclusive.
- Some policy support is still provided for backyard producers in the form of subsidies for raising breeding animals.

**Table 10: Selected central government funding support to livestock producers**

Year	Sector	Amount	Eligible activities
2012	Pork	3500 million RMB	Large-scale pig production infrastructure, importing breeds, and waste treatment facilities
2012	Pork, beef	1200 million RMB	Purchase of breeding animals or semen by eligible breeding farms
2007-2010	Pork	2500 million RMB	Infrastructure, waste treatment facilities etc. in standardized pork farmers (zones)
2009	Dairy	500 million RMB	Infrastructure, waste treatment facilities etc. in standardized dairy farms (zones)
2010	Beef, mutton	100 million RMB	Infrastructure, waste treatment facilities etc. in standardized beef and mutton farms in western China

Source: various reports from Ministry of Agriculture website.

**For a more detailed discussion, see the original report here.**

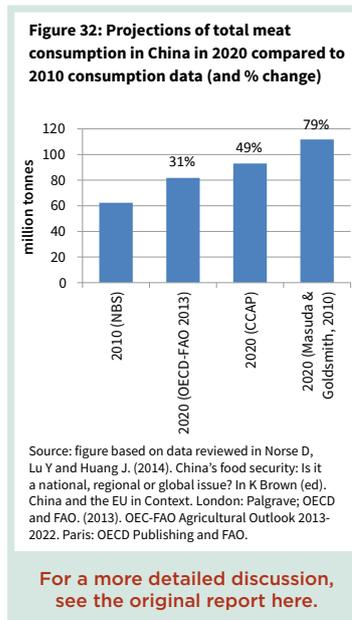
# Trade

- The vast majority of China’s pork meat and poultry products are produced domestically, and exports from China are minimal.
- Beef is the main exception to this general self-sufficiency, with imports of high-end products filling the gap created by high input costs, disease risks and long production cycles in China.
- While China is considered generally self-sufficient in meat, it is in fact heavily dependent on feed imports from abroad (mostly soy and maize).
- Analyses concur that ongoing trade restrictions and strong domestic demand in China mean China’s net trade in meat is not likely to change significantly in the foreseeable future.

In the 1990s soy imports into China were negligible; by 2012 imports accounted for 80% of China’s soy consumption and 63% of global soy trade.

# Consumption

- While present growth in demand for meat is clear, a larger question is when this demand will peak; Figure 32 summarises a diverse set of projections based on different datasets and modelling assumptions.
- Excessive consumption of meat among part of the population (alongside sedentary lifestyles and consumption of other foods such as sugar, processed foods and vegetable oils) is linked to growing problems of obesity and associated chronic diseases (see '[Health transformations: nutrition and diet](#)').



# Animal welfare

- Animal welfare has historically not received much attention within China.
- The welfare of farm animals in China is highly variable and largely dependent on the system being operated, the match between the breed used and the feed given, and the quality of management:
  - **Pastoral systems** can be prone to land degradation, leading to insufficient feed for livestock; access to veterinary knowledge and medicines may also be limited;
  - **Backyard production** can be vulnerable to health and disease control issues because of a lack of veterinary services or money with which to procure them;
  - **Small to medium family farms** show the largest variation in welfare, buildings and equipment and can experience issues similar to both backyard production and large-scale farms; and,
  - **Large-scale or intensive farms** experience welfare challenges relating to space restrictions and mutilations (beak trimming / tail docking), with mortality also an issue due to the high numbers of animals.
- Four main sets of welfare problems currently dominate the livestock sector and are likely to continue to do so as it develops:
  - The pace of growth in the sector is currently outstripping the availability of veterinary services;
  - There is often a mismatch between the genetics of the farm animal and the environment provided, with high-productivity Western breeds being raised on inappropriate feeds;
  - The shift towards large-scale, confined systems means that cages, sow crates, farrowing crates and high stocking densities are increasingly common; and,

Legal experts developed a draft Animal Welfare Law in 2009 but there is no indication of what the next steps for this might be.

- Consumer preferences for fresh rather than frozen meat will continue to encourage live transport to markets where housing facilities and slaughter methods are less easy to control.
- Explicit policy activity on animal welfare is embryonic and government support for scaling up and modernisation in the sector continues to be the key policy influencing welfare, if only indirectly.
- In the absence of legislation, 'General Principles of Animal Welfare Assessment', largely targeted at treatment and assessment of livestock, are due to come into effect in the future.
- Individual large-scale processors have taken active steps to improve welfare conditions at slaughter.
  - Motivations for this may include export intentions, plans to enter domestic value chains with higher requirements (e.g. organic), or consideration of possible future changes in public opinion.
- Influences on the evolution of the welfare agenda in China may include: food safety concerns (if the links between food safety and welfare are seen as compatible with profitability by the sector); development of supply chains (especially those involving overseas companies); and, public opinion and NGO activity.

## Policy implications

- 1 Government support for scaling up and consolidation will likely continue to be the most important driver of systemic change within the livestock sector in China in coming years.
- 2 The range of projections for future meat demand and technological change within the sector creates uncertainties around future feed demand and import requirements for soy and maize, with implications for food self-sufficiency.
- 3 Attitudes to animal welfare in China are culturally different from the Western view; policymakers may need to adopt a unique conceptualisation of good welfare that achieves an acceptable balance between human development and animal wellbeing.
- 4 Although there are zoonotic disease challenges associated with all systems and scales of production, the policy push toward scaling up of livestock production systems potentially increases the risk of major zoonotic disease transmission in the future due to the specific conditions in these systems and the scale at which outbreaks occur.
- 5 Given the synergy between food safety (which is seen as more pressing than animal welfare) and good welfare, there is great scope for improving both at the same time through policy change.
- 6 More analysis is required to determine the precise impacts of scaling up on productivity, food safety management, and environmental sustainability.
- 7 As meat and dairy consumption increases across China, direct and indirect GHG emissions associated with livestock production are likely to grow. The potential arising from demand side changes has not been quantified but is likely to be significant and merits policy attention.

## FCRN China briefings



Overview of changes and drivers



Supply chain transformations



Environmental transformations



Health transformations



Socio-cultural transformations



Focus on livestock



Focus on dairy



Focus on aquaculture



Summary, conclusions and policy implications

# FCRN

Food Climate Research Network

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