

Issue

Brief

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The Role of Agriculture in Modern China

Noel Therattil

Abstract

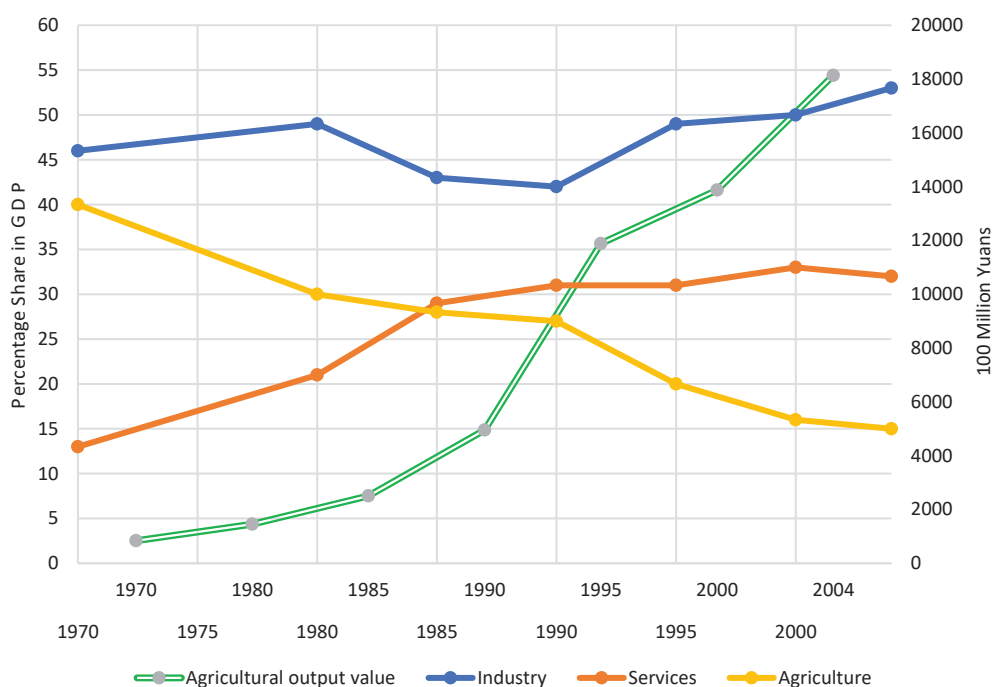
China is often viewed through the lenses of commerce, geopolitics, and political economy. At the fringes of these lies Chinese agriculture—and its domestic and global impact. This brief analyses the evolution of Chinese agriculture, from the revolutionary Maoist period to the present. It describes the Chinese government's strategy to ensure food self-sufficiency for an increasingly voracious consumer base. In particular, it examines the production of two Chinese staples—soy and pork—to understand future trends in the country's agricultural economy and its impact on international markets. It finds that in China, policymaking in agriculture, like in most other domains, is synonymous with experimentation. While not all experiments succeed, they provide valuable lessons.

China's agriculture has successfully met the challenge of feeding 1.4 billion people with 95-percent food self-sufficiency; the question, however, is whether this can be sustained. Can China's current agricultural output keep pace with its future food needs?

China's experiments with agriculture have had mixed results in the past. What is certain is that today, it is among the world's largest producers and consumers of food. Given the need to maintain social stability, food security is a key priority for the Chinese Communist Party (CCP). Despite a projected decrease in population, food demand has grown.¹ Meanwhile, land and water scarcity, environmental degradation, and a shrinking rural workforce, threaten the long-term sustainability of China's food self-sufficiency.

Between 1970 and 2004, the share of industry in China's gross domestic product (GDP) has remained relatively constant at 45-50 percent (see Figure 1). Agriculture's share of GDP has reduced, as that of the services sector increased. However, although the share of agriculture in China's GDP has fallen from 40 percent in 1970 to 15 percent in 2004, the absolute value of the country's agricultural produce has increased, owing to the increase in total factor productivity (TFP). The increase in TFP has enabled the labour force to move into other sectors, while maintaining the country's food self-sufficiency ratio of 95 percent.

Fig. 1. Share of Agriculture in China's GDP vs. Agriculture Output Value (1970-2004)



Source: National Bureau of Statistics of China² and Huang, Otsuka, and Rozelle (2008)³

China is also currently the top agricultural importer of the world. As analysts have noted, the total value of China's agricultural trade grew by about 6 percent annually between 1980 and 2000.⁴

Agriculture in China: Historical Overview

Under Mao Zedong (1949-1977)

It can be said, with certain exceptions, that agriculture during Mao Zedong's rule was collectivist,⁵ compulsory,⁶ and highly taxed.⁷ There was no market incentive for farmers to till the land as the norm was forced collectivisation of land, with the state taking away, in certain areas, as much as 92 percent⁸ of the total produce. At the peak of Mao's agricultural reforms, farmers had to surrender their entire harvest to the government instead of first retaining their share. This became a defining characteristic of the period. No doubt, Mao's land reforms—compared to the time before the 1949 revolution when China was a semi-feudal economy—were ambitious and bold. The first step was the confiscation of land from landlords,⁹ although the term 'landlord' in some cases also included farmers who tilled their own land.

The 'Great Leap Forward', which started in 1958 and was intended to rapidly industrialise the country, resulted in the neglect of agriculture, leading to the world's largest famine lasting up to the early 1960s. After agriculture began recovering, it was again adversely impacted by the Cultural Revolution which began in 1962 and lasted until the late 1970s.¹⁰ Post-Mao reformers, specifically Deng Xiaoping who took the reins in 1978, inherited an agriculture sector that was growing at an average of 2 percent; meanwhile, the countryside's annual growth of per capita net income (inflation adjusted) was a meagre 1.75 percent.¹¹

Early Reform Period (1977-1984)

In the early reform period, the government started to ease restrictions on the agricultural sector. Until 1984, a defining feature of Communist China was the preponderance of the State's sovereign right over land. In 1984 the government introduced legislation that allowed for agricultural land to be leased for a maximum of 15 years; in 1993, this was extended to 30 years.¹² While complete ownership over land was not fully recognised, leasing allowed for a limited recognition of tenured landholding, which provided economic and financial certainty. This was gradually expanded to include sale, renting, and mortgaging of land to an extent that made it a fully tradable property, as was the case in capitalist markets. However, the State can still 'confiscate' land for the purpose of 'development'.¹³

Agriculture in China: Historical Overview

In 1978, the government introduced the then radical ‘Household Responsibility’ system. Collectives began contracting out a variety of agricultural activities to households which resulted in the household becoming a key economic unit as opposed to the collective which, prior to the Household Responsibility system, was the key economic unit of rural China.¹⁴ This eventually led to the diversification of the Chinese agricultural economy from primarily grain cultivation to the production of fruits, vegetables, meat and allied products. The increase in the production of cash crops raised the average income of farmers.

The development of agricultural infrastructure during this period also increased the efficiency of grain production, which further incentivised the production of cash crops. Between 1977 and 1984 grain production increased by a third.¹⁵ Therefore, despite the continuing mandate to fulfil the grain quota, China had successfully initiated a diversification of its agriculture. The labour-intensive nature of cash crops increased employment and reduced ghost employment, while translating to more working days for farmers and raising productivity and income per unit of land.

The success of its new policy made the government realise the importance of improving and liberalising the flow of agricultural inputs from the 1980s. Liberalisation began with machinery and pesticides; in 1990 there followed liberalisation of fertiliser trade.

Later Reform (1993 – present)

It is difficult to make generalisations about the Chinese agricultural economy between the mid-1980s and the beginning of the 2000s as this period saw policies alternating between liberalisation and renewed controls. Whether the CCP was experimenting or made genuine mistakes and corrected them remains an open question. Overall, the government’s priorities were correct but policies implementing them saw frequent shifts.

Importantly, beginning in the mid-1990s, China’s agricultural trade policies helped the agriculture sector. Initially, it decreased the number of commodities whose trade was monopolised by single state-run corporations. This led to increased competition among non-state foreign trade corporations for the freed items. It also allowed state-owned trading companies to increase imports in the 1980s and 1990s while reducing agricultural import tariffs on average

Agriculture in China: Historical Overview

from 42.2 percent in 1992 to 21 percent in 2001.¹⁶ Non-tariff barriers too were relaxed, and quota arrangements altered to facilitate trade. Licensing procedures were made easier, enabling private firms to replace state traders in areas such as oil and oilseed imports. This indicated a more open trade policy and China's opening to the world.¹⁷

The Hu-Wen administration,^a which took charge in 2002, went on to widen agricultural reforms. It followed up the Land Management Law, which had already been passed in 1998,^b with the Rural Land Contract Law of 2003.^c It also published the first state council document focused on rural issues.¹⁸ In December 2005, it announced the total abolition of agricultural tax. The reforms, however, also had unintended consequences.

The abolition of agricultural tax, as well as the numerous levies of local governments, made it essential for these bodies to try and tap into new sources of revenue. Since land use rights could now be sold to private entities, such sale of land and its conversion to commercial property rose sharply. In 2013, as much as 35 percent of the total revenue of local governments came from the sale of agricultural land.¹⁹ However, this was unsustainable since land is limited while expenditure keeps rising. The year 2022 recorded land use rights' sale by local bodies at 6.68 trillion RMB (US\$920 billion), which was a 23-percent decrease from the record RMB 8.7 trillion (US\$1.2 trillion) of the previous year.²⁰ Given that nearly 51 percent of the local governments' revenue still comes from land sales, this decline does not bode well for them. Alongside, available arable land in China dropped from 334 million acres to 316 million acres between 2013 and 2019. At present, only a third of China's land is arable, and even this is threatened not only by the ongoing conversion to commercial land but also by desertification, salinisation, and overall degradation.²¹

The rural economy has also witnessed a shift from agriculture to small-scale manufacturing, with the expansion of Township and Village Enterprises (TVEs)—units run by local government bodies but on market principles. It was the Chinese government's response to stagnating agricultural incomes, which also provided many more jobs. TVEs were first begun in the 1970s, but grew more remarkably between the 1980s and early 2000s, employing, by 2008, 154.5 million people.²² However, with further privatisation of land and industry since the 2000s, many TVEs have been sold or turned into shareholder companies.²³

a Refers to the period when Hu Jintao was president and Wen Jiabao was prime minister of China, from November 2002 to March 2013.

b The Land Management Law provided a master plan for rural land use, among other, that allowed for a limited form of privatisation—i.e., lease agreements entered into by collective economic organisations. Land was still owned by the State but the use of land could be private.

c The Rural Land Contract Law confirmed and extended the rights granted under the Land Management Law.

Agriculture in China: Historical Overview

Entry into the WTO and the RCEP

China's entry into the World Trade Organization (WTO) in December 2001 did not really spur a revival of its agriculture, though it did create a bigger market for Chinese agricultural produce, particularly for cash crops. Free trade implies there will always be winners and losers. In China, while cash crop growers have done well since then, poor farmers growing staples such as wheat and rice have failed to tap into the value offered by international markets or the comparative advantage China enjoys in horticulture and aquaculture.²⁴ They are trapped in a vicious cycle where lack of capital keeps them from diversifying.

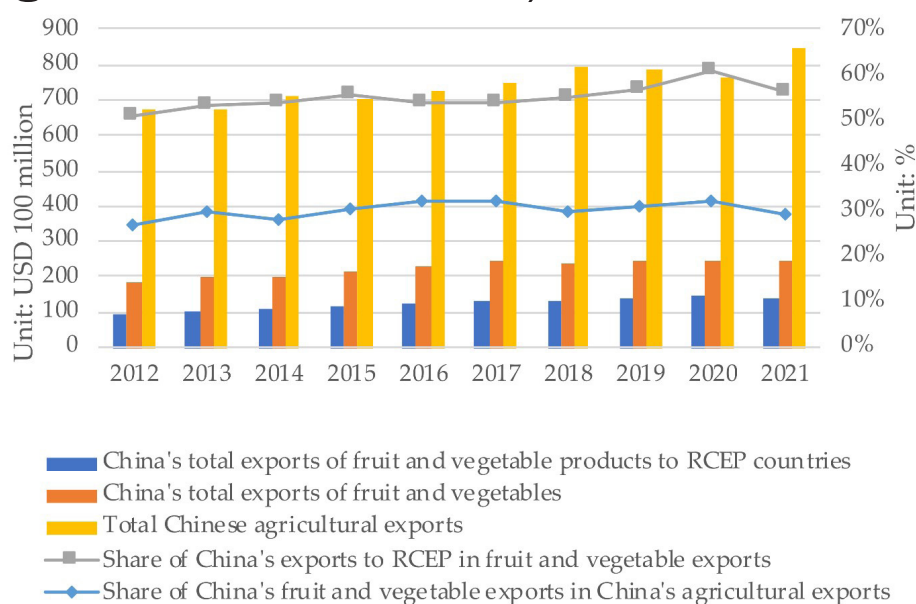
Thus there is still enormous potential for the growth of agricultural trade in China. Initially quiet in most of the WTO's forums, China in the last five years has become more active, especially in the Committee on Agriculture and the Sanitary and Phytosanitary (SPS) Committee, more so as its trade disputes with major partners have escalated and been brought before the WTO Dispute Settlement Body (DSB).

In the first 15 years after its WTO accession, China raised only 13 questions about other members' policies, while receiving 231 of them. Between 2017 and 2021, it raised 31 questions and took 125. Its questions have primarily targeted the developed countries, especially the United States, European Union, and Japan. Conversely, the US has been the most active in scrutinising China, raising 141 queries of the total of 356. Since joining the WTO, China has been involved in 69 trade disputes—22 as a complainant and 47 as a respondent. Only 10 of these disputes have involved agriculture and food products.²⁵

With the signing in November 2021 of the Regional Comprehensive Economic Partnership (RCEP), a free trade pact between 15 Asia-Pacific countries, China's agricultural trade, particularly in fruits and vegetables, has benefited enormously. In 2022, RCEP countries accounted for 31.6 percent of China's total trade in agricultural products, making the RCEP China's largest agricultural trade market.²⁶ The varying climates and agricultural resources of the RCEP member countries create a complementary foundation for cooperation, while also giving China some comparative advantages.²⁷

Agriculture in China: Historical Overview

Fig. 2. China's Exports, Total and to RCEP Countries (Fruits and Vegetables, 2012-2021)



Source: Gao and Sun (2023)²⁸

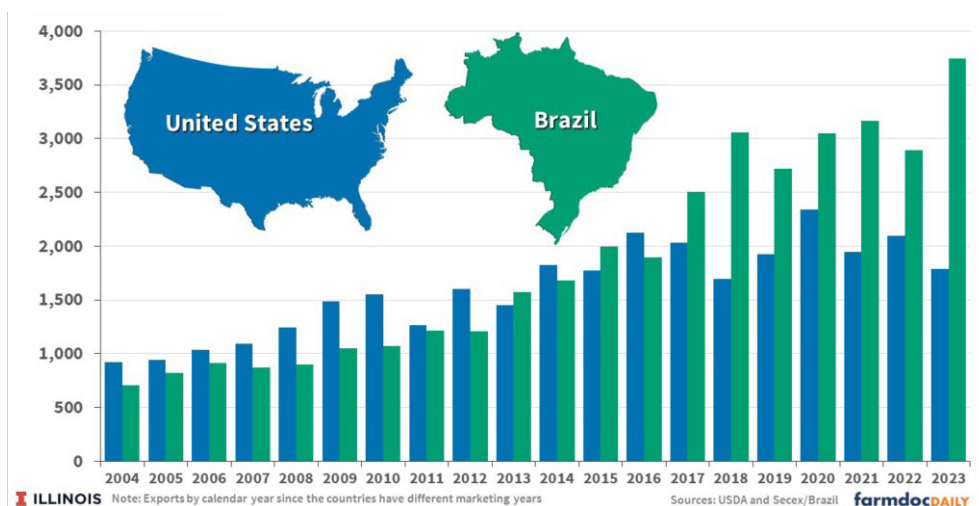
Thus, WTO and RCEP have provided Chinese agriculture a growth engine to boost exports of cash crops, the RCEP more than the WTO. Unlike the WTO, the RCEP does not have an appeals mechanism, or one whereby panel reports must be adopted by all parties, which works to China's advantage.²⁹ The absence of the US and the EU from this grouping further reduces opposition to China.

The Case of Soy

China’s aim of 95-percent self-sufficiency in food production is rooted in the belief that the most effective way to ensure food security is by satisfying the country’s domestic food needs with food produced within its borders. However, perhaps due to the water-intensive nature of soy cultivation, in late 2013, China removed soybeans from the list of crops in which it seeks self-sufficiency.³⁰ The crops that remain are rice, wheat, coarse grain, and potatoes.

The increase in soy production in the United States and Brazil after 2013 can be attributed to the increase in import demand from China, once domestic self-sufficiency in the crop was no longer required. The German Agricultural Society has noted that “the rise of soya production in the Americas was reflected 1:1 in the increase in consumption in China.”³¹ Today, China imports 80 percent of its soy requirement, which in turn comprises 60 percent of global soy trade.³²

Fig. 3. Soy Production in the U.S. and Brazil (2004-2023)



Source: Schmitkey, Zulauf, and Swanson (2024)³³

China and Self Sufficiency: Case Studies

As China's population falls and its agricultural productivity keeps rising, it may start exporting crops it currently reserves for domestic consumption. It is the biggest producer of wheat in the world and yet its wheat export is insignificant. If the requirement of self-sufficiency is removed, the impact on the global market will be enormous. Domestically, grain production would be replaced by increased cash crop production, which could, in the short term, adversely affect parts of the world that primarily produce specific cash crops.

The Case of Pork

China consumes enormous amounts of pork. Although 50 percent of all pigs in the world are found in China, it is also the biggest importer of pork in the world, accounting for 30 percent of all pork imports.³⁴ A shift in dietary preferences may well upset global pork markets. It has been noted that meat preferences in China could be more elastic than in certain other parts of the world, given that no meat is 'forbidden' by religious or cultural norms. Per capita meat consumption in China has not peaked, and if pork is substituted by chicken in the coming years, it could impact global poultry markets.

In 2020, China was the largest importer of all varieties of meat. In absolute terms, it is the world's largest meat consumer,³⁵ though its per capita annual consumption is only 45 kg,³⁶ ranking it globally only at 112.³⁷ The growth in per capita consumption of meat in China in the next few decades will determine the course of global agricultural trends.³⁸

The Future of Chinese Agriculture

China faces the challenge of improving rural livelihoods, increasing economies of scale, and addressing both urban migration and falling population rates. A falling population does not necessarily imply food surplus because food production needs to keep up with increasing per capita consumption. How China continues to ensure food security with both its arable land and water resources reducing will be watched closely, as it will have important lessons for countries facing a similar situation.

China has also sought to grow crops outside its borders to ensure self-sufficiency and make the best use of its comparative advantage. It has made direct investments in agricultural production in many African countries, both in private entities and in government initiatives, growing crops like jatropha, sugarcane, and maize, which have myriad applications in food, animal feed, and bio-fuel production.³⁹ However, China's reliance on certain essential imports like soy is a deviation from its objective of maintaining a high rate of food independence.

Technology is also improving Chinese agriculture, reducing structural input costs drastically, in some instances up to 25 percent. The use of drones, for instance, has increased by 250 percent between 2014 and 2020, much of it in agriculture.⁴⁰

In visits to different agricultural regions of China between September 2023 and June 2024,^d this author observed a shift away from agriculture. Some semi-rural areas, modelled to look like 'ideal' villages, seem to be undergoing a transformation, with their economies becoming less dependent on agriculture and more on tourism, remittances from family members working in urban areas, and service industries. Increasing fertiliser and pesticide costs have also pushed residents away from cultivation.

Largely, China's government has stood by its promises to the farmer. No doubt it could do more, such as specialising agriculture, building brands, and making agriculture more sustainable for the longer term. Climate change is bound to have its impact in the coming years, and the state needs to invest in resilience and mitigation measures. Economies of scale could be achieved, but productivity per hectare needs to be improved to ensure sustainability.

^d The author travelled through Lijiang, Turpan, Dunhuang, Lingshui (Hainan), Hailar, Ergun, Manzhouli as part of a general academic expedition to understand the local economy. These areas are in the western, northeast, south, and southwest parts of the country. Insights were gained through first-hand general observations and conversations with locals, individually and in groups. In Lijiang and in Hulunbuir (Inner Mongolia), the author spent a week in each region to understand the local and rural economy.

The Future of Chinese Agriculture

How China addresses its food self-sufficiency issues will have long-term impact on global agricultural trade and cropping patterns. The level of food sufficiency it should maintain is a political question that will be influenced by both domestic considerations and global tensions. Will multilateral associations like the RCEP reassure China enough to reduce its self-sufficiency targets? [ORF](#)

Noel Therattil is a lawyer, policy analyst, and Schwarzman Scholar pursuing a Master's degree in Global Affairs in Schwarzman College, Tsinghua University, Beijing, China.

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New Delhi - 110 002, INDIA

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