

# Food Security in China from a Global Perspective

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Food security, expressed in Chinese terms literally as “grain security” (which includes cereals, beans, and tubers) and measured solely by self-sufficiency, has long been declared one of China’s top policy priorities. This policy was reiterated in the “Grain Law (draft for public opinions)” (Legislative Affairs Office of the State Council, 2012), which declared grain to be a “specific commodity crucial to [the] national economy and people’s life” and emphasized that the state would continue to adhere to the principle of basic self-reliance. The document further stipulated that the state would “coordinate the market mechanisms linking grain production, marketing and consumption, in order to ensure basic balance in total demand and supply, as well as basically stabilized price.”

To achieve this policy objective, China has continued to invest in agricultural R&D and infrastructure on a large scale, stimulating production with subsidies and price incentives and intervening in market and trade of major grain crops. However, policy interventions aimed at food security are often mixed with other policies, resulting in outcomes other than intended. Facing a widening income gap between rural and urban areas and competition from low price imports, supporting farmers and the agricultural sector—especially grain production—have become once again a sensitive policy issue given the historical preference for food security in China.

China is the largest producer and consumer of food in the world. With more than 120 mmt of net cereal imports (including oil seeds) annually, any change in China’s food security policy could have a significant impact on the world market. We discuss the evolution of China’s food security objectives and the impact of this deep-rooted policy priority on the formation of China’s agricultural policies, which subsequently affect its domestic production, market, and international trade.

## Ensuring Equal Access to Basic Food, 1949–78

Market intervention had been the primary tool used to achieve grain security (in terms of equal access to food for all people) since the founding of the People’s Republic. State control of food marketing was a crucial measure taken to fight hyperinflation after a decades-long war (Xu, 1983) but it gained more long-term importance when China adopted a Russian-style “heavy industry first” development strategy. Under the “unified procurement and rationing system,” producers of major farm produce—especially grain crops—were assigned compulsory delivery quotas at low ministered prices, while urban consumers were entitled to rationed quantities at low prices. This system permitted wage rates to be kept at low levels and transferred agricultural surplus into investment funds in the form of industrial profits (Carter and Zhong, 1988; Zhong, 2014).

As the purposely depressed price could not provide adequate production incentives, China tried to increase yields and hence output by investing intensively in agricultural R&D and mobilizing massive numbers of people to construct infrastructure such as irrigation systems. China was among the first countries to develop and adopt dwarf and semi-dwarf rice and wheat varieties in the 1960s, and hybrid rice varieties were introduced and widespread since the 1970s. At the same time, a nationwide extension system was established to encourage the adoption of new varieties and field practices.

Irrigation is crucial to intensive smallholder farming. The communal system established in the late 1950s provided a way to mobilize massive numbers of people to build irrigation systems with a little financial support from the government. As a result, the total area of farmland under irrigation increased from about 20 million hectares in 1952 to 45 million hectares by 1978, covering almost 45% of the total arable land (NBS, 1984).

However, even with the great efforts expended on agricultural R&D and infrastructure, and accompanied by heavy pressures on farmers through the procurement scheme, grain output was insufficient to ensure adequate supplies for the growing population. In practice, the administered quota price had to be raised periodically and a premium had to be added to encourage delivery above the quota. Over time, economic rewards were recognized as better tools for achieving fast economic growth and food security, and the policy of extracting agricultural surplus gradually gave way to one of stimulating grain production.

## Providing Greater Incentives with Economic Rewards, 1978–1996

The reform launched in December 1978 increased procurement prices by 20% by 1979, and the above-quota premium was raised from 30% to 50%. The volumes of the procurement quotas gradually reduced while the quota price increased periodically. The “unified procurement” system was formally replaced with a “contracted purchase” scheme in 1986, but the policy of compulsory delivery at below-market prices remained in place until the mid-1990s. Under either scheme, increasing procurement prices were a relief to depressing farm-gate prices, and might stimulate food supply for the benefit of urban consumers while simultaneously increasing farmers’ income and wellbeing. The only constraint was the budgetary burden, as the government did not raise retail prices for rationed food until 1991/92; the subsidy to food marketing accounted for more than 10% of total government budget expenditures during the 1980s (Carter and Zhong, 1988). At the same time, income increased rapidly, and more and more urban consumers shifted to the free market in order to enjoy better quality food, despite higher prices. As a result, rationing prices were substantially raised in both 1991 and 1992, and the entire rationing system itself was abolished shortly thereafter.

Another major step in improving production incentives was the initiation of various “production responsibility” schemes, linking economic rewards to actual efforts made by individual members within the collective farming system. By 1984, the now well-known “household responsibility system” (HRS) was adopted nationwide, and the communal system was formally abolished. Farmland was still collectively owned by farmers in a small village of roughly 20–30 households, but the right to use farmland was contracted to individual households (Carter and Zhong, 1988).

Despite impressive increases in grain production during the first years of reform, annual imports of grain (basically wheat) were double those of the previous ten years. The increase in imports coupled with increasing domestic production allowed some farmers to shift from grain to cotton or sugar production. As China was also a major importer of cotton and sugar, this shift led to higher income for farmers and lower import costs for the government.

Thanks to fast and continuous growth in grain production, China reduced its grain imports in the second half of the 1980s and became a net exporter of grain crops in the early 1990s, with corn exports exceeding 10 mmt in 1992 and 1993. In the domestic market, farmers periodically complained of “difficulty in selling grain” and that “contracted purchasing” was no longer a channel to extract agricultural surplus but a pool to absorb surplus production. At the same time, reserve stock and risk management programs were initiated to absorb the surplus. As the domestic price was below the prevailing price in the world market, these measures did not invite challenges from major trading partners at that time.

## Supporting Agricultural Production and Farmers, after 1996

The grain market situation changed dramatically in December 1996 as prices for major grain crops declined by 40% in a single month and stayed there for several years. As a result, grain production declined by 16% over five years from the 1998 peak (NBS, 2016). Alarmed by the possibility of serious shortages in domestic production, the government initiated a new package of policies at the end of 2002. Minimum price schemes were introduced in 2004 for selected grain crops in selected areas, while a “temporary stock” program was periodically executed for

corn produced in Northeast China. Agricultural taxes were phased out in 2004–06; grain producers benefited more than others as the tax had been levied on land, more than 60% of which was devoted to grain crops.

The new package also included subsidies to input uses and agricultural insurance. Farmers received “agricultural input comprehensive subsidies” when purchasing fertilizers, pesticides, plastic film, and diesel, and when purchasing farm machinery and high-quality seeds. Agricultural insurance in China is not designed to support current production or to smooth farmers’ income; rather, its objective is to restore normal production after big losses. Under the guideline of “low premium and low indemnity,” only part of the material costs is eligible for compensation when yield losses exceed trigger levels. Agricultural insurance premium subsidies have been provided since 2007, and coverage has been extended from cereals, soybeans, and cotton to cover many other crops as well as some animal products.

Although adequate food supply remained one of China’s major objectives, rural income and farmer welfare has attracted increasing attention among policy makers. The price support for grain producers may have negative effects on livestock producers. The costs for large-scale commercial livestock producers will increase, while the impacts to backyard producers could be null, as they mainly produce their own feed. In addition to production support, new programs providing a social safety net, such as healthcare and pension systems, were initiated in some places and soon expanded to cover almost all rural residents.

Major grain crops were protected by the Tariff Rate Quota (TRQ) system established at WTO accession, allowing China to levy higher tariffs on imports above specified quantities. After 2004, the quotas were 5.3 mmt, 7.2 mmt and 9.6 mmt for rice, corn and wheat, respectively, with above-quota tariffs of 65% against in-quota tariffs of 1%. However, following strong increases in labor and other costs, administered and domestic market prices rose above prevailing prices in the world market. Additionally, imports of those cereal crops have increased continuously to above 10 mmt, along with over 20 mmt of unprotected feed substitutes such as barley, sorghum, and DDGs, in addition to 80 mmt of soybeans. As a result, stocks of rice, wheat, and corn piled up as state agencies could not resell those cereal crops in domestic markets after purchasing them at protected prices and/or through the “temporary stock” program.

The new problem in pursuing food security is the so-called “three highs”—high outputs, high imports, and high stocks. Major cereal crops are still protected by TRQ system, but what would happen if this protection were lost? As the price gap approaches the tariff rates permitted for above-quota imports and domestic production costs continue to rise, the current TRQ system will no longer be an effective protection. On the other hand, public expenditures are wasted if procured grain is only stored and then disposed of later.

In order to deal with the “three highs” problem, target price programs similar to those previously implemented in the United States were recently initiated. In marketing year 2014/15, the temporary procurement for reserve program for cotton was replaced with a trial target price system. A pilot target price program with a direct subsidy for soybean producers was introduced in 2014 in four northeast provinces. A similar program to separate subsidies from pricing has been under consideration and might replace the minimum price and temporary reserve programs currently applied to major cereal crops if the experiments succeed. However, it is still too early to determine whether the new policy tools will work well.

## Summaries and Perspectives: Challenges and Implications

Food security has been one of China’s top policy objectives for a long time. However, as the objective of food self-sufficiency at the 95% level has become more and more unrealistic, the definition of “food” is changing. “Food security” in Chinese literally is “grain security,” with cereals, beans, and tubers defined as grain crops in official statistics. Due to strong increase in soybean imports, the definition of grain has been debated with regard to “grain/food security,” and cereals seem to be a candidate to substitute for grain. As future imports of corn and other feed grains are projected to increase, a definition limited to food grains or staple grains (rice and wheat) seems to fit real-world situations better. As food security is still a politically sensitive topic in china, changes to the definition of food influence not only domestic policy, but also the mix of food imports.

The minimum price and procurement of temporary stock reserves might be replaced by other schemes depending on the outcome of experimental “target price” schemes for cotton, corn, and soybeans. The objective of these programs is to provide grain producers with adequate incentives in order to achieve food security while still allowing the market price to decrease, which would encourage consumption of domestic products and reduce costs to food/feed processors and livestock producers. At the same time, it is expected that imports may be reduced, and the government would not have to cover the costs of procurement and storage.

It is likely that the Chinese government will have to make a decision about pursuing food security and farmers’ welfare. In the long run, China must decide whether increases in food imports are desirable in order to make better use of limited resources and allow farmers to shift to more profitable crops. In the short run, it must find more effective and efficient approaches to raise agricultural productivity, support the agricultural sector and farmers’ income, and allow moderate increases in food imports in a way that is politically less sensitive.

Future imports of foodstuffs will likely continue to increase. However, considerations of food security, farmer income levels, and TRQ protections may cause further increases in food imports, (1) soybeans and other oil seeds; (2) animal products; (3) non-grain feed and non-grain foodstuffs; (4) non-TRQ feed grains; (5) TRQ feed grains; and finally (6) staple-food grains such as rice and wheat.

Population and income growth will continue to raise China’s total food consumption, pushing imports of food items increasing continuously. As eating away from home and consumption of fast foods will likely continue to increase, poultry consumption is also likely to experience an increasing trend, as fast food chains seem to favor inexpensive meats. Among food items, meat consumption will likely see stronger increases in the decades to come, resulting in increases to meat and feed imports, which are less sensitive to food security considerations.

The target price policy experiment of has just been introduced; its impact has yet to be assessed. However, the potential reduction in imports might be a short-term effect resulting from the release of existing stock reserves. After the stock reserve level reaches a normal level, a long-run demand/supply situation will prevail in the market.

While total imports of foodstuffs may continue to increase, China may seek diversified sources for food imports or link food imports with other development strategies. The long-run trends in agricultural trade between China and its major trading partners may be influenced by political issues and macro-situations in the world economy as well as disputes in non-farm trade.

## For More Information

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