

Can China's Rural Land Policy Reforms Solve its Farmland Dilemma?

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THE SCARCITY of arable land is a defining feature of Chinese agriculture (Zhang and Li 2018). In 2015, China fed 18.9 percent of the world's population with only 8.5 percent of the world's arable land. Furthermore, the limited agricultural land resource in China is distributed to 231 million households, resulting in an average farm size of only 0.96 acres per household (China Agricultural Development Report 2016), and even such small farms are usually scattered in several separate plots. Therefore, China faces two challenges: (a) preserving the quantity and quality of its arable land amid rapid urbanization; and, (b) consolidating land to increase agricultural productivity. China's recent rural land reforms on these two aspects have implications not only for China, but the entire world.

Rural Land Conversion for Urban Use: National Policy and Local Innovation

To achieve food security, the Chinese government tightly controls the net amount of arable land converted to other uses, with the overall goal of maintaining at least 307 million arable acres (called the "redline") by 2020. In addition to the annual quota allocated by the central government, additional arable land converted to other uses has to be compensated by new arable land of at least equal area.

As environmental regulations tighten, the Chinese government increasingly turns to rural construction land, such as that beneath farmhouses, for compensation for converted arable land (State Council 2004). Currently, most regions in China achieve this kind

of compensation through administrative means (Southern Weekend 2010). Local governments choose the locations and move farmers from sprawling farmhouses to high-rise buildings and re-cultivate the land beneath the original farmhouses to arable land. The farmers lose their farmhouses (including future development rights), retain the land use right of the land beneath farmhouses for agricultural production, and gain an apartment and/or monetary compensations. The increases in arable land become permits for local governments to convert arable land near cities for urban development and sell urban land use rights for revenue.

The city of Chongqing has experimented with an innovative market-oriented process featuring "land tickets" (Chongqing Municipal Government 2016). Farmers in remote rural areas can voluntarily consolidate farmhouses and re-cultivate arable land. In doing so, they create "land tickets" which are then auctioned off to developers as permits to develop arable land near the city. The key difference

between Chongqing and the rest of China is that farmers' decisions to convert land beneath their farmhouses to arable land, and the compensation for the conversion, is determined by the market as opposed to command-and-control (although the city government often buys large amounts of "land tickets" to prevent the price from crashing). This innovation has the potential to increase the equity and efficiency of land conversions.

Rural Land Transfer Reform and the Booming Rental Market

Small farm size and low productivity can be ameliorated by letting farmers transfer farmland to others for agricultural production. Rural land transfer has been permitted since the 1980s and has increasingly gained government support over the years. In 2002, the Land Contract Law of China confirmed the right for farmers to transfer land use rights. As Figure 2 shows, the total amount of land transfer increased from five percent of arable land in 2007 to 36.5 percent in 2017. An important driving force for this increase

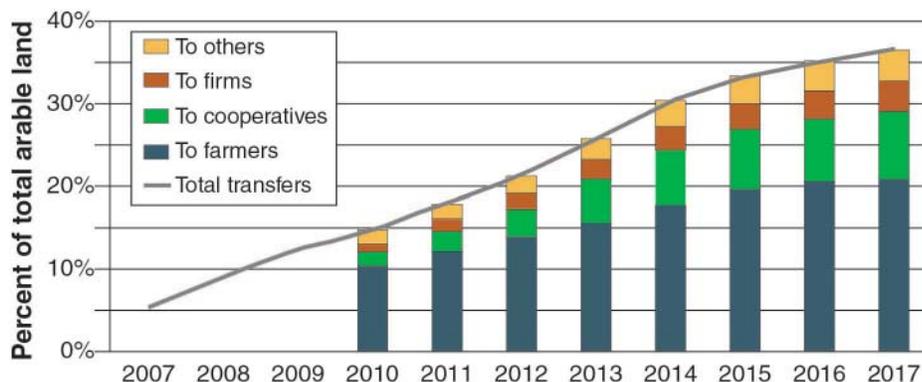


Figure 1. Agricultural land transfer to different types of entities

Note: 2017 data is mid-year value while all others are end-of-year values. Sources: Data before 2010 are from chinaaidr.com (2018), 2010-15 data are from Agricultural Development Reports, 2016-17 data are from MOA (2018).

is that migrant farmers want to work in cities while keeping their land at home.

The majority of land transfers happen between farmers. For example, migrant farmers may let friends or relatives farm their land. These kinds of transfers often rely on informal agreements, and usually involve zero or very low payments. Although not land rental per se, these informal transfers lay the ground for the future development of the rental market by consolidating small plots and making them attractive to large-scale farms.

Currently, land transfers to firms represent 10.5 percent of all transfers (or 3.8 percent of all arable land), but their growth has been slow in recent years. An important factor is that property rights of rural land are insecure and unclear. This is manifested in inaccurate land borders and sizes, incomplete land use right certificates, and limited HRS tenure (see first text box). The Chinese government just extended HRS tenure to 2057, and is in the process of issuing land use right certificates with more accurate land position and size information. This effort is expected to boost the land rental market in the future.

Implications for China's Crop and Livestock Industries

The percentage of urban population in China increased from 19 percent in 1980 to 57 percent in 2016 (China Statistical Year Book 2017), and is continuing its upward trend. Despite significant demand for farmland acres to be converted for urban development, China has successfully maintained the quantity of its arable land in recent years (China Agricultural Development Report 2017). This is due to policies that compensate arable land lost to development by creating arable land somewhere else, often by converting farmhouses to arable land. The fact that returning rural construction land to

Who owns China's farmland?

Private land ownership is banned in China. Under China's current Household Responsibility System (HRS), started in the early 1980s, all rural land is owned by rural collectives, which allocate contract rights for parcels of farmland to eligible households. The tenure of contract rights was 15 years in 1983, renewed for 30 years in 1997, and again by 30 years (i.e., starting 2027) in China's 19th Party Congress in 2017 (NPC 2017).

Chinese Farmers Can:

- Decide what to plant and how
- Keep returns from their agricultural production
- Lease their land to others for agricultural production

Chinese Farmers Cannot:

- Convert agricultural land to other uses
- Leave their land uncultivated for more than two years
- Legally resist land acquisition

cropland can generate valuable permits for urban development somewhere else creates additional opportunity cost for facilities for animal production. This opportunity cost is first felt by municipal governments who depend on selling development rights for revenue. In most of China, local governments restrict or delay the approval of new animal production facilities, especially those with a larger footprint, mandate the conversion of farmhouses to arable land, and move farmers into high-rise buildings. In Chongqing, farmers also have this opportunity cost because they can create and sell permits themselves by voluntarily converting their farmhouses to cropland. Therefore, no matter how the system is designed specifically, the overall effect is to make animal production more expensive. While this affects all producers, the negative effects will be stronger on small, low-profit producers.

The increased opportunity cost for animal production is especially

relevant for the hog industry. In southern China, land available for hog production is already so scarce that some hogs are produced in high-rise buildings, a phenomenon unheard of in the United States (Agweb.com 2017). Furthermore, in order to protect the environment, the government has designated areas where hog production is restricted (USDA 2017). The extreme land scarcity and the increasing cost of environmental compliance will compound with increased opportunity cost of maintaining the facility and limit hog production.

Similarly, the development of the rental market gives less productive crop producers an incentive to quit agricultural production. Currently, renting farmland is popular with farmer households, but offers limited appeal to firms. The current reform that clarifies property rights may draw

continued on page 12

numbers for 2018 are encouraging. Table 4 displays USDA's projections and, as with production, the numbers are higher across the board. Both pork and beef enjoyed roughly 10 percent export growth in 2017. Beef is expected to gain another four percent in 2018, while pork is projected to grow five percent

during the year. Broiler and turkey exports are expected to grow as well.

Thus, the underlying agricultural story for 2018 may be due to the global demand for meat. Currently, the surge in meat consumption globally has improved livestock market returns and led to significant increases in production. That is, in turn, providing support for the crop markets, at a time

when those markets need a usage boost. Combined, the projections indicate a slight improvement in the US agricultural economy, but the emphasis is on the word "slight." Price improvement is a hard thing to come by when records continue to be set on the production side. ■

more firms into agriculture and further boost productivity. Studies have found that land productivity dramatically increases after transfers (e.g., by 60 percent according to Jin and Klaus' 2009 estimate). Overall, we believe the recent developments in China's land policy are pushing both crop and animal production toward larger scales.

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Key Policies Governing Land Use and Conversion in China

- **The "Redline" of farmland** is the lowest limit of arable land in 2020, about 300 million acres, set by the Chinese government in 2006.
- **Permanent basic cropland** is the 255 million acres of designated high cropland that is subjected to stricter protection from conversion to urban use.
- **The "Increase-decrease linkage" policy** (started in 2006) allows local governments to convert certain amounts of arable land to urban uses if they create an equal or larger amount of arable land from rural construction land (e.g. farmhouses).
- **The "Grain for green"** (started in 1999) policy returns marginal farmland in ecologically sensitive areas to forestry.

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