Since the mid-2000s, China has renewed efforts to accelerate the development of the country’s agricultural insurance system (Figure 5.1). In line with the Central Committee of the Communist Party of China’s Document No. 1 of 2004, this has come in tandem with legal and policy reforms designed to strengthen the framework for agricultural insurance in China.

Drawing upon the country’s long exploration of agricultural insurance dating back to the 1930s and building upon smaller-scale trials in the years prior, in 2007, China launched a new round of pilot agricultural insurance programs with US$134.3 million (1 billion yuan) in premium subsidies to farmers in six provinces and autonomous regions. Four basic principles have underpinned this new round of pilot programs: government guidance, market operation, voluntary participation, and coordinated promotion. The goal is that farmers, enterprises, and the government all benefit from the agricultural sector’s ability to protect itself from loss or damage due to natural disasters and other risks (Wang et al. 2011).

This chapter presents several key observations about the development of China’s agricultural insurance pilot; Box 5.1 shows the operational model of the system.

Since the mid-2000s, China has embarked on a renewed effort to accelerate the development of the country’s agricultural insurance system.

In 2007, China launched its latest round of pilot agricultural insurance programs, characterized by a government-backed market approach with heavy premium subsidies.

China’s agricultural insurance system has continued to develop rapidly, as evidenced by its growing market size, expanding list of insured perils, and increasing liability and coverage. It has also played an increasingly successful role in protecting agricultural producers against disaster losses.

China’s agricultural insurance system is still facing critical challenges, including the lack of critical data and underdeveloped technique, that are common in many developing countries. Renewed efforts are being made to tackle these challenges.
Reliance on Premium Subsidies

Premium subsidies are the core element of China’s agricultural insurance pilot, creating strong incentives for farmers to voluntarily participate in the program (Ye et al. 2017). Premium subsidies from four levels of government gradually increased from 76 percent in 2007 to 79.5 percent in 2018 (Figure 5.2). Potential beneficiaries of these premium subsidies, which initially covered farmers of basic grains and selected oil crops and livestock, now cover a wider range of producers including those that harvest rapeseed, peanuts, potatoes, highland barley, rubber, bananas, and sugar beets.

Booming Market Size

China’s agricultural insurance market keeps growing. From 2007 to 2018, agricultural insurance provided a total of US$2.4 trillion in risk protection; in total, it paid US$32.12 billion to 330 million affected households, playing an active role in disaster relief and post-disaster recovery. Currently, China’s agricultural insurance premium revenue is the second largest in the world and the largest in Asia. Livestock insurance and forest insurance rank first in the world (Table 5.1).
In developing China’s agricultural insurance pilot, the lack of a ready-to-use operational model meant that an operational scheme had to be established following several years of experimentation. There are two critical parts to understanding the operation of agricultural insurance in China: the underwriting part and the loss-adjustment part.

The entire underwriting procedure involves the policyholder (agricultural producers) and local insurance companies who directly underwrite the policy, along with government and insurance company headquarters at various levels. The basic procedure can be summarized as follows, taking Hunan Province in central China as an example (Wang et al. 2011):

1. At the beginning of a fiscal/insurance year, the provincial department of finance (DOF) selects the underwriting insurance companies. In general, at least two companies should be selected; each would be allocated to specific regions and insurance lines. Each insurer is likely to oversee one single business line (crop or livestock) with central government subsidy.

2. Insurers are eligible for business start propagation and underwriting procedures. Participation is on a voluntary basis. In most cases, producers participate as small groups (villages), signing a single policy with the local insurer with a detailed list of participants attached. This approach is believed to achieve a balance between individual participation and administrative costs. Producers should pay premiums (the amount after premium subsidy) on their own. Because of the large number of households in each county, county-level insurance branches have expanded their service networks by hiring local assistant agents on a part-time basis to form a bridge between farmers and formal agents. Most of the assistant agents are village heads.

3. Insurers submit the policies signed and proof of premium collected to the provincial DOF. The DOF then validates the materials and authorizes the provincial-level premium subsidy. The provincial DOF then submits the application to the Ministry of Finance for the premium subsidy from the central government. When premium subsidies are ready, the DOF pays the subsidy to insurers, but simultaneously reserves a certain portion of the premium to raise the catastrophe risk fund according to the “Agricultural Insurance Catastrophic Risk Reserve Management Method” issued by Ministry of Finance (2013).

The basic loss-adjustment procedure is summarized as below, taking Hunan Province in central China as an example:

1. Policyholders report perils, diseases, and losses to the local insurance branch.

2. Agricultural technicians (there are several in each county affiliated with the department or Ministry of Agriculture and Rural Development) are invited to conduct on-site loss-adjustment, confirming that the loss is insured and evaluating the degree of loss (the percentage of damage). Agricultural insurance agents (representatives of insurer), representatives of local governments (i.e., village heads and representatives of the finance department), and the policyholder co-witness the entire procedure. An agreement on the loss-adjustment result must be reached and signed by all parties, and a record of the case is kept.

3. The local insurer computes the indemnity according to loss-adjustment records. Payment is made generally no later than 10 days after reporting via bank transfer to the policyholder directly. At the end of the season, a list of loss-adjustment records and corresponding payments would be posted at the village center for the public’s inspection.

In 2016, the Insurance Association of China released the “General Principles of Agricultural Insurance Service” which sets up an industrial technical standard of insurance underwriting and loss-adjustment procedure.
A Comprehensive Product System

China's agricultural insurance has developed a comprehensive product system. Main products include insurance for subsistence grain and oil crops, basic female livestock, and public and commercial forest; this is supplemented by insurance for special local agricultural products. Indemnity-based products have dominated China's agricultural insurance program (Ye et al. 2020); in addition, weather-index and price-index insurances are some of the most innovative types. Other agriculture-related insurances are an extension of the market. Insured varieties cover major cereal crops, livestock and poultry, cash crops, forests, and crops with local characteristics. By 2019, there were 16 agricultural products endorsed in the list of central finance subsidies, and 270 different types of insurance products covering crops, livestock, forest, and aquaculture.

Expanding List of Insured Risks

China's agricultural insurance has gradually covered drought, plant diseases, and insect pests, and it now approaches nearly all risk protection including damage from natural disasters (rainstorms, floods, waterlogging, droughts, typhoons, hail, frost, and so on), various kinds of disease and illness, accidents, and government-ordered slaughter—for instance, livestock slaughter for epidemic prevention. Protection for the market and price risk is also on the way: a 2019 instruction issued by the Ministry of Finance, together with other three authorities, is encouraging the development of price-index insurance and revenue insurance.
Table 5.1. China’s Agricultural Insurance, 2007–2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Sum-Insured (US$, billions)</th>
<th>Number of participants (100 million households)</th>
<th>Premium revenue (US$, billions)</th>
<th>Crops insured (million hectares)</th>
<th>Forest insured (million hectares)</th>
<th>Livestock insured (billion head)</th>
<th>Indemnity expenditure (US$, billions)</th>
<th>Benefited farmers (10,000 households)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>25.80</td>
<td>0.50</td>
<td>0.78</td>
<td>13.60</td>
<td>1.88</td>
<td>--</td>
<td>0.43</td>
<td>--</td>
</tr>
<tr>
<td>2008</td>
<td>35.96</td>
<td>0.90</td>
<td>1.66</td>
<td>30.49</td>
<td>5.16</td>
<td>3.27</td>
<td>0.96</td>
<td>1,072</td>
</tr>
<tr>
<td>2009</td>
<td>57.18</td>
<td>1.33</td>
<td>2.01</td>
<td>44.35</td>
<td>19.16</td>
<td>3.61</td>
<td>1.43</td>
<td>1,798</td>
</tr>
<tr>
<td>2010</td>
<td>59.15</td>
<td>1.40</td>
<td>2.04</td>
<td>45.49</td>
<td>32.16</td>
<td>3.71</td>
<td>1.44</td>
<td>1,966</td>
</tr>
<tr>
<td>2011</td>
<td>97.85</td>
<td>1.69</td>
<td>2.61</td>
<td>53.87</td>
<td>96.08</td>
<td>3.98</td>
<td>1.23</td>
<td>2,129</td>
</tr>
<tr>
<td>2012</td>
<td>136.91</td>
<td>1.83</td>
<td>3.61</td>
<td>64.99</td>
<td>75.17</td>
<td>4.65</td>
<td>0.97</td>
<td>2,654</td>
</tr>
<tr>
<td>2013</td>
<td>208.04</td>
<td>2.14</td>
<td>4.60</td>
<td>74.10</td>
<td>127.23</td>
<td>6.84</td>
<td>3.13</td>
<td>3,131</td>
</tr>
<tr>
<td>2014</td>
<td>244.80</td>
<td>2.47</td>
<td>4.89</td>
<td>78.79</td>
<td>187.47</td>
<td>8.72</td>
<td>3.22</td>
<td>3,189</td>
</tr>
<tr>
<td>2015</td>
<td>294.62</td>
<td>2.29</td>
<td>5.62</td>
<td>96.82</td>
<td>194.23</td>
<td>9.74</td>
<td>3.90</td>
<td>3,368</td>
</tr>
<tr>
<td>2016</td>
<td>324.00</td>
<td>2.04</td>
<td>6.27</td>
<td>115.31</td>
<td>151.29</td>
<td>12.84</td>
<td>4.49</td>
<td>3,804</td>
</tr>
<tr>
<td>2017</td>
<td>418.50</td>
<td>2.13</td>
<td>7.19</td>
<td>140.43</td>
<td>169.64</td>
<td>17.31</td>
<td>5.02</td>
<td>4,690</td>
</tr>
<tr>
<td>2018</td>
<td>519.00</td>
<td>1.95</td>
<td>8.59</td>
<td>166.23</td>
<td>173.80</td>
<td>21.48</td>
<td>5.90</td>
<td>5,226</td>
</tr>
</tbody>
</table>

Source: The China Banking and Insurance Regulatory Commission (CBIRC) and the then-China Insurance Regulatory Commission (CIRC).

Increasing Liability and Coverage

China’s agricultural insurance started with a strategy of “low liability but wide participation” (Ye et al. 2017) by providing limited sum insured and wide coverage of protection to farmers. China’s insurance program has continued to provide heavy subsidies for subsistence agricultural products, but also offered high-liability and low-subsidy plans for cash crops, adapting to diversified needs from producers. In the past years, it has gradually raised the sum insured from purely replacement cost to including labor costs (Figure 5.3). Liability is expected to rise further according to the 2019 instruction from the Ministry of Finance, which has directly called for promoting the growth of the sum insured.

Extended List of Insurers

At the beginning of the pilot program (2007), only some insurance companies were eligible to underwrite agricultural insurance policies and receive premium subsidies: People’s Property and Casualty Insurance Company of China; China United Property and Casualty Insurance Company; China Pacific Insurance Company; Anhua Agriculture Insurance Company; Guoyuan Agricultural Insurance Co., Ltd.; Gruopama-AVIC Property Insurance Co., Ltd.; and Sunlight Agricultural Mutual Insurance Company. In the past years, the Chinese government has gradually established a system to evaluate the market entry and exit of agricultural insurers. The system is designed to accommodate more insurers in the market, encourage market competition, and increase service quality. In 2013, 25 companies were in the agricultural insurance market, and
Figure 5.3. The Overall Level of China’s Agricultural Insurance Liability and Coverage, 2007–2018

Data sources: Insured areas and sum insured from the China Banking and Insurance Regulatory Commission (CBIRC) and the then-China Insurance Regulatory Commission (CIRC). Nationwide crop sown area, forest area, and animal husbandry value-added from Statistical Yearbook of China.

Note: Share of crop area insured = crop area insured / crop sown area; Share of forest area insured = forest area insured / total forest area; Share of livestock production insured = livestock insurance sum insured / animal husbandry value-added.
at least 2 companies were providing service in a single province (Feng and Tuo 2014). In 2019, the total number was 32, and at least 3 companies were in each province (except for Tibet). Box 5.2 provides an example of agricultural insurance that helped during a major drought.

While the development of agricultural insurance in China has undoubtedly made major progress since the mid-2000s, the sector still faces considerable challenges that must be addressed if it is to reach its full potential.

- **Lack of critical data.** There remain gaps in fundamental data with respect to the insured (e.g., georeferenced farmland, livestock, and forest). Without precise data on the insured, it is difficult to link the farm indemnity written in a contract to georeferenced farm plots, leading to confusion and even chaos in loss adjustment. The lack of historical yield or loss data has hampered quantitative risk assessment and corresponding risk-based premium rating, and the premium rates are still province-based, ignoring the huge spatial difference in production risks. These data are either simply absent (e.g., farm-level yield data), or they lack viable protocols or mechanisms to share between government agencies and the industry.

- **Underdeveloped technique.** Most operations still rely heavily on manual computations, which can lead to great uncertainty. For instance, loss-adjustment results have been mostly based on the expertise of agricultural technicians, and the final results are subjected to the negotiation between the policyholder and the insurer. Nationwide quantitative risk assessment and risk-based premium maps are still absent (Zhang et al. 2015). Agricultural insurers still concentrate on premium revenue while associated risk is largely ignored. There has been a rise in the use of information technology in agricultural insurance. The use of personal digital assistants (PDAs) for georeferenced positioning of the insured during underwriting, and drone-based remote sensing and rapid loss-assessment are a few examples. The 2019
From July 1 to August 9, 2014, average precipitation in Liaoning Province was only 90 millimeters, 60 percent lower than the multi-annual average, making the drought the worst since 1951. In total, 1,951,000 hectares of crops were affected, and total drop in yield was estimated to be more than 5 billion kilograms. This drought could have led to devastating damage to producers’ livelihoods. Fortunately, 1,284,000 hectares of crops were insured. After the disaster, insurance companies partnered with local government authorities to mobilize human resources to conduct loss-adjustment at crop fields. By November 10, 2014, all loss-adjustment work was finished, and in total 380 million yuan in indemnities were paid via bank transfer to individual producers.

On November 6, 2014, Mr. Luo Quan’an, a local producer living in Houshan Village, Nanda Township, Xingcheng Municipality, received his indemnity of 6,000 yuan from the insurance company. His 2 hectares of maize were totally damaged by the drought. “It is amazing that I paid only 75 yuan/hectare for premium, and in return the 6,000 yuan indemnity largely reduced my loss,” he said excitedly. “Our farming people would have much more confidence about our income than before [against natural disasters due to the help of agricultural insurance].” The photo above shows another farmer helped by insurance.
instruction by the Ministry of Finance also calls for compiling the first-generation national agricultural production risk maps and risk-based premium rating results.

- **Farmers’ awareness.** As is typical in a developing agricultural sector, Chinese producers have limited experience in using insurance. The development of the agricultural insurance market has entailed an extensive learning-by-doing process in which producers get to know insurance and learn to use insurance via deep involvement in the operational cycle, including paying the premium, witnessing the loss-adjustment procedure, and receiving indemnity in person (Ye et al. 2016). However, this process poses some problems. In some regions, local insurers work only with the representatives of the group policy, most likely village heads, when collecting premium and paying indemnity, because it is very costly to face tens of thousands of farming households in one county directly. In some counties, local governments are providing enough subsidy to allow producers to join the program for free, which saves a lot of administrative costs. For instance, the premium for paddy in Hunan Province was only 4 yuan per mu (1/15 hectare), and the cost incurred in collecting the premium could be several fold more than that in far-flung villages.

**References**


*While the development of agricultural insurance in China has undoubtedly made major progress since the mid-2000s, the sector still faces considerable challenges that must be addressed if it is to reach its full potential.*