Special Topic 2

International Experience in Agricultural Insurance and Its Implications

Agricultural insurance is an important component of the rural social supportive system and the rural financial system and provides a multi-level, all-round protection against risks for agriculture, rural areas and farmers. The CPC Central Committee and the State Council take the development of agricultural insurance very seriously. In 2004, 2005 and 2006, for three consecutive years, the Central Committee Document No. 1 and China's Eleventh Five-year Plan (2006-2010) posed very clear requirement on agricultural insurance development. *The Opinions of the State Council of China on the Reform and Development of the Insurance Industry* clearly points out the need for "agricultural insurance shall be incorporated into the overall agriculture supportive system as an innovation" and demands that "putting in place a comprehensive agriculture insurance system with multiple means of delivery by actively and prudently pushing forward the pilot programmes". To draw on international experience and put in place a sound system of agricultural insurance is of great significance to improving the agriculture supportive system, promoting coordinated development of urban and rural areas, contributing to the building of a new socialist countryside and maintaining financial stability.

The Characteristics and Classification of Agricultural Insurance

Agricultural insurance is an institutional arrangement by which agricultural producers pay a low insurance premium to insurance companies and transfer the risk of property loss or personal injury caused by disasters in the process of agricultural production to insurance companies. It is an important means to diversify and mitigate agricultural risks. Agriculture and agriculture-related activities are faced with higher risks, for example, natural risks (including weather risk, such as hail, drought, flood, earthquake, tsunami, etc.; pest and disease risks, such as the outbreak of livestock epidemics); economic risks (price fluctuations, interest rate movement and changes in demand); policy risks (trade policies including tariffs / embargoes, agricultural subsidies and tax policy changes, etc.); and social risks. As individual farmers or enterprises have poor capacity to bear these risks, agricultural risk management framework has been established in many countries. One important tool to manage agricultural risk is agricultural insurance (Table A2.1).

Agricultural insurance has the nature of "quasi-public goods", and it is a national agricultural protection policy that takes the form of insurance and possesses a certain public-good nature. Agricultural insurance has the positive externality effect, which is manifested by high social benefits but low real benefits for operators. Market forces alone do not provide enough incentives and prove to be ineffective. But solely government support to agriculture insurance is of high cost and low efficiency. Therefore, many countries adopt an approach that combines the government and market forces.

Table A2. 1 Agricultural Risk Management Framework

		Source of Capital	Risk Sharing
Self insurance		Individual farming unit	Individual
Ad hoc disaster relief		Government budget/International aid	Public
Institutionalized disaster fund		Government budget/International aid	Public
Agricultural insurance	Public insurance	Government budget	Public
	Micro insurance	Government budget/Private insurers' capital	Public and private
	Mutual insurance	Capital of local agricultural cooperatives	Community
	Commercial insurance	Private insurers' capital	Private

Source: Swiss Re.

In addition to policy feature, agricultural insurance also has the following features: the living nature of its subject, which means that its subject is mostly living organisms; quite strong regional nature (in countries with developed agricultural insurance, the risk zone and the premium zone are broken down by the county, village or farm level); obvious seasonality; cyclicity of production, which is closely linked to the cycle of agricultural disasters; technical difficulty (in business expansion, underwriting and claims payment) and big operational risks.

There are several ways of classification of agricultural insurance. They are as follows: In terms of object of production, there are crop insurance, animal husbandry insurance and forestry insurance. In terms of protection levels, there are cost insurance, quantity or value-based insurance. In terms of contribution forms, there are short-term agricultural insurance (period less than one year), long-term deposit-type agricultural insurance (generally over 3 years and a fixed sum of deposit is prepaid firstly, the deposit interest will act as the insurance premium and no annual premium needs to be paid during insurance period). In terms of limit of liability, there are named-peril agricultural insurance (insured against a single obligation), multi-peril agricultural insurance (insured against more than one type of specified liabilities), and all risks (insured against all risks except uninsurable risks). In terms of hazard features, there are natural disaster loss insurance, diseases and death insurance and accident loss insurance.

Organization, Government Support and Development Modes of Agricultural Insurance in Major Countries

Agriculture is a vulnerable industry. High risk and high loss ratio are common features of agricultural insurance in many countries. Therefore, policy support is indispensable for agriculture insurance. In the process of development, many countries formed distinctive modes of development and organizations in agricultural insurance.

Forms of organizations in agricultural insurance

Practices in most countries with agricultural insurance show that there are mainly 4 forms of organizations (Table A2.2). First, state-owned insurance companies, state-owned banks or specialized companies authorized by the government. Given the policy-based nature of agricultural insurance, in many countries the state-owned insurance companies or state-owned banks operate agricultural insurance. There are some countries in which the government authorizes specialized agencies to operate agricultural insurance. Second, insurance conglomerate (also known as insurance consortium). Insurance conglomerate can be formed by private conglomerates alone or jointly by state and private companies. The third form is Cooperatives. The form of cooperatives is taken in many countries to operate agricultural insurance, which is effective against single risk concerning crops. The fourth type is private insurance companies.

Table A2.2 Forms of Organizations in Agricultural Insurance

Form of Organization		Nations
State-owned insurance companies, state-owned banks or specialized insurance companies authorized by government	State-owned insurance companies	India, Bangladesh, Brazil, Colombia, Costa Rica, Cuba, etc.
	State-owned banks	Iran, Uruguay, etc.
	Iran, Uruguay, etc.	USA, Canada, France, Spain, the Philippines, Sri Lanka, Israel, Venezuela, Panama, etc.
Insurance conglomerate (Insurance consortium)		Spain, Chile, and Korea, etc.
Cooperatives		Germany, France and USA, etc (crop hail insurance mainly run by cooperatives); Japan, Italy, Algeria, Ivory Coast, Morocco, and Bolivia, etc. (cooperative is the main channel in operating agricultural insurance business)
Private insurance companies		Greece and Mexico, etc. (private insurance companies are allowed to run single crop insurance and part livestock insurance only); USA (mainly are private insurance companies run or act as insurance agents); South Africa (all by private insurance companies)

Note: Table content is based on collected information.

Forms of government support to agricultural insurance

High risk, high cost, high loss ratio and the non-profit nature determine that agricultural insurance has a very strong policy feature. The level of government support to agricultural insurance determines the development of agricultural insurance of the country. Foreign agricultural insurance practice shows that the government plays an important role in the development of agricultural insurance.

Ways of supporting agricultural insurance in developed countries

Since the governments have strong government financial strengths, the developed countries give great support to agricultural insurance in a fairly comprehensive way (Table A2.3).

Table A2.3 Forms of Government Support to Agricultural Insurance in Some Developed Countries

Form of support	USA	Canada	France	Japan
Legislation	*Federal Corp Insurance Adjustment Law* of 1938, amended in 1980	*The federal Crop Insurance Act* of 1959, and valid up to now	Act in 1960 to operate agriculture insurance, and another act in 1982 for compulsory natural disaster insurance	1929 and 1938 *Livestock Insurance Act* and *Agriculture Insurance Act*, in 1947 combined the two, amended and completed the *Compensation Against Agricultural Loss Law*
Financial support	Premium subsidies, subsidies on administrative costs of crop insurance, financial support to research & development and training	Premium subsidies, subsidies on administrative costs of crop insurance, financial support to research& development and training	Premium subsidies	Japanese government subsidizes part of the expenses of agricultural mutual associations and all expenses of agricultural federations. In addition to agricultural insurance, there are forest insurance mutual association and Fisheries insurance mutual association. A full scale insurance mechanism is established in rural areas.

Table A2.3 (Concluded)

Form of Support	USA	Canada	France	Japan
Tax deduction policy	No tax for crop insurance from federal government, state government or other local government	Tax free for insurance companies running crop insurance	Tax cut or tax free for insurance companies' business including but not limited to agricultural insurance	Tax free for agricultural cooperatives
Reinsurance support	By federal crop insurance the government provide private insurance companies with reinsurance service and excess-of-loss reinsurance	The federal government provides reinsurance to provincial companies	The government agriculture reinsurance organization and central agricultural solidarity fund provide subsidies to non-governmental organizations in case of severe natural disaster. 50% of the capital of national agricultural disaster fund is from agricultural insurance tax, and the rest 50% from government budget	Ministry of Agriculture, Forestry and Fisheries of Japan opens reinsurance accounts and accept all reinsurance from county mutual association on behalf of the state, including proportional reinsurance and excess-of-loss reinsurance

Note: Table content is based on collected information.

First, establish a fairly sound legal framework for agricultural insurance. Efforts have been made to formulate agricultural insurance regulations, to legally define the government mission and goals to support agriculture insurance, the scope of protection, protection level, organization and operation, to ensure the smooth establishment, coordinated operation and effective implementation of the agricultural insurance system. Japan, Canada and the United States drafted agricultural insurance regulations in 1929, 1935 and 1938 respectively and France adopted agricultural insurance in 1960 through laws and regulations.

Second, adopt an approach of combining voluntary and compulsory agricultural insurance. Agricultural disasters often occur in a very wide range. It is a must that there are sufficient participant to diversify risks effectively. Otherwise, risks will be concentrated. At present, many countries, based on the economic and social objectives for agriculture and rural development, adopt statutory insurance for only a few products of agriculture, forestry, animal husbandry, by-products and fishery which bear on the national interest and people's livelihood. They adopt compulsory insurance and differentiated rates to the major crops, which reflect mutual-support nature of the insurance and reduce adverse selection. Some countries (such as Spain, Greece and Sweden) have adopted statutory insurance for all crops. Other countries apply statutory insurance to certain subjects. For example, there is an act in 1982 in France, which applied compulsory insurance only against natural disasters.

Third, adopt various means of financial support. To encourage commercial insurance companies running agriculture insurance businesses, many developed countries tend to adopt a variety of financial support, including premium subsidies, subsidies on administrative costs of agricultural insurance, expense subsidies for agricultural insurance companies in research & development and training as well as tax-free policy. For example, the United States adopts one or more financial support for commercial insurance companies.

Fourth, adopt a policy of low premium rates and high subsidies. Many countries set agricultural insurance premium rates by type of crop and risk level. The rates are relatively low to the extent that all the agricultural producers can afford. Thus there is a large coverage, which allows risk diversification in terms of time and space. Developed countries make provisions on the sharing of premiums in their agricultural insurance law and give high subsidy to participants of agricultural insurance. The subsidy level is 30% in the U. S., 50% in Canada, 50-80% in France and 60% in Japan.

Fifth, establish an agricultural reinsurance mechanism. To diversify and prevent agricultural risks in a wider scope, many countries provide reinsurance to agricultural insurance through the government or government-supported commercial insurance or reinsurance companies. In Japan, the government uses reinsurance as a way to sharing risks in agricultural mutual aid, which is quite successful. Mutual aid associations at the four local levels together with the central government provide a two-tiered reinsurance to agricultural mutual aid organizations. The Canadian federal government provides reinsurance to provincial companies. The U. S. Federal Crop Insurance Corporation together with over 30 private and joint stock insurance companies and reinsurance companies operate crops reinsurance business.

Ways and experience to support agricultural insurance in emerging market economies

Government also plays a prominent role in agricultural insurance in emerging economies. Legislations are enacted to support agricultural insurance and provide premium subsidy and reinsurance support in many emerging countries except South Africa, which completely adopts a market-based approach (Table A2.4). Relatively speaking, the scope of government subsidy in emerging markets is not as wide as in developed counties. For instance, many emerging market economies only provide catastrophe reinsurance while developed countries generally provide both catastrophe and general reinsurance.

Table A2. 4 Ways to Support Agricultural Insurance in Some Emerging Market Economies

	India	Philippines	Mexico	Turkey	South Africa
Legislation	Legislative work for agricultural insurance in 1979	*Crop Insurance Act* in 1978	Legislation for agricultural insurance in 1961	*Agricultural Insurance Act* in 2005	*South Africa Insurance Client Protection Consultation and Agent Service Act*
Financial support	Premium subsidies and subsidies on agricultural insurance company's administrative and operating expenses	Premium subsidies and subsidies on agricultural insurance company's administrative and operating expenses	Premium subsidies and financial support to the R&D and training for insurance companies	50% premium subsidies since 2006	No government subsidy
Taxation deduction policy			Tax free	Tax free	Tax cut and tax free
Reinsurance support	Catastrophe reinsurance protection	Cession to other domestic or international insurance companies	Catastrophe reinsurance protection	Agricultural Catastrophe Insurance	Reinsurance according to commercial principles. Stop loss reinsurance in catastrophe

Note: Table content is based on collected information.

Governments in some emerging market economies have limited financial capacity, but in practice they have found some good ways of agricultural insurance development in proportion to their fiscal capacity.

First, government promotes agricultural insurance through compulsory insurance and providing necessary infrastructure and shift from direct premium subsidy support to improvement of market conditions. With such a practice, only catastrophe reinsurance is provided.

Second, since it has high cost to establish specialized and policy-related agricultural insurance companies, it is better to encourage commercial insurance companies to operate agricultural insurance business. In India, Agricultural Insurance Corporation (AIC), a policy-related agricultural insurance company was set up specifically to implement Indian's agricultural insurance scheme. But it relies heavily on government subsidy. Mexico set up a policy-related agricultural insurance company in 1961 but closed it down in 1988 due to excessive government subsidy.

Third, design sustainable products of agricultural insurance through financial innovation. To overcome defects of excessive subsidy in the government insurance scheme, Indian insurance companies launched some sustainable insurance products (such as rainfall insurance products) with the help of the World Bank. Such new types of insurance plans have already achieved good results and have greatly promoted India's agricultural development. From which emerging markets achieved excellent experience in agricultural insurance development.

Fourth, cooperate with agricultural credit to increase coverage of agricultural insurance. In Nigeria and Morocco, farmers obtaining agricultural loans must participate in agricultural insurance. In India and the Philippines, it is compulsory for borrowers of crop-credit to join agricultural insurance and voluntary for non-borrowers.

Development modes of agricultural insurance

In the process of the development of agricultural insurance, developed countries formed different modes. The United States adopts a government-initiated and commercial insurance company-operated mode. The government provides subsidies to policy-related agricultural insurance and encourages private insurance company to operate or provide agent services for agricultural insurance. Canada adopts a government-initiated mode where state insurance companies lead and operate policy-related agricultural insurance. European countries (such as France) adopt a mode of private operation and public support. Agricultural insurance is operated by mutual insurance companies, insurance cooperatives and private insurance companies, while the government provides some financial support. Japan adopts a mode of government subsidy and social organization operation. The agricultural insurance is operated by Regional Agricultural Mutual Aid Organizations (agricultural cooperatives) and the government provides part of the operating costs as well as reinsurance, thus completing the national agricultural insurance system.

The development modes of agricultural insurance in emerging market economies vary. India set up AIC specifically to implement the national agricultural insurance scheme. The Philippine government and financial institutions jointly funded and established a government-held and operated Crop Insurance Company and its affiliated agencies responsible for the detailed operation of agricultural insurance. In Mexico, commercial insurance companies and local mutual insurance fund (Fondos) provide services and the former policy-related insurance company performs the reinsurance functions. Turkey set up an agricultural insurance consortium where all insurance companies operating agricultural insurance must transfer their agricultural insurance business to the consortium. South Africa set up an agricultural insurance system mainly comprised of commercial insurance where mutual-aid insurance agencies and commercial insurance companies provide agricultural insurance. At present, the South Africa government neither participates in nor provides subsidy to agricultural insurance.

Draw upon International Experience to Promote Sound Development of Agricultural Insurance in China

Since the economic strength of different countries differ and the role of agriculture in their national economy, the level of their support to agriculture insurance varies. However, countries that adopt agricultural insurance have all enacted agricultural insurance legal system to promote agricultural insurance; provided policy and financial support and offered reinsurance. International experience shows that once government gives sufficient support, commercial insurance companies are willing to explore agricultural insurance market.

Since the reform and opening up, the insurance industry made active exploration in serving the rural economy. In 1982, the former China People's Insurance Company began to operate agricultural insurance. In 1986, The Xinjiang Production and Construction Corps established agricultural and animal husbandry production insurance company (the current China United Property Insurance Company) to mainly operate agricultural insurance business. Due to the high loss ratio and lack of policy support, agricultural insurance business was running at a loss on a continued basis and many insurance companies halted agricultural insurance operation. Agricultural insurance was facing a decline in development.

In recent years, the government paid increasing attention to the rural economy and accelerated agricultural insurance development. In 2004, CIRC launched pilot programs in 9 provinces (municipalities and districts), including Shanghai, Heilongjiang, Jilin etc., and introduced the related policy in agricultural insurance. By the end of 2006, there were 4 specialized agricultural insurance companies. The number of pilot areas and coverage increased continuously, including corn, rice, tobacco and other crops, and poultry chicken, pig, cow and other animal husbandry, with aggregated covering 145 million mu (1 mu = 0.067 hectare) crop and 246 million animals (poultry). In 2006, the premium income from agricultural insurance totaled RMB 848 million yuan, up by 16.15% y-o-y and the payment for agricultural insurance reached RMB 591 million yuan, up by 4.21% y-o-y. At present, China United, Sunlight Insurance, PICC Property accounted for the majority of premiums and agricultural insurance in some regions develop quickly, such as Xinjiang, Heilongjiang, Shanghai and Yunnan. Different regions formed certain development modes in pilot agricultural insurance programs (Table A2.5).

Table A2. 5　A Summary Table of National Agricultural Insurance Pilot Models

Pilot Program	Mode of Operation	Underwriting Subjects and Methods	Financial Subsidy Policy	Risk Diversification Mechanism
Heilongjiang Sunlight Agricultural Mutual Insurance Company	Established in January 2005. The company is mainly focused on unified operation, with certain business run by mutual insurance agencies.	Crops such as rice, wheat, corn and barley. Insurance covers the natural disasters of drought, waterlog, typhoon, hail, freezing, disease and insects.	65% premium from farmers, and 35% from Heilongjiang Land Reclamation Administration and Heilongjiang Farm on behalf of national and local financial authority respectively.	The insurance agency keeps 50% of insured risks itself, and reinsures 50% to the insurance company. 10% of the premium income goes to catastrophe reserve fund, to compensate for losses in excess of a 120 percent loss ratio.
Anhua Agricultural Insurance Company, Jilin Province	Established in December 2004, it is a joint-stock agricultural insurance company formed by 7 provincial firms.	Policy related business: high quality corn, tobacco, strawberry, poultry chicken, pig and cow operated by leading enterprises; commercial business: property, housing, health and accident insurance for farmers.	RMB 12 million yuan from provincial fiscal subsidy. The portion of premium among provincial finance, county (city) finance and farmer is 6:2:2. The average premium paid by farmer is RMB 100.	The company binds the policy oriented business with commercial business together and arranged commercial reinsurance for both. In 2005 the provincial government provided some subsidies for excess losses temporarily.
Shanghai Anxin Agricultural Insurance Co., Ltd.	Established in September 2004. Major investors are the district and county finance bureaus or the investment companies affiliate to the agricultural committee.	Traditional policy related business: 9 lines of breeding and planting insurance; risk insurance for dependents, rural area housing insurance. Newly developed insurances: about 20 new insurance lines, such as agricultural equipment comprehensive insurance.	The municipal finance and district (county) finance provide 35% subsidies for rice, pig, cow and poultry bird; 30% subsidies for wheat, vegetables, forest, fresh water fishery, watermelon and melon; 30% subsidies for agricultural equipments and fishing boats.	Rely on commercial reinsurance. The catastrophe risk funds is established and compensate for excess losses of breeding and planting insurance which single or total annual payments exceed the expected limit.

Table A2. 5 (Continued)

Pilot Program	Mode of Operation	Underwriting Subjects and Methods	Financial Subsidy Policy	Risk Diversification Mechanism
Xinjiang Autonomous Region Pilot Program	Since 1982, People's Insurance Company has operated cotton insurance based on the principles of "individual accounts, independent accounting, establish a fund and closed operation".	Mainly covering cotton and wheat, based on a certain portion of the material cost of the agricultural means of production.	No financial subsidy. Exempted from policy related business corporate income tax (1994 - 2000). Temporarily defer the operation tax for housing and property insurance businesses in county and smaller administrative regions.	Three levels of risk funds are established by the autonomous region, city/shire/district/, and county. Insurance companies in different regions reserve certain portion of their business profits into the funds to cover excessive losses.
Mutual Association Pilot Program, Jiangsu Province	Started in November 2004 and led by Huai'an city government, operated by China United.	Covering rice, barley, wheat and buckwheat.	The city and county finance provide 50% premium subsidies to participating farmers.	Premium incomes are incorporated into the special fund managed by China United. In the case of catastrophe loss that exceeds the limit of the fund, the company and the government share the losses in the portion 3:7.
Mutual Association Policy Related Agricultural Insurance Pilot Program, Zhejiang Province	Initiated in March 2006, and adopted "mutual insurance" and "cooperation" method, the 10 insurance companies in Zhejiang Province formed a mutual association. Agricultural association and special cooperative, provide joint insurance service to single kind crop with low risk.	Insuring the rice, pig, chicken, duck, greenhouse vegetables, watermelon, orange, forest, freshwater fishery, cow, and mud crab in 11 districts (counties). Main business is initial cost insurance.	Government provides 50% premium subsidies for rice insurance, and 35% for others.	The payment cap is 5 times of the premium income. In the case that total annual payment is twice of the premium income the mutual association pays; twice to three times, government and the association pay 1:1; three times to five times, government and the association pay 2:1. Further payment is not liable.

Table A2. 5 (Concluded)

Pilot Program	Mode of Operation	Underwriting Subjects and Methods	Financial Subsidy Policy	Risk Diversification Mechanism
Commercial Insurance Company Agricultural Insurance Pilot Program, Sichuan Province	The government and the insurance company design the plan together and the insurance company runs the business.	The cow insurance of Meishan City, and the pig insurance of Ziyang and Neijiang.	Local finance subsidies RMB 100 for cow insurance and RMB 4 for pig insurance.	No payment cap. However, when large amount of claims appears, relevant government authority (Livestock Bureau) would intervene to rigorously review claims and minimize payments.

Source: CIRC.

Since the launch of a new round of agricultural insurance pilot programs in 2004, the scale of China's agricultural insurance expanded, but was still inadequate to meet the need of building a new socialist countryside. There are some problems in the development of agricultural insurance, such as unclear position of agricultural insurance, lack of overall scheme, lagged legislation; inadequate fiscal and tax policy support; lack of efficient insurance instruments and catastrophe risk diversification mechanism, etc..

To establish and improve China's agricultural insurance system is a long-term and complicated project. It cannot be accomplished overnight and must be based on China's reality. We must draw upon the successful experience of other countries, consider short and long-term interests and do it in a gradual, phased and prudential fashion. Gradually establish a mutli-tiered agricultural insurance system with wide coverage and diversified means of delivery that best suits China's reality through pilot programs. First, vigorously advance agricultural insurance legislation and clearly define the position, protection range, management principles, differentiation between policy-related business and commercial business, policy incentives and other issues. Second, guide insurance companies to operate agricultural insurance through government subsidies. To ensure that government subsidy is up to standard and efficient, government subsidies should be managed within the framework of the "Green Box" of WTO *Agreement on Agriculture*. At present, China has limited financial resources and fiscal subsidy should follow the principle of basic guarantee. The insurance subject should select crop and animal husbandry industry bearing on the overall economy and people's livelihood, and mainly adopt premium subsidy. On the basis of premium subsidy pilot programs, we should gradually expand to subsidize on operating and administrative costs. Third, encourage insurance companies to operate agricultural insurance through tax incentives. With industrial restructuring, agriculture is expanding its scope. We can consider encouraging insurance companies to expand the service scope for agricultural insurance through tax incentive policy, develop insurance products and services suited to the needs of the rural economy. Finally, establish a risk diversification mechanism of agricultural insurance. As agricultural insurance has high risk and strong regional features, catastrophe risk diversification mechanism is vital. It is necessary to accelerate the establishment of a reinsurance system for China's agricultural insurance.

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