



The Mode of Dual Agricultural Insurance Institution: Way out of the Plight of Chinese Agricultural Insurance Institution

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Abstract

Chinese agricultural insurance institution has not broken through the framework of initial choice, always evolving within the framework of unitary institution, which is the root of the plight of Chinese agricultural insurance. The way out of the plight is to establish and perfect a dual agricultural insurance institution in China, that is, existing agricultural insurance institution and organization structure should be employed in general agricultural disaster insurance, while agricultural catastrophe insurance should be led step by step by the government, with an agricultural catastrophe insurance institution gradually established and perfected, thus constructing the new mode of dual agricultural insurance institution.

Keywords: Institution plight, Way out, Dual agricultural insurance

Chinese agricultural insurance institution has undergone several stages: the mode of rural mutual agricultural insurance institution from 1934 to 1949 (Zhang, Gu and Shi 2006), the mode of government-leading agricultural insurance institution from 1949 to 1958, the mode of commercial agricultural insurance institution under government support from 1982 to 2004 (Tuo, 2003), and from 2004 on the innovative experimental mode of cooperative insurance and mutual insurance institution based on the mode of policy agricultural insurance institution. Seen from the current situation, the limited force and scope of experiment, the limitation of the mode of cooperative insurance and mutual insurance institution itself, and the conflict between the policy objective of agricultural insurance and the commercialized objective of insurance companies all result in the continuance of the plight of Chinese agricultural insurance institution.

Beginning with the plight of Chinese agricultural insurance institution, this essay discusses the causes of the plight and puts forward a mode of dual agricultural insurance institution as the way out of the plight. It tries to relate the plight of Chinese agricultural insurance institution to the question of dual agricultural insurance institution, locating the study on Chinese agricultural insurance institution in a new theoretic framework, so as to draw more attention.

1. Proposal of the Problem: Manifestation of the Plight of Agricultural Insurance Institution

There have been few successes in Chinese agricultural insurance experiment since the 20th century (Note 1). Especially from the beginning of 1990s to 2003, as an important barrier to agriculture and an institutional arrangement for supporting agricultural development, the development of Chinese agricultural insurance was in an embarrassing situation of stagnancy and atrophy (Fei 2005). In the end of 2003, the Insurance Regulatory Commission unveiled *A Preliminary Scheme of Establishing Agricultural Insurance Institution*. And since 2004, the Insurance Regulatory Commission has authorized three professional agricultural insurance companies with different management modes in

Shanghai, Jilin and Heilongjiang, according to the principle of “starting before perfecting, experimenting before popularizing.” It has also carried out many forms of agricultural insurance experiments under local governments’ support in provinces such as Jiangsu, Sichuan, Liaoning, Xinjiang. These experiments are gradually popularized and deepened, with an improvement of insurance scope and coverage. However, the difficulties and obstacles faced by agricultural insurance emerge accordingly, and the biggest problem is reflected in the following two aspects:

1.1 Unbearable Agricultural Loss

The biggest problem of the present mode of agricultural insurance institution is that the compensation fund can hardly meet the huge loss occurring every year, which is not only unbearable for insurance companies (see Figure 1) but also a heavy burden for national finance. For insurance companies, annual agricultural indemnity has become the primary indemnity of their mint indemnity. Zhejiang Insurance companies paid an indemnity of 181.9 billion yuan during the ten years from 1988 to 1997 because of flood, taking 80% of total indemnity. Since 1991 social property loss caused by flood is above tens of billions each year. The indemnity paid by The People’s Company of China due to flood is more than 12 billion yuan, above 2 billion yuan each year. The highest annual indemnity is above 3 billion yuan. The annual huge sum of indemnity not just makes present insurance companies reluctant to insure catastrophe, but also threatens future insurance companies with bankruptcy. For the whole nation, government plays the role of ultimate and the most generous reliever in every disaster. Once we encounter a severe natural disaster, we usually mainly rely on free relief by the government and humanistic donation by the society, with the afflicted people’s own effort to build a new home as complement. The state has to spend a big sum of money in rebuilding the afflicted area’s economy which could have been spent on national development. This makes the central and local governments financially burdened.

Insert Figure 1 here

Insert Figure 2 here

On the other hand, due to the conflict between the high loss rate of agricultural disasters and the low income of farmers, farmers cannot bear the loss.

Take Shanxi Province for instance. According to statistics, the average annual area afflicted by drought takes 25% of the cultivated area, hail 2.7%, and frost, storm, wind disaster and flood each takes 1%. Take the year 1997 for example, the agricultural production value of this year’s Shanxi Province is 22.69 billion yuan, and the real loss caused by natural disasters is 1.52 billion yuan (with drought loss excluded). The provincial economic loss caused by natural disasters takes 6.7% of the agricultural production value, each person losing 64.9 yuan. If we calculate according to such a loss rate of agricultural planting, the premium rate of agricultural insurance should be 6.7%. If we calculate according to this premium rate, each farmer has to afford an agricultural insurance premium of 64.9 yuan each year, and a four-member family has to afford a premium of 260 yuan each year. This is rather difficult for the relatively poor farmers. When drought loss is included, the premium rate is above 30%, which is in no way affordable for farmers. If all-risks insurance (including property and livestock) is carried out, the premium rate will become higher. Nevertheless, the average income of rural inhabitants in Shanxi Province in 1997 is only 1738 yuan, even lower in depressed areas. So they can hardly afford the expensive premium. The basic contradiction between the high loss rate of agricultural catastrophe and the low average income in rural areas makes the development of agricultural catastrophe operation arduous. According to basic insurance theories, premium rate should depend on the loss rate of agricultural production, and the charging standard thus determined is unaffordable for the great majority of farmers. However, if the premium rate calculated is too low, insurance companies will be out of pocket and unable to maintain their business. If this contradiction is not solved, it is impossible to carry out agricultural insurance.

1.2 Low Compensation Level of Agricultural Disaster Loss

On the one hand, agricultural disasters cause great loss for Chinese agricultural production and the loss tends to grow; on the other hand, the compensation level through insurance and almsgiving is rather low (see Figure 2).

According to survey and calculation, the average annual loss of agricultural production value to be compensated (namely, the part with a loss degree higher than 30%) is 168.159 billion yuan. The average annual compensation through disaster almsgiving is 3.731 billion yuan, 2.22% of the loss of agricultural production value to be compensated. The average annual compensation through agricultural insurance is 450 million yuan, 0.27% of the loss of agricultural production value to be compensated. Put the two together, from 1998 to 2000 the average compensation level of agricultural loss in China is 2.49%. Calculated according to rural population, in 2000 the loss of agricultural production value to be compensated is 246.89 yuan per person, while the agricultural almsgiving fee is only 4.36 yuan per person and the agricultural insurance indemnity is only 0.37 yuan per person. Thus, the present agricultural insurance is totally unable to compensate the loss caused by agricultural disasters.

2. The Mode of Unitary Insurance Institution: Root of the Plight of Agricultural Insurance Institution

2.1 Overview of Unitary Agricultural Insurance Institution

Institutional mode refers to a set of rules formed through a long period of practice, with distinctive features and relative stability. Agricultural insurance has been practiced in different countries. Since these practices were made in different countries with different social economic institutions and different policies and objectives, different institutional modes came into being (Note 4). This essay suggests that the present Chinese mode of agricultural insurance institution may be summarized as the mode of unitary insurance institution which means a set of agricultural insurance rules for a long time led by the government and run commercially in accordance with the type of agricultural insurance instead of the loss caused by agricultural insurance disasters. The mode of unitary insurance institution has two distinctive features:

The first feature is to regard all losses caused by insurance disasters to be of the same nature. Usually, for different agricultural insurance losses and different occurrence frequencies (mainly ordinary agricultural disaster and agricultural catastrophe), premium calculation and government support are different, which is in accordance with the insurance principle that profit should be pursued and loss be eluded. However, in the present model of agricultural insurance institution the same method (Note 5) of premium calculation and management is adopted, which is contradictory to the fundamental principle of insurance.

The second feature is the unitary participation of the government. In the period of planned economy the government decided whether the agricultural insurance is carried out or ceased. When the reform of market economic system is started, the government began to pay more and more attention to agricultural insurance and conduct one after another adjustment and innovation in agricultural insurance institution. Nevertheless, during the change of Chinese agricultural insurance institution, the state did not play the principal role made possible by the institution. Since there was no relative law as guarantee in the experimental spots of agricultural insurance, policies made by the local governments have great randomness and instability. More importantly, the government's present participation into agricultural insurance is unitary. The principal modes are government support and financial subsidy. Different tiers of government hold different attitudes towards agricultural insurance, and only in a few areas where importance to agricultural insurance is attached, the government cooperates with commercial insurance companies, offers policy benefits, subsidizes premium and management fee, and derates sales tax. But on the whole, the participation of the state and local governments is rather unitary. In fact, the greatest risk of agricultural insurance lies in agricultural disaster risks, especially agricultural catastrophe risks. Though ordinary agricultural disasters may be tackled, once there is agricultural catastrophe the agricultural insurance company cannot cope by itself. The present government support is insufficient to disperse and transfer agricultural disaster risks, and its support and subsidy for agricultural catastrophe is especially insufficient. Besides, the mechanism is underdeveloped. All this is the biggest problem of agricultural insurance.

2.2 Historical Reason for Unitary Agricultural Insurance Institution

In North's view, there exists a mechanism of reward-increasing and self-strengthening, namely, path dependence. Due to this mechanism, once institutional change takes a certain path, its decided direction will be strengthened in future development. He points out that the decision people made in the past determines the possible decision they are about to make now. The profound reason for the formation of path dependence is the interest factor. A vested interest group which has gained interest from the former institution co-exists and co-prospers with it. They try to solidify and maintain the old institution and baffle further reformation even if the new institution is more efficient than the old one. Once path dependence is formed, institutional change might become simple patching up.

In the past fifty years or so, agricultural insurance has undergone several changes but has never found its way out of the institutional plight (Note 6). It may be said that the institutional change of agricultural insurance has not broken through the framework of initial choice, but has always been evolving within this framework. This shows that the institutional change of agricultural insurance has strong path dependence. And the existence of path dependence in the institutional change of agricultural insurance has its own reasons. On the one hand, institutional change within the former framework not only saves initial setup cost, reduces the friction cost in execution and accelerates the change, but also avoids too much interest loss in the vested interest group and thus being more acceptable for local governments. On the other hand, as a result of the long-time government-leading compulsory change and administrative mandatory management, the initiative of the base reform of agricultural insurance is insufficient, and leaders and employees of agricultural insurance who are used to obeying higher-up direction and red heading documents lack the subjective initiative to think actively and to innovate. Therefore, in the process of reform the phenomenon of making short shrift of things makes the reform measures powerless. All these factors strengthen path dependence and makes agricultural insurance unable to find its way out of the institutional plight and break through the existing institutional mode.

2.3 Problems of the Mode of Unitary Insurance Institution

In the mode of unitary insurance institution there exist a lot of problems. This essay ascribes the biggest problem to a

lack of a supportive and protective system for agricultural catastrophe.

China is one of the countries where agricultural natural disasters occur frequently. Due to the diversity of disasters, the large area of disaster-affliction and the high percentage of disaster forming, natural disasters severely threatens the development of Chinese rural economy and harms the regular production and living of farmers (see Table 1).

Insert Table 1 here

At present one of the bottlenecks that baffle the development of agricultural insurance is the lack of a supportive and protective system for agricultural catastrophe in China, which is a principal distinction from the agricultural insurance in developed countries. For instance, the United States offers a certain percentage of reinsurance as guarantee, and France establishes a national agricultural insurance special fund which bears the loss caused by natural disasters except hails. Since there is no supportive and protective system for catastrophe, in China the catastrophic loss is born singly and completely by insurance companies and great risks gather around the management body itself, which make the loss ratio stay high, and the management body's enthusiasm and ability to maintain business are greatly affected. The government's ability to support agricultural insurance is rather limited. Besides, in the present institutional mode, the government's support for agricultural insurance is superficial and extensive. In this way, the utility maximization of government insurance resources cannot be realized.

3. The Mode of Dual Agricultural Insurance Institution: Way Out of Agricultural Insurance Institution

The development mode of agricultural insurance has always been the focus of the domestic discussion in China during which a lot of development modes are proposed. Actually a series of practice and exploration have also been done. But how on earth should we develop agricultural insurance? Because of the complexity and particularity of Chinese agricultural insurance, its agricultural insurance policy has never been decided.

It is clearly pointed out in "Several Suggestions on the Reform and Development of Insurance Industry by the State Council" promulgated in March, 2006 that Chinese agricultural insurance should adopt a synthesized development mode with experimental spots actively and steadily promoted and multiple development forms and channels. Seen from the entire framework, the function of national agricultural industry policies, finance and revenue policies and relative insurance policies should be completely brought into play, an agricultural insurance institution with multiple systems, multiple supportive channels and multiple management bodies should be established, so as to fit the situation of Chinese agricultural insurance development and meet the farmers' need to participate into insurance.

It is pointed out in the "Suggestions" that experiences gained by experimental spots should be carefully summarized, a supportive policy should be studied and made, so as to explore an agricultural insurance development mode suitable for the situation in China, make agricultural insurance an innovation of agriculture support and part of the supportive and protective system for agriculture. The enthusiasm of the central government, the local governments, insurance companies, leading corporations, farmers, etc. should be aroused, the agricultural departments' function of promoting agricultural insurance legislation, guiding farmers to insure, coordinating relations and stimulating agricultural insurance development should be brought into play, so as to enlarge the coverage of agricultural insurance, and establish step by step an agricultural insurance system with multiple management forms and multiple supportive channels.

Under the guidance of above thoughts, this essay proposes that from now on a mode of dual agricultural insurance institution should be established and perfected step by step in China.

3.1 The Mode of Dual Agricultural Insurance Institution

At present the mode of unitary insurance institution is carried out in Chinese agricultural insurance, a commercial management mode under policy support is put into all practice, without the categorization of agricultural insurance into ordinary disaster insurance and agricultural catastrophe insurance. In the future the basic thought of constructing a mode of Chinese agricultural insurance institution is to break the present unitary agricultural insurance system, establish and perfect the dual agricultural insurance system step by step. The mode of dual agricultural insurance institution is to separate agricultural catastrophe insurance from the present insurance system, and to manage agricultural catastrophe insurance and ordinary agricultural insurance separately (see figure 3).

Agricultural catastrophe insurance and ordinary agricultural insurance is divided according to the loss of the insurance object in an insurance period. If the loss of the insurance object is above 50%, it is called agricultural catastrophe insurance; otherwise, it is called ordinary agricultural insurance(Note 8).

Ordinary agricultural insurance may adopt the policy commercial management mode. Multiple agricultural insurance bodies should be established according to the present Chinese policies for agricultural insurance development, so as to form an agricultural insurance market with commercial insurance, cooperative insurance and mutual insurance complementing each other. For this, the government may carry on with the existing agricultural insurance policies and support policies.

Agricultural catastrophe insurance is supposed to be run directly by the government and the basic thought is to adopt the policy management mode. The initial concept is to set up policy agricultural catastrophe insurance companies and adopt the management mode of state-holding companies. The main business is agricultural catastrophe insurance, with three tiers of branches: province (autonomous regions and municipality cities), prefectural and municipal cities, and counties. Thus, policy agricultural catastrophe insurance companies are independent legal entities engaged in policy agricultural catastrophe insurance, carrying out first grade corporation system, setting three tiers of branches according to the administrative division, self-reliant and managed vertically. Administratively, they are subjected to the State Council and directly managed by the State Committee of Capital. Specifically, their organizational system may be divided into four tiers. Their primary duty is to carry out the national industrial policies, and based on the corporation's development strategies use the capital they hold to do business independently and assume sole responsibility for their profits or losses. They also take the responsibility of maintaining and increasing the state-holding capital according to the objective formulated by the board of directions (see Figure 3).

Insert Figure 3 here

3.2 Functions of the Mode of Dual Agricultural Insurance Institution

To establish and perfect the mode of dual agricultural insurance institution has the following functions:

3.2.1 Effective Reduction of the Risk of Agriculture Management

According to the standard which determines agricultural catastrophe, that is, the loss of one agricultural disaster is above 50%, the losses of Chinese agricultural disaster and agricultural catastrophe from 1996 to 2004 are analyzed, and the result shows that agricultural catastrophic loss takes the majority of agricultural disaster losses. In 1998 and 2003 agricultural catastrophic loss takes 87% and 81% of agricultural disaster losses respectively. Thus, as long as the problem of agricultural catastrophic loss is solved, it is much easier to solve the problem of agricultural management risks.

Like Chinese agriculture, rural areas and farmers that encounter countless difficulties, Chinese agricultural insurance was born with a "disastrous gene" because most types of agricultural insurance (especially planting insurance) face greater catastrophic risks than the types of non-agricultural insurance, and at present the insurance approach to diffusion of catastrophic risks is still in need.

Insert Figure 4 here

3.2.2 Effective Reduction of the Risk of Agricultural Insurance Management

The analysis of agricultural insurance loss and agricultural catastrophe insurance loss from 1982 to 2004 reveals that the latter takes the most part of the former. In the years of 1989 and 1996, the latter takes 90%. Therefore, once agricultural catastrophe insurance loss is solved, so will be the agricultural insurance loss. The agricultural insurance in agricultural insurance companies will stop running at a loss, and their risk will be effectively reduced.

3.2.3 A Better Solution to the Institutional Problem of Insufficient Supply of Agricultural Insurance

The insufficient policy supply of agricultural insurance is the fundamental reason of the inefficiency of agricultural insurance in China at present (Feng Wenli, 2004). To make up for loss of agricultural insurance market supply main body, the policy agricultural insurance supply should be effectively increased, for its development solve the problem of insufficient institutional agricultural insurance supply.

On the one hand, policy agricultural catastrophe insurance can effectively defuse the main body risk in agricultural insurance, and government can bear catastrophe risk through market. In this way, agricultural insurance management risk of agricultural insurance companies can be effectively reduced, the enthusiasm of agricultural insurance management of agricultural insurance companies enhanced, and agricultural insurance market supply increased.

On the other hand, government can centralize the limited insurance resources to develop with high priority policy agricultural catastrophe insurance and make the most of the limited resources.

3.2.4 A Better Solution to the Problem of Insufficient Demand for Agricultural Insurance

Usually, as cost, input price and technology change, supply will change and the supply curve will change, too. The social cost of agricultural insurance products is lower than the private cost, and its exteriority benefits on-lookers, which makes input and output insufficient. If the government offers some subsidy for agricultural production, the supply curve will move downward or the demand curve will move upward (This depends on the objects of compensation, that is, whether the insurer or the insured should be compensated.). The motion quantity equals the compensation quantity. Thus, the exteriority of agricultural insurance products becomes interiorized and the balance between supply and demand in agricultural insurance market is finally achieved. Therefore, theoretically speaking, the development of Chinese agricultural insurance relies on government support.

The fundamental reason of insufficient need of agricultural insurance is that agricultural insurance costs much and the

premium rate is high while farmers' purchasing power is small. To solve this problem, we should first increase the income of farmers. But due to the limited agricultural investment and the management of farmers, increasing farmers' income to a great extent is impossible. Second, the premium rate of agricultural insurance is lowered. However, under present circumstances, the high risk of agriculture and the high cost of insurance companies are unchangeable, and agricultural insurance subsidy is limited. Therefore, agricultural catastrophe insurance should be developed and insurance subsidy of government agricultural catastrophe insurance increased to enable farmers to enjoy agricultural insurance with almost zero cost. This may solve the conflict between the high cost of agricultural insurance and high premium rate and the small purchasing power of farmers. This may also encourage the richer farmers to buy general disaster insurance and other country insurance, and enlarge the country insurance market.

3.2.5 Effective Guarantee for Farmers' Basic Living and Production

"One disaster takes all away," "Three years are needed to make up for one disaster," "Wealth accumulated in ten years can be snatched away in one disaster" – all these are true description of disaster-stricken farmers. Farmers' ability to fight against disasters, especially catastrophes, is limited. A common family is very fragile in front of disasters. It can hardly recover from a catastrophe.

If agricultural catastrophe covering a large scope is offered to farmers, so that they can get economic compensation in catastrophe, go on with their basic life, and recover agricultural production, this would be of great strategic significance for country stability, economic development, and construction of new socialism rural area.

4. Step-by-step Adoption of the Mode of Dual Agricultural Insurance Institution

The creation of institutional change basically depends on self-designed and self-constructed institutions. Institutional arrangement and structure of this kind has no precedent, so the argumentation and analysis of institutional change is mainly based on the prevision of the theory. Since no institutional performance of other places can be referred to, institutional change may result in a set of institution of high efficiency or in a lack of efficiency. Following is the characteristics of institutional change: 1. high preliminary cost spent on exploration, research, design and creation; 2. low credit in the preliminary stage; 3. high risk; 4. friction cost; 5. diminishing impetus of change.

The ultimate aim of agricultural insurance institution is to make potential interest out of minimum cost, so as to reach a balancing point in agricultural insurance institution. However, the establishment of an insurance institution is restricted by cost, which includes money used in designing, organizing and carrying out a new institution, cleaning old institution, eliminating resistant force of the change, lost resulting from institutional change as well as random cost.

Based on the above guiding principle, in designing the mode of dual agricultural insurance institution, the existing agricultural insurance institution is used for general agricultural disaster, in order to reduce the cost of institutional change. In this way, agricultural catastrophe insurance institution is established to ensure agricultural insurance institution is balanced and efficient.

On the other hand, in designing the mode of dual agricultural insurance institution, there should be variations in specific arrangements in China, if we take into consideration social, political and economic development, situation of financial and insurance market, capability to bear insurance, management level of insurance skills and risks, as well as the principle of step-by-step in different historical and developmental stages. (General insurance can follow the existing agricultural insurance institution, while discussed here is agricultural catastrophe insurance.)

4.1 The Mode of Short-term Policy Agricultural Catastrophe Insurance Institution

In the recent future, agriculture-related insurance institution and organization are unable to carry out agricultural catastrophe insurance, due to problems they have in terms of capacity to bear insurance, insurance skills and agricultural risk management. Thus the mode of policy agricultural insurance institution should be hosted by the government and managed by government organizations. The specific management mode (see Figure5) is that government should sponsor policy agricultural catastrophe insurance company (stock system may be applied), that nation-province (city)-county (city) three level catastrophe insurance institution should be set up, with counties (cities) directly manage agricultural catastrophe insurance business. At the same time, it is also acceptable to relegate part of the agricultural catastrophe business to commercial agricultural insurance company, agricultural insurance cooperation and agricultural mutual insurance company, earning more market share with some commission.

Insert Figure 5 here

4.2 The Mode of Medium-term Policy Agricultural Catastrophe Insurance Institution

On the basis of development and perfection of the money market and insurance market in China, some insurance organization and institute (mainly commercial insurance company and foreign capital insurance agent) can develop agricultural catastrophe insurance business, that is, agricultural insurance cooperative and agricultural mutual insurance company can surrogate some agricultural catastrophe insurance products from national agricultural catastrophe insurance company, commercial insurance company and foreign capital insurance agent, when agricultural insurance

skills are ripe, risk management is available and government finance and revenue support is accessible (see Figure 6). This can improve agricultural catastrophe insurance market, strengthen the market supplier of agricultural catastrophe insurance and enhance the development of agricultural catastrophe in China.

4.3 The Mode of Long-term Policy Agricultural Catastrophe Insurance Institution

In the long run, agricultural catastrophe insurance institution in China should adjust all the social resources, and various kinds of organization and institute to develop agricultural catastrophe insurance business. A comparatively complete agricultural catastrophe insurance system is composed by national policy agricultural catastrophe insurance company, commercial insurance company, foreign capital insurance company, agricultural insurance cooperative and agricultural mutual insurance company (see Figure 7). This is the ideal mode of agricultural catastrophe insurance institution.

Insert Figure 6 here

Insert Figure 7 here

5. Conclusion and Prospect

In the past 50 years, agricultural insurance institution was changed many times, but never found its way out of the plight. Its changes never broke through the framework of initial choice, always evolving within the framework of unitary institution. From now on, I suggest that dual agricultural insurance institution should be established and improved in China, that is, general agricultural disaster should follow the existing agricultural insurance institution and organization structure, while agricultural catastrophe should be guided by the government to establish and improve agricultural catastrophe insurance system in a step-by-step way. So form the new mode of agricultural insurance institution in China. Naturally, in the process of institutional change, the cost of it is inevitable. At the same time, the exploration of products of agricultural insurance, ratemaking, risk diversification, and application of technology transfer are all problems that are going to appear and to be solved in future.

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Notes

Note 1. From 1934 to 1949 there were rural mutual agricultural insurance and an insurance in which the National Government and commercial insurance companies participated. Both of them ended in loss. In 1950 New China began to try on agricultural insurance. After a process of ceasing and renewing, it quit in 1958 for political reasons (Zhang, Yuehua, Gu, Haiying and Shi, Qinghua, 2006).

Note 2. Data source: Insurance Almanac of China.

Note 3. Data Source: Almanac of Chinese Agriculture Statistics and “Report on Chinese Civil Affairs Development from 1996 to 2005.”

Note 4. Scholars represented by Tuo Guozhu divide the institutional modes of world agricultural insurance into five types: the America-Canada Mode, a government-leading mode; the Japanese Mode, a cooperative and mutual mode under government support; the former Soviet Union Mode, a government-monopoly mode; the West European Mode, a people-running and government-aiding mode; the mode of Asian developing countries, a mode with government selective assistance.

Note 5. Though the calculation methods of different agricultural insurance products have some difference, on the whole the difference is very slight.

Note 6. The theoretic circle discussed the failure of agricultural insurance market. Li Jun (1996), Tuo Guozhu (2002), Feng Wenli (2004), etc. think that the dual exteriority of agricultural insurance causes the failure of agricultural insurance market. To Zhang Yuehua (2005), etc., the reason for market failure is that the farmers’ risk preference tends to be neutral when their income is low. They also think the concept of exteriority is not precise in the theory of market failure. On the macrocosmic level agricultural insurance has typical exteriority, but on the macroscopical level it is not enough to cause market failure. And Sun Xiuqing (2004) think the plight of Chinese agricultural insurance development lies in the contradiction between the policy objective of agricultural insurance and the commercial management objective of insurance companies.

Note 7. Data source: based on “Report on Chinese Civil Affairs Development Statistics from 2001 to 2005” by the Ministry of Civil Affairs.

Note 8. This is presently the internationally popular (such as the United States) division standard for ordinary agricultural disaster and agricultural catastrophe.

Table 1. Statistics of the disaster situation in China from 2001 to 2005(Note 7)

Disaster situation index Year	Population afflicted(ten thousands)	Death toll	Population transferred and nestled for emergency(ten thousands)	Area of crop afflicted (one thousand hectare)	Zero harvest area(one thousand hectare)	Building collapse (ten thousands of rooms)	Direct economic loss (one hundred million yuan)
2001	37255.9	2538	211.1	52150.0	8215.0	92.2	1942.2
2002	42798.0	2384	471.8	45214.0	6433.0	189.5	1637.2
2003	49745.9	2259	707.3	54386.3	8546.4	343.0	1884.2
2004	33920.6	2250	563.3	37106.0	4360.0	155.0	1602.3
2005	37255.9	2538	211.1	52150.0	8215.0	92.2	1942.2

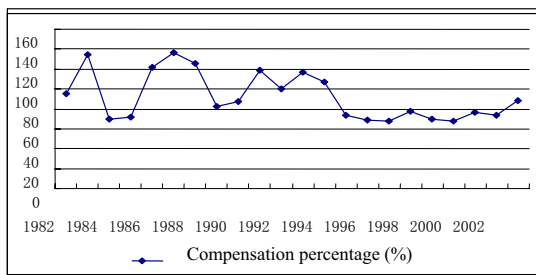


Figure 1. Agricultural compensation by the People’s Company of China (unit: %) (Note 2)

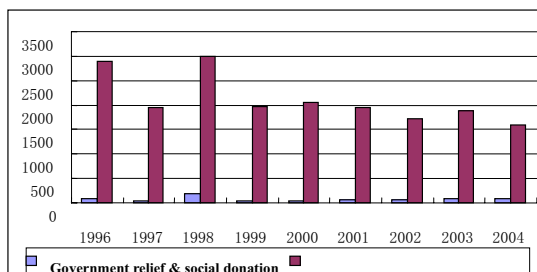


Figure 2. Direct economic loss caused by disasters and government relief & social donation (unit: 100 million yuan)(Note 3)

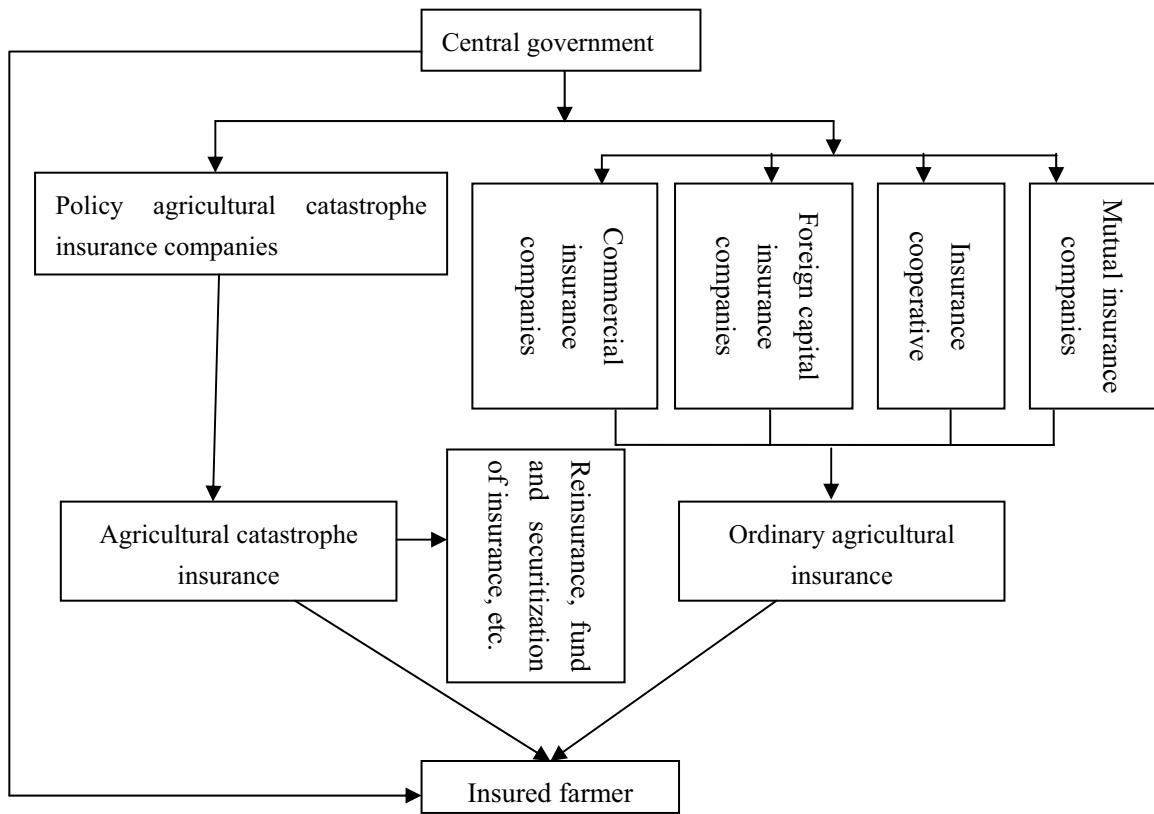


Figure 3. Conception of the mode of dual agricultural insurance institution in China

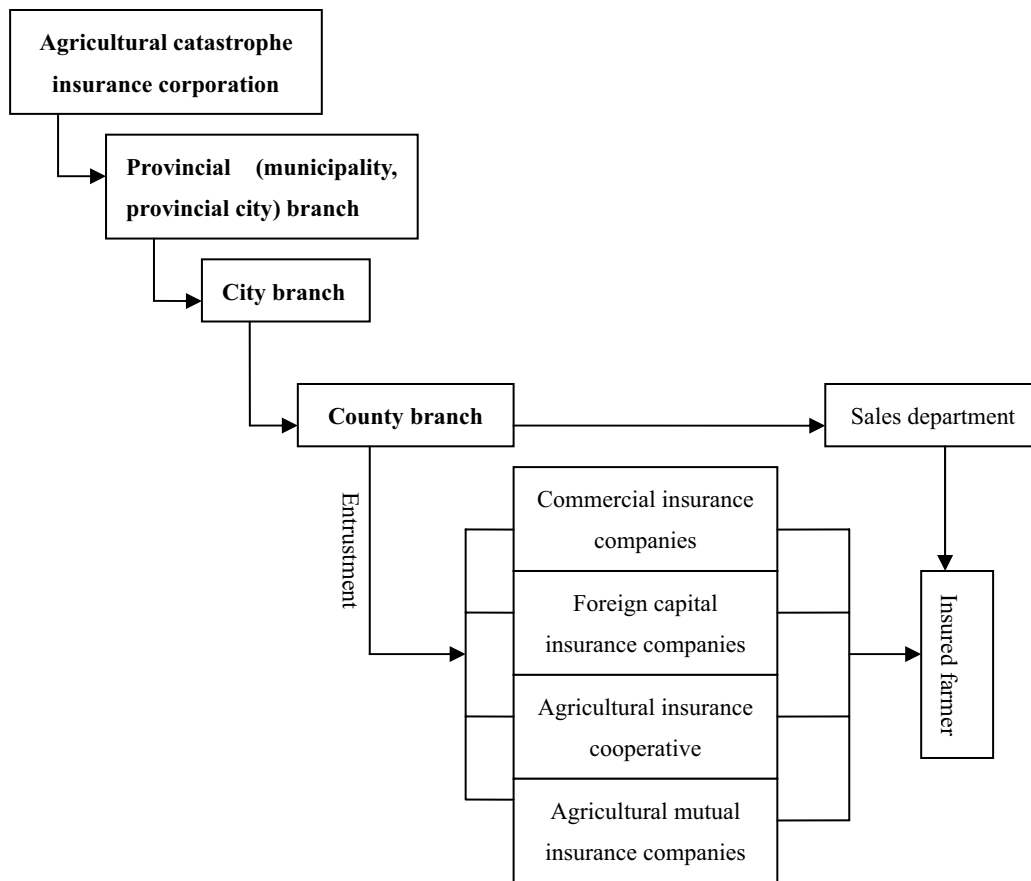


Figure 4. Mode of operation of agricultural catastrophe insurance corporation

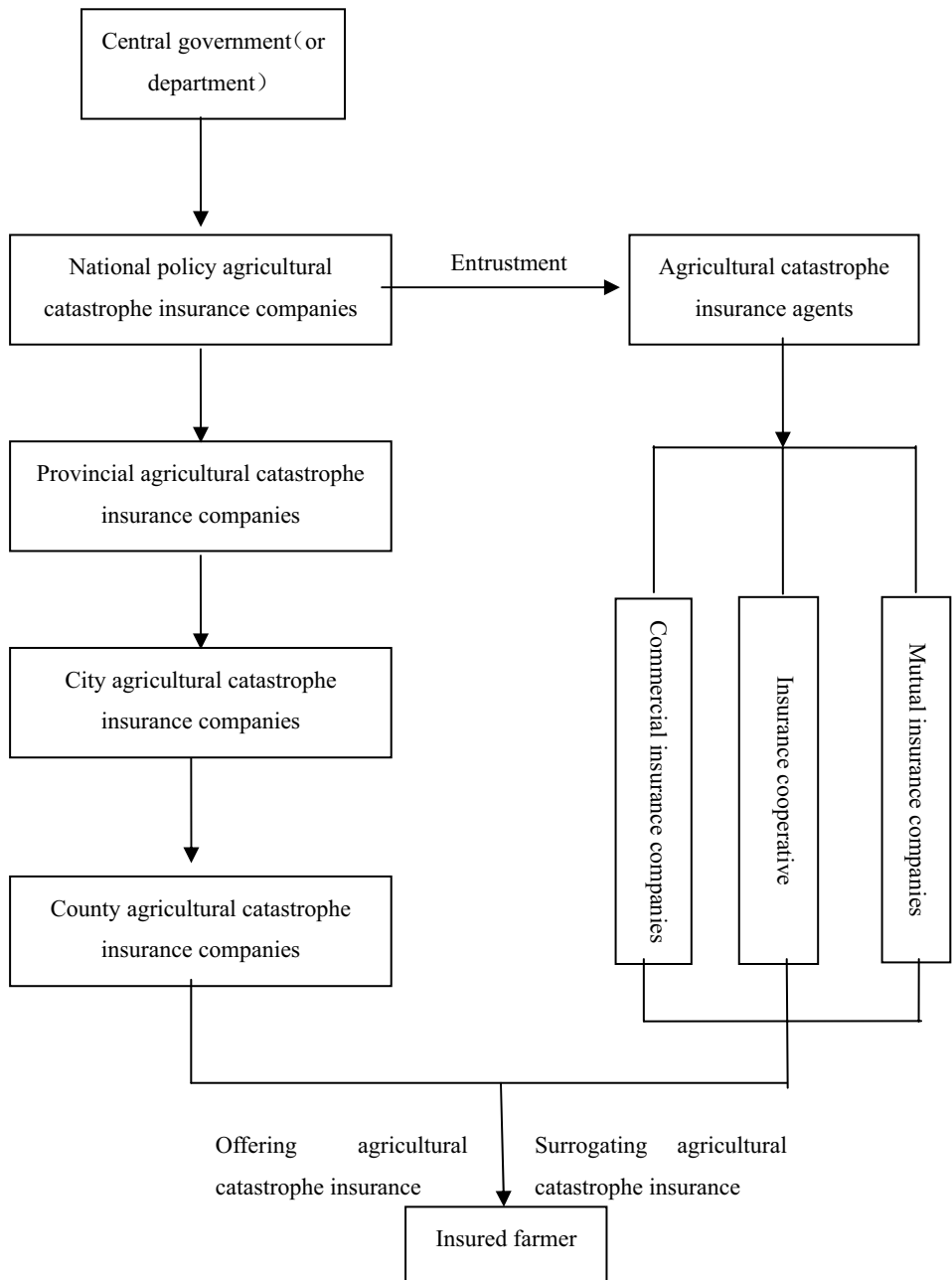


Figure 5. The mode of short-term policy agricultural catastrophe insurance institution

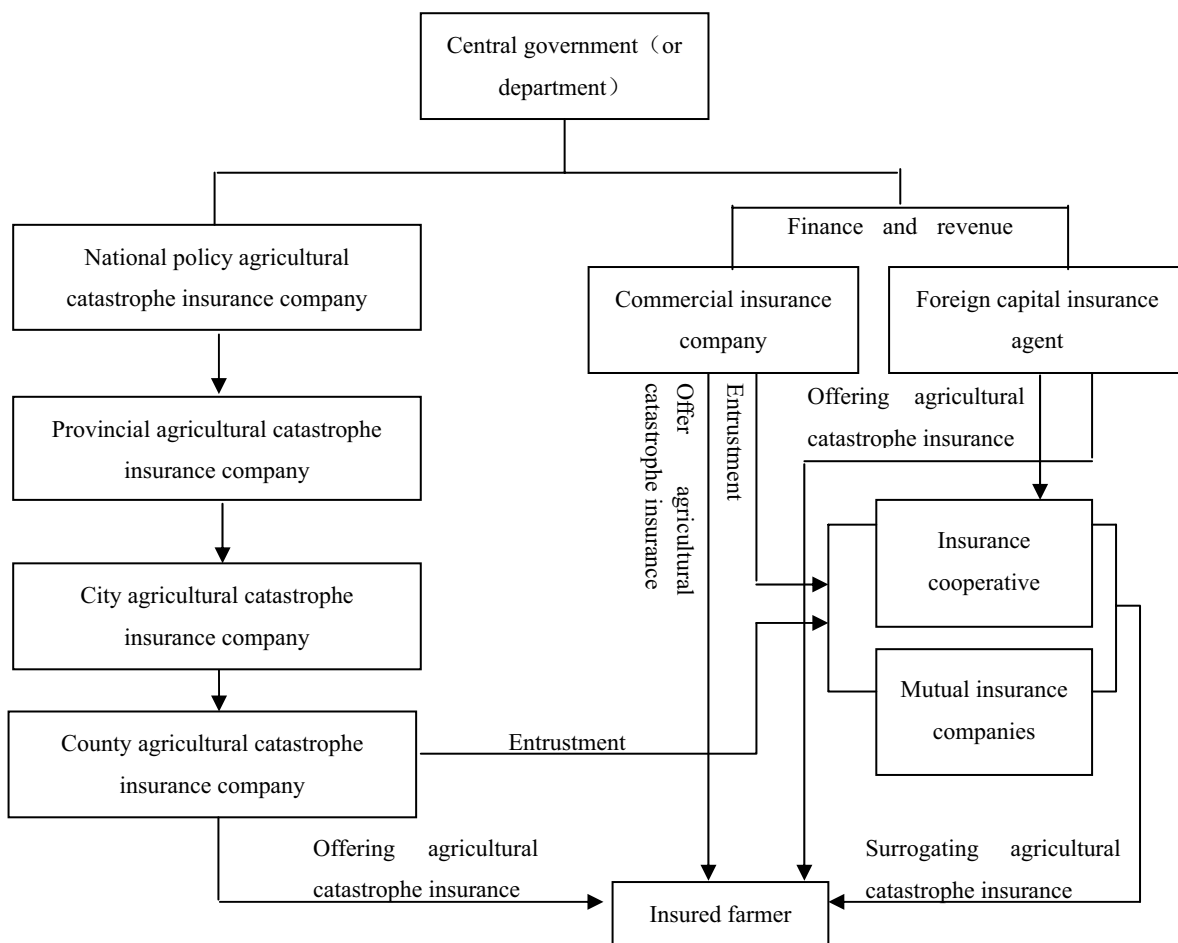


Figure 6. The mode of medium-term policy agricultural catastrophe insurance institution

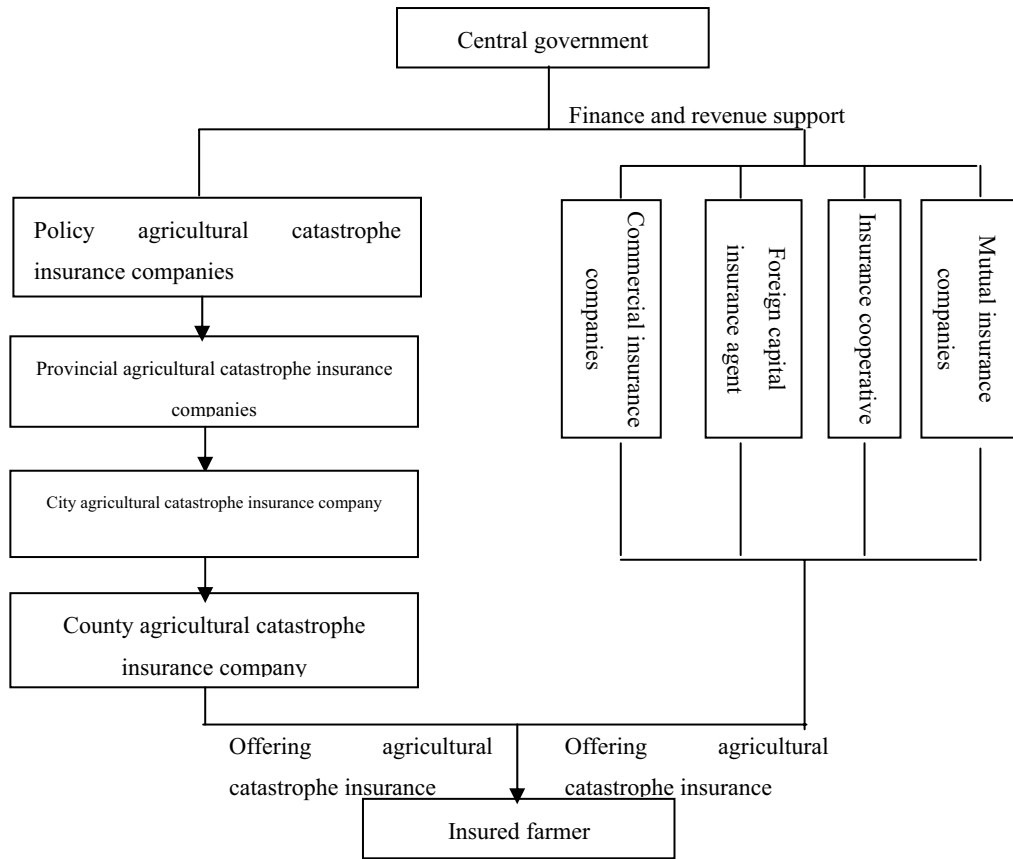


Figure 7. The mode of long-term policy agricultural catastrophe insurance institution