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Development Strategies on Agricultural Insurance under the Building of New Countryside*

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Abstract

It will be impossible to develop modern agriculture actively and accelerate new socialist countryside construction effectively without support and protection of agricultural insurance, which acts as both “stabilizer” and “booster”. The author did empirical research on this issue based on the questionnaire survey and statistical data from 1998 to 2009, and then revealed four problems on agricultural insurance development and five original causes. Furthermore, the author proposed seven suggestions for practical economic decision-makers on how to develop agricultural insurance and promote new countryside construction.

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1 Introduction

Since the adoption of reform and opening-up policies in 1970s, CCP Central Committee and the State Council have successively announced 12 *CCP Central No.1 Documents* on the theme of “farmers, countryside and agriculture” and made specific deployments of agricultural reform and development, of which 9 have explicitly stipulated the development scheme of agricultural insurance. In the early 1985, *CCP Central No.1 Document* ever wrote “to actively carry out agricultural insurance business”. There were still similar contents in the *Decision on Some Issues Concerning Improving the Socialist Market Economic System* by the Third Session of the 16th CPC

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Central Committee, *CCP Central No.1 Documents and Proposals of the State Council on Reform and Development of Agricultural Insurance* from 2004 to 2010. All the documents mentioned above fully demonstrate China's close attention to agricultural insurance and also provide policy supporting for its development [1].

China is a large agricultural nation and its farmers' population reaches 728 million, 55.6% of the total population. Affected by geographical position, it has continental monsoon climate as a whole and yet various weathers locally. Adverse weather events occur frequently, like drought, hail, frost/freeze, typhoon and blizzard, which severely threaten routine life and agricultural production. According to *Chinese Agricultural Statistical Yearbooks* from 1998 to 2009, the economic loss from natural calamities totals 585 billion in recent ten years excluding that of livestock, forestry and agricultural facilities, which is nearly equal to gross crop production in a year. In essence, the latter loss is heavier. The total agricultural loss per year directly from 2005-2009 *Chinese Agricultural Statistical Yearbooks* is 171, 250, 234 and 310 billion yuan respectively. Suppose that every family has an average of 4.1 members, there are about 178 million families in the countryside and then the loss per family is up to 1,340 yuan one year. This is a heavy burden which makes farmers' situation worse, forces them to further decrease agricultural investment and seriously hampers agricultural development. It is optimistic that agricultural insurance acts as the role of passing of agricultural risk and social mutual help and security and may indemnify those losses at a little cost, and yet its guarantee system depends more on the market or commercialization means, not like direct government relief or succor programs.

In a new historic period when China devotes to developing modern agriculture and building new socialist countryside, agricultural insurance is of great significance in the following aspects: firstly, it is conducive to the construction of agricultural production guarantee system and the liberation and development of production forces in rural areas and also an industry bolster of increasing farmers' income and accelerating the development of modern agriculture; secondly, it is conducive to the construction of new social guarantee system, enhancing self-relief capacity of agricultural production and making rural society more harmonious and steady; thirdly, it is conducive to income stability and risk decrease in agricultural credit, keeping agricultural production in a direction of sustainable development and simultaneously boosting the construction of "Honest and Faith" countryside as an important composition of new countryside construction.

On the foundation of 1998-2009 *Chinese Statistical Yearbooks* and questionnaire survey, this article performed empirical research on agricultural insurance, tried to reveal its problems and further put forward proposals on agricultural insurance development for practical decision-makers' reference.

2 Major Problems of the Development of Agricultural Insurance in China

The State always attaches great importance to agriculture due to its basic status in national economy. However, the development of agricultural insurance in recent years stagnated comparing with heavier calamity losses, which seriously hinders the process of new countryside construction. From the review of the tortuous road of agricultural insurance in China, there are four main problems as follows:

2.1 Mismatch between Development Level of Agricultural Insurance and Agricultural Basic Status in National Economy.

As is well known to us, agriculture is a base of national economy, "national economic base will become stronger only if crops are bountiful, the country more prosperous only if farmers richer and the whole society more stable only if rural areas steadier." From 1998 to 2008, the percentage of the primary industry to GDP is 13.66% on average but agricultural insurance amount covered makes up only 0.21% of property insurance amount, agricultural insurance premium only 1.22% of property premium.

Table 1 the Comparative Analysis of GDP Compositions and Agricultural Insurance Data

Year	GDP (billion yuan)	Primary industry (billion yuan)	Percentage of primary industry to GDP (%)	Property insurance amount covered (billion yuan)	Agricultural insurance amount covered (billion yuan)	Percentage of agricultural to property amount covered (%)	Property insurance premium (billion yuan)	Agricultural insurance premium (billion yuan)	Percentage of agricultural to property premium (%)
1998	8,302.4	1,481.760	17.85	1,373.400	7.80	0.57	50.57	0.71	1.41

1999	8,847.9	1,477.000	16.69	13,868.300	74.90	0.54	52.70	0.63	1.20
2000	9,800.1	1,494.470	15.25	16,152.100	49.90	0.31	60.80	0.40	0.66
2001	10,807	1,578.130	14.60	19,302.700	31.10	0.16	68.50	0.30	0.44
2002	11,910	1,653.700	13.89	20,945.946	9.52	0.05	77.50	0.48	0.61
2003	13,517	1,738.170	12.86	23,497.395	10.00	0.04	86.94	0.50	0.58
2004	15,959	2,141.270	13.42	30,405.405	8.00	0.03	112.50	0.40	0.36
2005	18,409	2,242.000	12.18	346,756.76	14.00	0.04	128.30	0.70	0.55
2006	21,313	2,404.000	11.28	42,679.369	16.00	0.04	157.91	0.80	0.51
2007	25,926	2,862.700	11.04	56,391.892	106.00	0.19	208.65	5.30	2.54
2008	30,285	3,400.000	11.23	66,114.865	221.36	0.33	244.63	11.07	4.52
Average value	15,916	2,043.018	13.66	29,582.459	49.87	0.21	113.55	1.94	1.22

Data come from *China's Statistical Yearbooks* from 1999 to 2009.

If it is hypothesized that the primary industry held 13.66% of GDP on average from 1998 to 2000, agricultural insurance amount covered should be 4,040.956 billion yuan and its premium 15.51 billion yuan, comparing with 49.87 and 1.94 billion yuan separately in the corresponding period. Though the governments at all levels give policy subsidy, mitigating the contradiction between low premium rate and high loss ratio and pilot projects in various regions also enter a new stage of rapid and sound development with insurance premium rapidly increasing especially in the two years of 2007 and 2008, there is still a deep gap between the development level of agricultural insurance and agricultural important status in national economy.

2.2 Mismatch between the Development Level of Agricultural Insurance and Agricultural Calamity Losses

From 1998 to 2000, average area covered by natural calamities is 46,770.64 kilohectares, 30.22% of sown area and average area affected is 26,000 kilohectares, 16.80% of sown area. (Table 2)

Table 2 Planting Areas Covered and Affected by Natural Calamities from 1998 to 2008

Unit: kilohectare

Year	Sown area	Area covered	Percentage of areas covered to sown area (%)	Area affected	Percentage of areas affected to sown area (%)
	①	②	③=②/①×100	④	⑤=④/①×100
1998	155,706	50,145	32.20	25,181	16.17
1999	156,373	49,980	31.96	26,734	17.10
2000	156,300	54,688	34.99	34,374	21.99
2001	155,708	52,215	33.53	31,793	20.42
2002	154,636	46,946	30.36	27,160	17.56
2003	152,415	54,506	35.76	32,516	21.33
2004	153,553	37,106	24.16	16,297	10.61
2005	155,488	38,818	24.97	19,966	12.84
2006	152,149	41,091	27.01	24,632	16.19
2007	153,464	48,992	31.92	25,064	16.33
2008	156,266	39,990	25.59	22,283	14.26
Average value	154,732.55	46,770.64	30.22	26,000	16.80

Data come from *China's Statistical Yearbooks* from 1999 to 2009.

To exactly evaluate economic losses of crops, the article selected key indicators of planting from *Chinese Agricultural Statistical Yearbooks* modified considering the fluctuation of product prices and formed this formula referring to classification of drought and insurance compensation principles:

$$Z = [0.2S_{1-3}(t) + 0.55S_{>3}(t)] \times D(t) \times Q(t) \times C(t) \quad (1)$$

where S_{1-3} refers to the total area of crop loss by 10% to 30%, $S_{>3}$ is the total area of crop loss by 30% above, 0.2 and 0.55 are conversion coefficients, $D(t)$ is a percentage composition (grain, bean, potato, oil plants and peanut which are planted more and easily affected by weather) of planting areas, $Q(t)$ is per hectare output corresponding to $D(t)$, $C(t)$ is correspondingly production cost and all the indicators are the functions of time(t) and shall change each year from 1998 to 2008.

Presumably, purely crop loss caused by natural hazards is the project of agricultural insurance. According to Table 3, average loss is up to 53.182 billion yuan per year during 11 years, average premium only 1.9 billion yuan per year and crop loss is by far higher than premium income. Average loss ratio hits a new record of 2799% even though in 2007 and 2008 it is surprisingly 1450% and 610% respectively, which exceed its safety margin universally acknowledged, 70%. If the losses of forestry, livestock and agricultural facilities is included, it will become more higher. Thus, agricultural insurance at present hardly functions in diversifying agricultural risk and compensating crop losses and still has a long way to go.

Table 3 the Comparative Analysis of Crop Disaster Losses and Agricultural Insurance Premium from 1998 to 2008

Unit: billion yuan												
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average value
Loss	46.8	46.9	51.2	46.2	42.3	50.2	52.6	51.0	53.2	76.8	67.8	53.182
Premium Income	0.71	0.63	0.40	0.30	0.48	0.50	0.40	0.70	0.80	5.30	11.07	1.9

Data come from *China's Statistical Yearbooks* and *China's Agricultural Statistical Yearbooks* from 1999 to 2009.

2.3 Low Level of Guarantee of Agricultural Insurance

According to statistical data from 1998 to 2008, China's property insurance amount covered on average is 29,582.459 billion yuan, 1.71 times of GDP and agricultural amount only 49.871 billion yuan, 2.4% of agricultural production (Table 4.). Insurance guarantee level of agricultural production rose rapidly in 2007 and 2008, but just 3.7% and 6.51% separately.

Table 4 the Comparative Analysis of Guarantee Level of Property and Agricultural Insurance from 1998 to 2008

Unit: billion yuan						
Year	Property insurance amount covered	Agricultural insurance amount covered	GDP	Insurance guarantee level of national production	Agricultural production	Insurance guarantee level of agricultural production
	①	②	③	④=①/③×100	⑤	⑥=②/⑤×100
1998	1,373.4	7.8	8,302.43	17	1,481.76	0.53
1999	13,868.3	74.9	8,847.92	157	1,477.0	5.07
2000	16,152.1	49.9	9,800.05	165	1,494.47	3.34
2001	19,302.7	31.1	10,806.82	179	1,578.13	1.97
2002	20,945.946	9.5	11,909.57	176	1,653.7	0.58
2003	23,497.395	10.0	13,517.4	174	1,738.17	0.58
2004	30,405.405	8.0	15,958.67	191	2,141.27	0.37
2005	34,675.676	14.0	18,408.86	188	2,242.0	0.62
2006	42,679.369	16.0	21,313.17	200	2,404.0	0.67
2007	56,391.892	106.0	25,925.89	218	2,862.7	3.70
2008	66,114.865	221.36	30,285.34	218	3,400.0	6.51
Average value	29,582.459	49.871	15,916.01	171	2,043.02	2.18

Data come from *China's Statistical Yearbooks* from 1999 to 2009.

2.4 Unbalance Development of Agricultural Insurance in Various Regions in China

Agricultural insurance in most provinces in China remained at a standstill and even shrank except for several regions like Sinkiang, Inner Mongolia etc. prior to 2006. Soon afterwards, the State transformed its development strategy and appropriately redefined the respective role-playing of governments, insurance enterprises and insured farmers in the mechanism of agricultural insurance. Mainly based on marketing networks and technology of commercial insurers, the governments at all levels increased subsidy, actively carried on trial projects in certain provinces and were groping for a new pattern adaptable to China.

However, the data in 2008 indicate that China has the development of agricultural insurance at inharmonious paces in various regions. Average insurance depth is 45.34 but under this level are 23 provinces among which insurance depth in Hainan and Fujian is only 6.1 or so, less than 2.7 of that in Beijing. Similarly, average insurance density is 23.73 but under the level are 24 provinces among which lowest insurance density in Guizhou is only 2.66, less than 2.5 of that in Sinkiang.

Table 5 the Density and Depth of Agricultural Insurance in Various Provinces in 2008

Province	Agricultural insurance depth	Province	Agricultural insurance depth	Province	Agricultural insurance density	Province	Agricultural insurance density
Beijin	221.5	Shanxi	15.2	Sinkiang	105.07	Yunnan	6.55
Sinkiang	195.5	Jiangsu	14.8	Shanghai	98.28	Shandong	6.33
Shanghai	189.2	Chekian	14.4	Beijin	97.61	Hainan	6.28
Heilongjiang	126.2	Henan	14.1	Inner Mongolia	93.74	Ningxia	6.24
Inner Mongolia	120.5	Guizhou	13.1	Heilongjiang	80.59	Henan	6.22
Jilin	71.8	Qinghai	12.8	Jilin	51.42	Shanxi	5.25
Hunan	63.5	Chongqing	12.8	Hunan	34.54	Chongqing	5.18
Tibet	54.3	Gansu	12	Sichuan	19.61	Guangdong	4.73
Sichuan	42.2	Shandong	10.4	Hubei	16.32	Guangxi	4.32
Hubei	28.7	Liaoning	9.5	Tibet	14.79	Qinghai	4.14
Shanxi	25.3	Jiangxi	9.5	Hebei	11.59	Shanxi	4.09
Hebei	23.1	Guangxi	8.8	Jiangsu	8.85	Fujian	3.91
Anhui	21.7	Guangdong	8.4	Anhui	8.43	Jiangxi	3.91
Yunnan	19.5	Hainan	6.4	Tientsin	7.58	Gansu	3.11
Ningxia	17.7	Fujian	6.1	Chekian	7.26	Guizhou	2.66
Tientsin	16.6			Liaoning	7.19		
Average value		45.34		Average value		23.73	

Agricultural insurance depth is agricultural insurance premium to primary industry production (yuan/ten thousand yuan); agricultural density is agricultural insurance premium to countryside population (yuan per capita)

To make matters worse, such provinces as Shandong, Jiangsu, Henan and Guangdong, which all had great primary production, more than 200 billion yuan in 2008, fell behind in agricultural insurance development and their insurance depth and density were in the middle and even lower levels. The development levels of these provincial insurance mismatched their own primary statuses. Besides, others like Guangxi, Hainan, Jiangxi, Guizhou, Gansu and Qinghai, which have a high proportion of primary production or population, have also unsatisfactory indicators above.

3 Dominating Factors of Restricting the Development of Agricultural Insurance

The author has ever conducted a questionnaire-based survey on agricultural insurance in Li Laozhuang village under the jurisdiction of Zhongshi office, Fuyang, Anhui and found five following causes of restricting the development of agricultural insurance:

3.1 High Loss Ratio Smothering Insurers' Enthusiasm

Zhang Huiru discovered that terrible and frequent natural hazards and consequent high loss ratio were still an outstanding problem [3]. From 1998 to 2008, average loss ratio of agricultural insurance is up to 74% (Table 6.) far

exceeding the break-even range between 65% and 70% from Hu Zhongying [4] universally acknowledged by insurance experts, that ratio of non-agricultural property insurance only 53%, and then total ratio plus the 20 percent of operation expenses makes insurance enterprises nearly at a loss, which chills their enthusiasm in insurance business.

Table 6 Loss Ratio of Agricultural Insurance from 1998 to 2008

Year	Loss ratio of non-agricultural property insurance (%)	Loss ratio of agricultural insurance (%)
1998	57	78
1999	53	78
2000	50	75
2001	48	100
2002	51	76
2003	55	60
2004	51	75
2005	54	86
2006	52	75
2007	51	57
2008	60	58
Average value	53	74

Data come from *China's Statistical Yearbooks* from 1999 to 2009.

3.2 Low Income From Fewer Sources Weakening Farmers' Purchasing Power of Insurance Products

The summaries of questionnaires show that income sources of sample farmers are mainly agricultural production and work in urban factories, about 46% and 38% separately. Surely almost two thirds of sample farmers have family income of less than 10,000 yuan per year because of inefficiency of agricultural production and low pay of migrant workers. Family maintenance payment makes up all their income where children's education expense is 36%, medicare and new construction and repair of houses together 12%, wedding 12%, routine life 24% and means of production 16% respectively. So, farmers do not have enough abilities to get agricultural insurance that they need indeed.

Table 7 Income Channels of Sample Farmers

Income source	Agricultural production	Work in urban factories	Others *	
Percentage composition (%)	46	38	16	
Income level (yuan)	<10,000	10,000-20,000	>30,000	
Percentage composition (%)	64	28	8	
Payment item	Children's expenses **	Routine life	Means of production	Others ***
Percentage composition (%)	48	24	16	12

*including livestock breeding, family sideline production and work in local township factories;**including children's education (36%) and wedding (12%); ***including medicare and new construction and repair of houses.

3.3 Promotion Inadequacy of Agricultural Insurance Knowledge Leading to vague Evaluation of Farmers and Holding Back the Needs Expansion of Agricultural Insurance Products

All sample farmers have never purchased agricultural insurance products and even 84% know little about it at all. 16% of the rest come into contact with it by the channel of relatives or friends, 25% by such media as broadcast, TV and newspapers and merely 12.5% by insurance enterprises' promotion (Table 8).

Table 8 the Knowledge and Purchasing Situation of Agricultural Insurance From Sample Farmers

Question	Have you ever purchased agricultural insurance products?		Do you know about agricultural insurance?		By which channel you know about agricultural insurance?		
	Yes	No	Yes	No	Relatives and friends	Media	Insurance enterprises
Percentage composition (%)	0	100	16	84	62.5	25	12.5

If one can purchase only one type of insurance, 48% of sample farmers are willing to participate in life insurance, 21% endowment insurance, 10% hospitalization insurance, 7% liability insurance, 6% family property insurance and only 8% agricultural insurance. (Table 9)

Table 9 the Types of Insurance Participated in by Sample Farmers

Insurance type	Life insurance	Endowment insurance	Hospitalization insurance	Agricultural insurance	Liability insurance	Family property insurance
Percentage composition (%)	48	21	10	8	7	6

Worse still, just 12% of sample farmers have ever purchased some insurance product, 46% think it necessary, 38% have no idea and 16% think it deceitful. Not surprisingly, it is hard to imagine that farmers could take the initiative in insurance participation.

Table 10 the Evaluation of Sample Farmers

Insurance evaluation	Necessary	Inexplicit	Deceitful
Percentage composition (%)	46	38	9

3.4 Lack of Support Policies Hampering the Development of Agricultural Insurance

Table 11 Participation Intention of Sample Farmers

Question	Are you willing to purchase agricultural insurance products without government subsidy?		Are you willing to purchase agricultural insurance products with government subsidy?	
	Yes	No	Yes	No
Percentage composition (%)	37	63	62	38

According to the survey on participation intention of sample farmers, 37 % are willing to purchase insurance products without government subsidy and yet up to 62% with government subsidy. With this impetus, insurance participation percentage is up 25%. Thus, similar support policies can effectively mobilize farmers to purchase insurance product and boost its development.

Table 12 farmers' Aims of Insurance Participation under the Condition of Subsidy

Aim	Preventing agricultural production risk	Following others	Scrounging government subsidy
Percentage composition (%)	87	11	2

The survey shows that it is unnecessary to be anxious of this kind of ill intent of scrounging government subsidy because 87% purchase insurance products in order to prevent agricultural production risk and only 2% have that intent. Moreover, scientific institutional design may ensure subsidy efficiency.

3.5 Insurance Products Which Benefit for Insurer not Meeting Farmers' Needs

Generally, insurers, especially commercial enterprises, often devise insurance products adhering to such commercial principles as maximizing profit and minimizing risk so that they set high price, standardize the process of risk assessment and normalize contract clauses. This is their practice in commercializing operation but not in accordance with the status quo in the countryside where farmers have low income and agriculture is of high risk and weakness. As a result, the right normalization and standardization in pursuit of high profit and risk precaution chill farmers' enthusiasm in purchasing insurance products. The data from questionnaire survey also shows that three top constraints of purchasing agricultural insurance products are high price (32%), disqualified products not to meet farmers' requirements (24%) and complex contract clauses (23%).(Table 13.)

Table 13 Main Constraints of Purchasing Agricultural Insurance Products

Constraint	High price	Disqualified products not to meet farmers' requirements	Complex contract clauses	Low income	Agricultural insurance is unnecessary	Insurers can't settle claims timely.
Percentage composition (%)	32	24	23	10	6	5

4 Strategies to Develop Agricultural Insurance on the Background of Building New Socialist Countryside

The State ever pays close attention to agricultural development. Regardless, the level of agricultural insurance development over recent years can't meet the requirements of agricultural basic status and fails to compensate the losses of agriculture caused by natural calamities. But agricultural insurance which functions as both "booster" and "stabilizer" plays a significant role in enhancing the ability of risk resistance and the development level of social insurance in rural areas and entirely boosting harmonious countryside construction. In view of current problems existing in agricultural insurance, the article put forward seven proposals from the following respects:

4.1 Strive to Increase Farmers' Income

Farmers are main buyers and beneficiaries of agricultural insurance so that without their positive response and advocacy, it's development could remain to be simply a fancy. According to the questionnaires above, those farmers with low income can't afford high premium, one of principal constraints of insurance participation. We easily learn from economic principles that the preference of risk-adverse "economic person" is prone to being influenced by his/her economic strength. Generally, the poorer a farmer, the lower possibility he has to buy insurance products; just with gradually increasing income, the needs of insurance products are rising. Thus, to raise farmers' income is the fundamental measure to accelerate the progress of agricultural insurance.

4.2 Set up the Complete Agricultural Insurance System

Liu Jingsheng defined policy insurance which featured that it was guaranteed by legislation, supported by government subsidy and regulated by administrative rules and policies in the mode of commercial or non-commercial operation [5]. By the means of public economics, agricultural insurance in itself has double externalities—Marginal Social Benefit exceeding Marginal Private Benefit and Marginal Private Cost exceeding Marginal Social Cost separately according to research results from Feng Wenlin [6], which leads to disequilibrium where quantities of insurance products supplied by insurers are under the level of social optimization completely through the mechanisms of market allocation. Even though its market forms a certain scale, finally it would shrink. The tortuous course of China's agricultural insurance before 2006 is a case in point. Therefore, the related theories of policy agricultural insurance shall be rationally based on its quasi-public attributes.

To set up and improve policy agricultural insurance, firstly, the State shall enact agricultural insurance laws by which to establish its important status, expound its great functions and further carry it out, which makes its implementation more systematic and normal; secondly, the State shall vigorously step up the pace of pilot work of agricultural insurance and continuously explores and summarizes its experience where to perfect and innovate the theory and practice of agricultural insurance, which offers reference for decision—making of setting up and

improving policy agricultural insurance mechanism; thirdly, the State shall gradually draw up and improve policy agricultural insurance product catalogue by which insurers abide in the course of operation; finally, the State actively gropes and innovates policy pattern of agricultural insurance and makes great efforts to enhance its performance.

4.3 Step up Government Support to Agricultural Insurance

High loss ratio which let insurers go into bankruptcy is another main hindrance to the development of agricultural insurance. In the light of successful modes abroad, the governments support agricultural insurance by direct or indirect intervention means (ad hoc subsidy, policy-assistance). These countries, developed or developing, take it as part of overall mechanism of Transfer Payment partial to rural areas like agricultural credit, countryside relief and farmers' welfare. In America, Canada and Spain, the proportion of premium subsidy is 50% to 80% and 30% in Mexico separately which is selected from an essay by An Hexiang and Liu Ji [7].

So, the governments at all levels in China shall back up the development of agricultural insurance from the two aspects: on one hand, they shall encourage or support insurance enterprises to expand market and business by such tools as tax-preference, administrative fee-reduction and service, fund assistance and media publicizing and meanwhile provide all-round technical support in weather forecast, hazard prediction or precaution and loss prevention; on the other hand, the governments shall promulgate premium subsidy-related policies including premium subsidy, application qualities and rate preference of credit for supporting agriculture and market information service, to inspire their enthusiasm in agricultural insurance participation

4.4 Set up and Improve Catastrophic Risk Spread and Reinsurance Mechanisms

To set up and improve catastrophic risk spread and reinsurance mechanisms is all considered as an important task in three consecutive *CCP Central No.1 Documents* from 2008 to 2010. But current insurance has limited coverage not to guarantee agricultural reproduction especially when terrible natural hazards occur. So, the provincial governments shall play the part of "helpinghand" and establish Agricultural Catastrophe Insurance Fund whose sources may be mainly made up of fiscal transfer, premium income, social donation and other incomes from investment or issuing Cat Bond in view of successful experience abroad. ACIF acts as the ultimate insurer whose major businesses have cession and reinsurance from primary insurers and bear the loss of high-risk products.

The sound evolution of reinsurance is firstly indispensable to ACIF. If ACIF functions properly, the government shall cultivate reinsurance market of different levels while further opening up domestic market. The losses of agricultural production may be reimbursed by market mechanism of risk diversification when medium and small-scale hazards occur and then ACIF really takes effect only when terrible hazards fall. This method not only decreases immoderate administrative intervention and subsidy but also diversifies primary insurers' operation risk and lowers loss ratio. Besides, the State shall innovate reimbursement mechanism of agricultural catastrophe. Xie Jiazhi [8] thought that the provincial governments should make full use of capital market to raise money for ACIF, combine agricultural production losses with capital market, and form a perfect reimbursement mechanism characteristic of marketization and capitalization.

4.5 Spread Propaganda of Agricultural Insurance

Above all, the State shall strive to promote the significance of agricultural insurance in settling the issues concerning farmers, countryside and agriculture, developing modern agriculture and building harmonious countryside around society from three following aspects: firstly, the governments at all levels and their personnel shall have full realization of the significance above and at the same time administrative appraisal system shall include performance measurement of relevant sectors in charge of agricultural insurance; secondly, insurance enterprises of various types of ownership shall vigorously innovate agricultural insurance products and expand its market to give support to the development of modern agriculture from the angles of maximizing social benefit and political stability in rural areas while pursuing economic profit; thirdly, the governments and insurance enterprises shall publicize agricultural insurance knowledge to the farmers and make them gradually realize its functions in loss prevention or precaution, agricultural production guarantee and social welfare in order to guide them to increase their consciousness of risk prevention and take the initiative in insurance participation.

4.6 Strengthen the Training of Agricultural Insurance Professionals, Especially Marketers

Agricultural insurance business including distribution, underwriting, survey and claim settlement, demand high levels of policy analysis capability, professional knowledge, technical skill and professional quality, especially actuarial and ratemaking. What is worse, it is difficult for insurance enterprises to commence on business due to decentralized agricultural production in China unless there are adequate eligible professionals. According to relevant research by Gao Jing [9], the number of professionals engaging in agricultural insurance is about 9,000, namely 3 per county on average. Obviously, the deficiency of insurance professionals is also one of main obstacles to the development of agricultural insurance in China.

In some degree, to strengthen the cultivation of agricultural insurance professionals, especially marketers, not only is conducive to publicizing insurance knowledge, providing whole-process service and arousing farmers' participation enthusiasm but also helps extend enterprises' business across the whole countryside and reduces their operation costs.

Then the State shall accomplish this task from three main respects: firstly, to strengthen vocational education and training of current insurance personnel mainly from such aspects as consolidating the foundation of national economy, pushing forward modern agriculture, building harmonious society and advancing the policy-analysis capability; Secondly, to recruit and cultivate agricultural insurance marketers from the farmers and mobilize them to participate in agricultural insurance by the carrier of farmer- agent of agricultural insurance; thirdly, to set agricultural insurance majors in universities and colleges to culture reserved talents with high qualities.

4.7 Quicken Agricultural Insurance Legislation

Agricultural insurance is a bit exceptional, which China's Insurance Law for commercial insurances is not fully applicable to. Though Article 149 in China's Insurance Law implemented on October 1, 1995 writes "the State encourages those insurance businesses which facilitate the development of agricultural production. Agricultural insurance shall be governed by laws and administrative regulations to be promulgated separately" and Article 31 provides in the 2003 Agricultural Law of the People's Republic of China that: "the State shall encourage and assist the development of insurance undertakings for agriculture", even now, there is still no regulation prescribing "who and how to carry out agricultural insurance and how to subsidize it and formulate suitable policies" and no special law providing "its aim, business principles, organization forms, scope of cover, premium rate, insurance coverage and government support and regulation". Just the shortage of relevant laws and decrees is another handicap of agricultural insurance development. Thus, a matter of great urgency is to enact Agricultural Insurance Law by which related parties abide to build a harmonious society, develop modern agriculture and insurance and construct a new countryside.

Tuo Guozhu et al [10] analyzed agricultural insurance laws in America, Japan and Canada and concluded that the legislation was the institutional guarantee of agricultural insurance and its process should observe the rules of induced institutional change. So, in view of no proper occasion where Agricultural Insurance Law comes into being now, the provincial government or people's congress may summarize gains and losses on the base of local investigation and draft the regional regulations of agricultural insurance to settle the imminent problem.

5 Conclusion

Overall development of China's agricultural insurance is still in low level, mismatching agricultural status in national economy and calamity losses and agricultural insurance evolves at inharmonious paces in various regions in China. Therefore the State pays more attention to its development and selects pilot regions to grope for a new mode applying to China's agricultural insurance in order to accelerate the development of modern agriculture and build new socialist countryside. We learn from developed counties and our failure experience that agricultural insurance development must adhere to its internal law, agree with its attribute of quasi-public and give full play to mutual complementation between market and government. But considering China's special economic system and current situation in rural areas, administrative intervention shall play a more important role comparing with other countries.

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